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THE VIRGINIA

COASTAL RESOURCES MANAGEMENT PROGRAM

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Program Document

prepared by

The Office of the Secretary of Commerce and Resources

Commonwealth of Virginia

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INTRODUCTION

SUMMARY OF CZMA

In 1972, Congress passed Public Law 92-583, more commonly referred to as the Coastal Zone Management Act. This act has provided federal funds to those states which have chosen to develop and implement a comprehensive planning and management program designed to "protect, preserve, and, where possible, restore the resources of the nation's coastal zone for succeeding generations." The act was amended in 1976 and 1978 to include among other considerations, outer-continental shelf and energy facilities planning.

The program is administered by the Office of Coastal Zone Management (OCZM), National Oceanic and Atmospheric Administration of the U. S. Department of Commerce. Under the Act, each state is allowed four planning years, after which a program is submitted to the federal government for approval. Following approval, federal funds will be available to the state and localities to help implement the program.

Planning and implementation funds are distributed by OCZM; 80% of each annual total is provided by the federal government, requiring a 20% state match.

The Act, as amended, requires that a state's coastal resources management program include:

An identification of the boundaries of the coastal zone;

A definition of permissible land and water uses within the coastal zone which have a direct and significant impact on coastal waters;

An inventory and designation of geographic areas of particular concern;

An identification of the means by which the state will control permissible land and water uses;

Broad guidelines for priorities of uses in areas of particular concern;

A description of the management organization which will implement the program;

A description of how public access to the shorefront will be provided and protected;

A process for planning the location of coastal energy facilities and for managing their effects on coastal resources;

An assessment of shoreline erosion and the means for controlling it.

In addition to these requirements, the state program must:

Designate a single state agency to receive and administer grants for implementation. This agency must be able to accept and administer grant funds, monitor and evaluate the actual management of coastal resources, and seek changes to the program from the U. S. Department of Commerce;

Include procedures by which the state will be able to account for the national interest in making decisions about the use of coastal resources and in the planning and siting of facilities which are of regional, interstate, or national importance (such as refineries);

Include procedures by which the state can assure that local land and water use regulations do not unreasonably restrict or exclude uses which may be of regional benefit.

While Virginia is required to account for the national interest, there is a reciprocal requirement on behalf of the federal government with respect to the state's interest. Federal actions which affect the coastal zone of a state or federally licensed and permitted activities within a state's coastal zone must be consistent with the state's CRM Program.

Two further criteria have been established for approval of the state's program. First, the scope of the management program, that is, which coastal land and water uses will be managed, must be broad enough to ensure that coastal resources can be protected and developmental interests can also be accommodated. Second, the state must have the authority "to administer land and water regulations, to control development in order to ensure compliance with the management program, and to resolve conflicts among competing uses."

INDEX: THE RELATIONSHIP OF THE CRMP DOCUMENT TO THE REQUIREMENTS

Requirements	Sections of Approval Regulations	CRMP Chapter(s)
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ORGANIZATION OF VIRGINIA'S COASTAL RESOURCES MANAGEMENT PROGRAM

Recognizing the need to manage its valuable coastal resources more comprehensively, Virginia decided to participate in the federal program, beginning the state's first grant year on August 1, 1974. The Division of State Planning and Community Affairs was initially responsible for the program. When the General Assembly mandated a state reorganization, the program was moved to the Office of the Secretary of Commerce and Resources in July, 1976.

Coastal resources management is not new to Virginia. Virginians have long recognized the importance of the land and water resources which are the basis for the state's unique coastal heritage. Much of the population of the state lives and works along the coastal waterways, which serve as avenues of commerce and provide recreation areas, as well as nursery grounds for Virginia's fisheries. The Commonwealth has long regulated its fisheries and controlled encroachments into submerged public lands. The Virginia Commission of Fisheries has managed Virginia's extensive commercial fisheries since before the turn of the century. In 1962, permitting authority seaward of mean low water was transferred from the Office of the Attorney General to the Commission of Fisheries, which in 1968 was re-named the Virginia Marine Resources Commission (VMRC). With the enactment of the Wetlands Act in 1972, the Commission's authority was expanded to include the permitting of uses in vegetated wetlands. Also, in recent years, the State Water Control Board has established water quality standards for state waters. Virginia's Coastal Resources Management Program is designed to coordinate ongoing management activities with expanded efforts to conserve marine resources and encourage planned development in order to establish a more comprehensive management program for coastal resources than we have had in the past.

The federal, state and local governments will all have a part in implementing the program. However, the state government will be primarily responsible. Agencies which are now responsible for managing coastal resources (such as the State Water Control Board and the Virginia Marine Resources Commission) will implement the program at the state level. One agency, the Council on the Environment, will be responsible for overall coordination, as the designated lead agency.

At the local level, implementation will require a coordinated effort by such local officials as wetlands board members, planning commission members, and elected officials, who will be implementing the state and local program standards.

The actions of private citizens are essential for the protection of coastal resources, too. By following state and local guidelines for proper dredging, by preventing sedimentation of a tidal stream from his property, or by simply taking care to protect fragile resources such as dunes and wetlands, the private citizen can make Virginia's Coastal Resources Management Program work.

METHODOLOGY FOR PROGRAM DEVELOPMENT

The starting point for Virginia's program was the description of coastal resources and the definition of problems and issues arising fom the use of these resources. The problems and issues were defined not only by the state staff, but also by planing district commissions, local officials, interest groups, and the general public. The foundation for Virginia's program was laid with the definition of issues. Planning district commissions made a substantial contribution by preparing regional assessment reports. These reports evaluated the major issues by region. The issues were further defined

by the program staff through formal and informal meetings with local officials, regional workshops, and public hearings. Frequent staff contact with local officials, private interest groups, various advisory groups, and individual citizens has been the primary means by which the staff has exchanged ideas with those directly affected by the program.

The issues which were defined are of two basic types: (1) those that arise because of the current and potential conflicts between the uses of coastal resources and (2) those that arise from the way decisions are made about the use of the resources. Thus one set of issues is a matter of environmental, social, and economic choices; the other set of issues is centered around the legal, institutional, and administrative methods by which decisions are made and carried out. Examples of issues in the first category include the protection of vital resources at the waters edge, shoreline erosion, the effects of land use on the marine environment, and public access. Within the second category are such issues as shoreline permitting and state organization.

Having defined the issues, the program staff suggested objectives to be attained in trying to solve the problems and policies followed in managing coastal resources. This led to the proposals for coastal resources management and the legislative and executive action necessary for implementing them. To recap, the program proceeded in the following sequence: (1) description of the resources, (2) definition of the problems and issues arising fom the use of these resources, (3) the setting of objectives and policies, (4) management proposals, and (5) legislative and executive action required to implement the proposals.

The staff progress was periodically reported to the Coastal Study Commission of the General Assembly. The Commission was originally established

in 1975 to study the effects in Virginia of the exploration and development of oil and gas reserves on the Outer Continental Shelf. The scope of the Commission's interests was broadened in 1976 to include the development of the state's coastal resources managment program.

In the fall of 1977, the program staff published a draft document, Proposals for Coastal Resources Management in Virginia. The purpose of Proposals was to elicit reaction to suggestions the Coastal Resources Management Planning Staff had been discussing and had heard discussed. It was also designed to obtain comments and suggestions from government agencies at all levels, private interest groups, and the general public. The staff held twenty-six public hearings and received numerous oral and written comments.

In early 1978 the Coastal Study Commission completed its work and prepared its report and recommendations on the program. The Commission recommended that the General Assembly enact a Coastal Resources Management Act, patterned after the existing wetlands act and covering dunes, wetlands, and limited shorelands areas. Accordingly, a bill, Senate Bill 403, containing these features was introduced in the 1978 session of the General Assembly as a "carry-over" measure, to be studied in 1979. Additionally, a Senate Joint Resolution was passed establishing a Joint Subcommittee of sixteen members, representing two standing Committees each from the Senate and House. During 1979, a Coastal Resources Management Act (S.B.403) was introduced and passed in the Senate but did not emerge from the House hearings.

As a result of the hearings held in 1977 by the program staff and the hearings held in 1978 by the Joint Subcommittee and the General Assembly, the suggestions for revisions received at those hearings, and the extensive work with the General Assembly, the program staff proceeded with revisions of the

program based on the following premises:

a) The coastal area, where shorelands and tidal waters meet, harbors unique geographic features and complex estuarine systems which are fragile by their nature. Because these coastal areas are attractive for many uses and because they are essential for the economic base they provide, there is a demonstrable need for public and private stewardship of coastal resources. There is a state interest in these resources which extends beyond the jurisdictional limits of any one political subdivision. Therefore, the responsibility for public management of these resources or for seeing that they are managed rests with the state government. With this state responsibility must go the legal ability to enforce compliance.

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b) Virginia's coastal resources management program is a means by which the Commonwealth can and should support the seafood industry and those other enterprises which are dependent upon a healthy marine environment.

c) The geographic focus of Virginia's coastal resources management program should be on the shorelands, or the "edges," where the coastal lands and waters meet. The shorelands area, the tidal streams, the estuaries, the bay, and the ocean waters extending to the 3-mile limit should comprise Virginia's coastal zone.

d) The method by which the use of certain shoreland resources can be managed should be modeled upon the existing wetlands program.

e) The land-water relationship is the nexus of coastal resources management, and the wise use of land along the edges is essential to a successful program. The approach to land use is to prevent or reduce

non-point pollution sources through land use control and management practices for those types of uses which pose the greatest threat to the marine environment.

f) It is along the edges - the connecting link between the land and estuarine environments - where we find areas of particular concern to coastal resources management. These areas, such as wetlands, dunes, submerged aquatic vegetation, or shorefront recreation sites possess unique resource value or represent uses especially important to and dependent upon the coastal environment. Such areas, then, should be subject to management controls designed to preserve the resource and to allow their wise use.

g) Coastal resources management must recognize the necessity for economic growth and the fact that the resources of Tidewater Virginia are essential to that growth. Coastal resources management should allow us to make reasonable choices among alternatives. Virginians cannot simplify the question of the use of coastal resources to one of "development vs. preservation," but we can educate ourselves and improve the way we make decisions so that we can make intelligent choices.

h) Decisions on the uses of coastal resources must be considered not just from a local viewpoint, but from the standpoint of the effect they may have in all of Tidewater. Public and private decisions on resource use must be made--insofar as our understanding permits--with an eye to the cumulative effect on estuarine environments.

i) From the perspective of broadening the role of the localities in managing the coastal resources of the Commonwealth and ensuring that

resource allocation decisions are both complementary and sensitive to local circumstances, the CRMP recognizes existing local planning and management capabilities.

j) Certain development activities are of a statewide or even a national interest, and should be planned and permitted with a view to state and national concerns. These activities are key facilities and include those private sector developments of energy and energy-related facilities.

k) Many state agencies are responsible for planning, regulating, and permitting uses of coastal resources. Coastal resources management must tie these existing authorities and activities together. A "network" of legal authorities and programs, based on legislative mandate, coordinated by the executive branch and presided over by an authority responsible for seeing that the program is carried out, is the framework for the state organization.

l) Virginia has a sound legislative base upon which to establish a coastal resources management program. Numerous laws address water quality, erosion and sediment control, marine resource protection, and public health.

m) Public education and the training of local and state officials is essential to the success of coastal resources management.

During the period of legislative revisions, the staff relied heavily on regional and local officials for ideas and recommendations. Throughout the program, regional and local officials have helped the state staff by defining the problems; preparing reports and analyses on aspects of the program; and, in late 1978, by suggesting legislative action.

FOCUS OF THE PROGRAM

The focus of Virginia's Coastal Resources Management Program is on the "edges," where the lands and tidal waters meet. Those "edges" encompass marine and coastal area resources, including:

Saline and freshwater tidal wetlands, both vegetated and non-vegetated;

Tidal streams, estuaries, bays, ocean waters and all spawning, nursery and harvesting areas included in these waters;

Subaqueous lands; and

All living resources, indigenous to tidal waters, including finfish, crabs, shellfish, other marine animals and vegetation;

Natural land forms common to the coastal environment, including barrier islands, sand beaches, and dunes; their associated vegetation; and the avian and terrestrial wildlife dependent on them;

Shoreland areas adjacent to or topographically associated with tidal waters because of drainage patterns or susceptibility to flooding.

The program recognizes the importance of the many economic, agricultural, historic, and aesthetic resources throughout Tidewater Virginia, but it does not attempt to discuss any problems or propose any solutions in these areas. Nor does the program deal with water resources from the standpoint of consumptive use--a major issue in Tidewater under study by the executive and legislative branches alike. This program was purposely narrowed to avoid duplication of other resource management programs and studies.

THE 208 WATER QUALITY PROGRAM

Section 208 of the Federal Water Pollution Control Act Amendments of 1972 mandates effective areawide waste treatment management plans be developed for certain urban-industrial areas designated by the Governor which have substantial water quality control problems. In these designated areas, both non-point and point sources of pollution are included in the 208 Program water quality planning efforts. Designated agencies in these areas are responsible for developing the plans. The 208 Program also includes the development of water quality plans for the undesignated rural areas. The State Water Control Board is developing these plans, which deal primarily with non-point pollution. In these areas, a major part of the planning effort involves the development of technical handbooks which describe and evaluate best management practices (BMPs) for preventing or reducing the amount of non-point pollution to levels compatible with water quality goals. In general, voluntary compliance and local responsibility will be relied upon to implement the best managment practices. Implementation of these BMPs in Tidewater will help to protect marine resources from the adverse impacts of land use.

STATE AND FEDERAL APPROVAL PROCEDURES

The Coastal Resources Management Program must be approved by the Governor, after which it is forwarded to the U. S. Department of Commerce. Prior to final approval by the Secretary of Commerce, an environmental impact statement is prepared by the Office of Coastal Zone Management for review by federal agencies and interested private groups and individuals.

Following the receipt of all comments resulting from the review process, the Assistant Administrator of NOAA makes the appropriate decision regarding

approval. In the event of approval a set of findings is prepared by the Assistant Administrator relating to the requirements of the Act. Those findings are published in the FEDERAL REGISTER.

In the event that review of all comments leads to a decision not to approve the management program, the Assistant Administrator advises the State in writing, including the reasons therefore. Notice of this decision is also printed in the FEDERAL REGISTER.

FEDERAL ASSISTANCE FOR IMPLEMENTATION

The Office of Coastal Zone Management estimates that Virginia will be entitled to $1.5 million to $2 million in annual federal matching (80-20) grants for state and local implementation of the program. The state and local governments will have to match these figures with $375,000 to $500,000.

Federal grants and loans will also be provided through the Coastal Energy Impact Program to help states and localities contend with the impacts of energy development in the coastal zone. Thus far, $159,139 has been allocated to Virginia localities on an 80-20 matching basis for studies related to needed public services and facilities; $57,600 more will be allocated by Spring 1979 (no match is required). There is over $4 million available for loans for public works activities, but the interest rates are currently too high to be attractive to localities. With recent amendments, it appears Virginia state and local governments will be eligible for grants of $500,000 during this federal fiscal year and for grants of $800,000 annually thereafter through 1988. No match will be required for these grants.

First and foremost, Virginia's Coastal Resources Management Program is intended to benefit the citizens of the Commonwealth. It is not simply another program with new regulations and permitting procedures. Coastal Resources Management should be looked upon for the opportunities it gives Virginians to manage their coastal lands and waters prudently for their use, enjoyment, and, in many cases, their livelihood. It is a chance for Virginians to renew their appreciation of the Commonwealth's coastal resources, review the ways in which they are being used and improve the management of these uses.

The Program offers numerous advantages to the state and local governments and to private citizens. Some of these are outlined in the following paragraphs. They are not ordered according to any priority because individuals, interest groups, or localities will view the Program from their own perspectives.

ASSERTING STATE AND LOCAL INTERESTS

By adopting a coastal resources management program Virginia will have a firm, documentable basis from which it can assert its own coastal interests, especially with respect to federal actions in our coastal area. It can only do this by having a framework of objectives, policies, and standards for state and local management of coastal resources, which are the result of a process founded on public interests, local concerns, and deliberate executive and legislative consideration.

A COURSE OF ACTION FOR STATE AGENCIES

The approach the state can take in this program is a forerunner for executive level management of other issues which cross agency lines. An approved coastal resources management program provides the Governor's Secretary of Commerce and Resources with a course of action which he can use to direct different agencies toward a common purpose. It would assist the Secretary in one of the most difficult aspects of public management: the integration of related programs which are housed in different agencies.

FEDERAL CONSISTENCY WITH THE STATE/LOCAL PROGRAM

One of the most important incentives for state adoption of a Coastal Resources Management Program is the Federal Consistency provision of the Coastal Zone Management Act of 1972, as amended. This provision is unique in federal-state relations. These opportunities arise from the requirement that federal agencies conduct their activities, regulatory functions, and assistance programs in a manner consistent, to the maximum extent practicable, with an approved state Coastal Resources Management Program.

The state and local benefit derived from consistency includes not only the ability to insure that certain federal decisions are consistent with the state's coastal program. The federal consistency provision also means that state/local views on the one hand and federal views on the other will be exchanged and reconciled early in the decision process. This will give the state and local governments a much better chance to assert their interests during the federal decision process and not after.

PROTECTION OF FRAGILE RESOURCES

Virginia's coastal program extends the same type of protection now provided for vegetated wetlands to non-vegetated wetlands (including sandy beaches) and to primary dunes. These resources at the water's edge are fragile and susceptible to permanent damage and loss by man-made alterations. Wetlands of both types are biologically and chemically essential in the marine food chain. Dunes, besides their recreational and aesthetic qualities, are important physical barriers to flooding and part of the natural configuration of a beach, serving as sources of sand replenishment.

ECONOMIC BENEFIT TO FISHERIES INDUSTRIES

Virginia's Coastal Resources Management Program is a direct economic benefit to its fisheries industry. By focusing preservation measures on the inter-tidal areas, the nearshore estuarine areas, and on the shorelands of tidal waters, Virginia is adding protection to the most fragile segment in the marine food chain. This will enhance both the commercial and recreational fisheries, which depend on a healthy, productive habitat. The dockside value alone of finfish and shellfish was $44 million in 1976, a 37 percent increase over 1975 and a 112 percent increase over 1970. Menhaden, clams, oysters, and crabs accounted for $35 million of the 1976 dockside value.

Recreational fishermen also stand to benefit from this added protection of the marine environment. In 1974 there were over 1 million recreational fishermen in Virginia, according to a NOAA report. Currently there are over 137,000 recreational boats in Virginia, of which approximately 73 percent are in Tidewater. In 1977 the 160 marinas in Tidewater grossed $25 million. The U. S. Fish and Wildlife Service estimated that the value of the recreational

fisheries industry in Virginia in 1977 was $200 million.

Protection of the fragile marine food chain stands to benefit these important economic interests and the trades which supply them, from marine construction to boat sales and fish processing.

TIME AND COST SAVINGS IN SHORELINE PERMITTING

The coastal program has resulted in the streamlining of some of the permitting procedures for minor shoreline projects, such as bulkheading and minor dredging. Streamlined permit procedures mean savings in tax dollars. These savings will accrue from administrative improvements such as use of a single permit application for uses of wetlands, instead of three applications. They will also accrue from improved advisory services that can be provided by local governments. Local staff who may be funded in whole or in part by coastal grants can help applicants plan a project correctly the first time, avoiding federal or state site visits, correspondence, and perhaps even an appeals procedure. The applicant for a small project in a locality could expect to have available a single source of basic information on permit requirements. He could also expect to deal with a group of local citizens knowledgeable of both environmental concerns, and to receive a decision within a reasonable amount of time.

For the state, delegation of authority to localities to regulate small shoreline projects in the fragile areas represents a gain in efficiency. While state agency overview is still required, small, non-controversial projects can be handled by local governments, freeing state agencies to concentrate their resources on more important and contentious shoreline projects and problems. In addition, local administration may increase

monitoring of construction activities for compliance with permit specification and improve reporting of permit violations. Local officials are closer to the scene and can carry out more constant supervision of shoreline projects. There is still room for improvement in this area. The State and localities can continue to work on this persistent problem by:

a) Reducing the delays, confusion, and costs of the current processes;

b) Refining procedures whereby the total public costs and benefits can be weighed in terms of the economic, environmental, and social effects of projects;

c) Continuing to provide information to applications as a governmental service, and;

d) Demonstrating to federal regulatory and advisory agencies the ability, willingness, and appropriateness of greater state control over these decisions.

STATE ASSISTANCE TO LOCALITIES

Virginia would receive between $1.5 and 2 million annually to implement the program. This would allow the state to provide an extensive program of financial and technical aid to localities. With an approved program, Virginia and its localities would also be eligible for federal financial aid from the Coastal Energy Impact Program. These funds are intended to help states and localities cope with the increased need for public services and facilities caused by development of our energy resources. Virginia can expect $500,000 in grants to be made available to Virginia this spring for this purpose, and approximately $800,000 annually through the mid-1980s.

The state's program of assistance, to be funded from the federal grants made available, would cover such areas as:

a) Local hiring of the skilled people needed to administer programs already mandated by the state and important to management of coastal resources (for example, erosion and sediment control, subdivision plat reviews, wetlands protection).

b) Assistance to applicants who need permits for construction in the shorelands and to shorefront property owners who need advice on erosion abatement techniques.

c) Local preparation of site plans for recreational, commercial, and industrial development.

d) Local preparation of site plans and construction of public services and facilities (from funds made available under the Coastal Energy Impact Program).

e) Inventories of the causes and effects of shoreline erosion and mapping of land uses based upon high altitude photography.

f) Revision of local plans and zoning ordinances along the shorelands of tidal waters.

g) Training of local elected, appointed, and administrative officials in the techniques of coastal management activities, federal and state regulatory procedures, the economic and ecological value of coastal resources, and proper land planning and management.

The state has already been able to provide 5 urban waterfront cities with a total of $108,000 to prepare site plans for recreational waterfront

development, and we expect to be able to continue to do this for urban coastal areas. The intent is to provide additional public access to underused urban waterfronts.

INTEGRATION OF GRANT AND AID PROGRAMS FOR COASTAL AREAS

The urban waterfront grant program has opened up other possibilities for tying the policies and purposes of coastal management to the policies and purposes of federal grant assistance provided under the HUD Community Development Block Grant Program, Coastal Plains Program, EDA assistance, and the Land and Water Conservation Fund of the Department of the Interior. Through a technical assistance and information program, the state can help localities combine the funding assistance of two or more of these federal programs to deal with particular coastal problems such as shoreline erosion, waterfront development, or shorefront recreation.

PREPARATION OF DATA NECESSARY FOR LOCAL DECISIONS

With an approved coastal program, Virginia will be able to continue preparing the basic information and plans which local officials and private citizens have suggested as essential to local and state decision-makers. This would include such subject areas as:

a) Shoreline erosion rates, causes and effects;

b) Location of spawning and nursery grounds;

c) Mapping of oyster grounds and leases;

d) Transportation and location of hazardous materials in Tidewater;

e) Port development plans;

f) Possible sites for oil and gas pipelines in nearshore waters; and

g) Fisheries protection and restoration.

STATE-LOCAL COOPERATION

Coastal Management is an excellent chance for the state and local governments to act as partners. Both are responsible for managing water and land uses, and must depend on each other to manage the coastal environment. It will expand the cooperative state-local effort now evidenced in the wetlands program to protect our coastal resources, especially the fragile estuarine systems where the marine food chain begins.

INTERSTATE COOPERATION

Coastal management will enable Virginia to join with other states, especially Maryland, in representing their mutual coastal interests to the federal government.

repeated on p 26.

IMPROVED WATER QUALITY THROUGH LAND USE

The Coastal Resources Management Program provides additional impetus to the protection and improvement of water quality, essential for a healthy and productive marine habitat. By encouraging land use planning and control measures designed to prevent non-point pollution, Virginia's program provides another means of protecting marine habitat, especially the fragile marine food chain near the water's edge. The coastal program's emphasis on the control of

weak

non-point pollution complements state and local efforts to reduce non-point pollution under the "208" water quality management program. Financial assistance to localities made available through the Coastal Resources Management Program will be used in part to orient local land planning and control in tidal shorelands to water quality preservation, with special emphasis on the reduction of non-point pollution. Thus, two major state-local programs will be tied together.

IMPROVED IMPLEMENTATION OF CURRENT FEDERAL AND STATE PROGRAMS

A coastal program will enable Virginia to improve the implementation of programs already mandated by federal or state law, such as the monitoring of permitted wastewater discharges under the NPDES program or the control of erosion and sedimentation. With the federal funds made available, state agencies and local governments could hire the technical staff needed to upgrade these programs.

USE OF CITIZENS BOARDS

The use of fragile coastal resources will be decided in Virginia by citizens boards, the locally appointed shorelands boards and the Marine Resources Commission. One of the real strengths of this form of decision process and conflict resolution is the timeliness of the decision. An applicant is spared the inconvenience and expense of protracted negotiation and uncertainty. On infrequent occasions, a matter may be tabled pending additional data or information, but rarely longer than the next regularly scheduled meeting. A majority vote of those present produces a decision. Decisions of local boards may be appealed to the Commission and decisions of

the Commission may be appealed to the courts. Because of the thoroughness and impartiality with which decisions are made, this right is rarely exercised. Another real advantage of this system is the availability of a forum before which an aggrieved party can present his case outside a court of law at no cost beyond his expenditure of time and transportation to Commission headquarters.

The state and local citizen boards allow for deliberate decisions by citizens rather than an exercise of bureaucratic discretion.

INCREASED PUBLIC UNDERSTANDING OF COASTAL RESOURCES

Virginia's coastal program will emphasize public education, which will lead to greater public understanding of the value of Virginia's coastal resources. This understanding can only lead, in turn, to appreciation of these resources. This should cause the public to demand more conscientious decisions by federal, state, and local officials on the use of coastal resources, in the interest of preserving them for future generations.

COPING WITH SHORELINE EROSION

As part of its coastal program Virginia has prepared a report which shows shoreline property owners and local officials the economic, structural, legal, and institutional alternatives for coping with shoreline erosion problems. The findings of this study can serve as guidelines to property owners and local officials when they are faced with making difficult choices on how to deal with shoreline erosion. This has not been done before in Virginia. For those who use these guidelines, the net result should be private and local decisions which are made only after all the pros and cons are weighed,

including the economics of various erosion abatement methods.

The Erosion Abatement Commission has been supported by the shoreline erosion work of the coastal management program. As a result of the Commission's findings, Virginia will establish a shoreline erosion advisory service for shoreline property owners in Tidewater. This will greatly expand the state's ability to advise these property owners and to enable them to choose the most practical and economical means of dealing with shoreline erosion.

INTERSTATE COOPERATION

Coastal management will enable Virginia to join other states, especially Maryland, in representing their mutual coastal interests to the Federal government.

CHAPTER I

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CHAPTER I

SUMMARY OF THE ISSUES AND PROGRAM OBJECTIVES

ISSUES OF THE PROGRAM

The following pages contain a brief description of the basic issues which have been defined and addressed in Virginia's Coastal Resources Management Program. A new management scheme has not been proposed for each issue described. In some cases the issue has been sufficiently addressed through an existing institutional arrangement; that issue is stated simply to demonstrate its prior consideration. Other issues have been described in anticipation of future study and consideration, with the possibility of a new management approach to be offered in the future.

THE EFFECTS OF LAND USE ON THE MARINE ENVIRONMENT

The development and uses of shorelands can have "direct and significant" impacts on the marine environment. The natural characteristics of the land and the type and intensity of uses determine the nature and extent of these impacts. Non-point source pollution is one such adverse impact that land uses may have on the marine environment. Non-point source pollutants are difficult to trace because they enter the water diffusely and intermittently, arise over an extensive area of land, and generally cannot be monitored at their point of origin.

Non-point sources appear to be significant determinants of water quality in some small coastal basins and waters bordering residential areas. This is supported by the fact that many of these waters, though polluted, are sufficiently removed from point sources as to discount them as significantly

affecting water quality. For example, because the only major point sources on the York River are found in the West Point and Yorktown areas, the many shellfish ground closures in the creeks between these two points indicate non-point source pollution.

The April 1977 "Bi-State Conference on the Chesapeake Bay" concluded that "trends in urban development and agriculture suggest that non-point source pollution will be an increasing problem in the future." The Conference report cited "certain pollutants from non-point sources (as) a demonstrable problem." These include concentrations of pathogens in the Bay's subtributaries which exceed standards for shellfish harvesting; nutrient loading, especially phosphorous, in the subtributaries which cause excessive enrichment and low levels of dissolved oxygen in the summer; sedimentation from new construction; herbicides and pesticides; and changes in run-off characteristics with urbanization, altering salinity.

Agricultural activities can generate sediment which may also contain pathogens, organics and toxic substances. The increased application of chemical fertilizers, pesticides and herbicides is a major potential source of non-point pollution. The chemical/biological impact these pollutants have on receiving waters can destroy fish and other aquatic life, increase algal growth and deplete oxygen.

Low density residential developments, especially in those areas without central sewage systems, may also cause non-point source pollution. Shoreline sanitation surveys conducted by the State Health Department have identified individual sources and types of pollutant discharges. While the precise correlation between the intensity of land use and the closure of oyster grounds has not been statistically proven, the evidence strongly suggests that the effect of individual discharge deficiencies has contributed to shellfish

ground closures in some areas.

Surface run-off accelerated by new construction or large expanses of impervious ground cover may scour stream beds and alter channels, thereby increasing stream width and reducing the water depth. Changes in the biological equilibrium of the stream often result. In some streams of the Potomac estuary for example, spawning grounds of anadromous fish have been degraded or destroyed as a result of run-off from development.

THE EFFECTS OF AIR POLLUTION ON THE COASTAL ENVIRONMENT

Introduction to the Problem

The development of shoreland property can have significant impact on the air resources of the coastal environment. The nature and specific location of the tract involved and the type and intensity of the proposed uses determine the nature and extent of these impacts.

The adverse impacts on air quality can be divided into two types:

--point source pollution from stationary facilities such as factories and
--non-point source pollution from mobile sources which are primarily related to transportation.

Both categories of air pollution are important with respect to the coastal air resources.

The urban centers of the coastal zone are of primary interest due to the heavy concentration of intensive development. However, all areas must be considered because of the fact that air masses constantly move from one area

to another, carrying along the pollutants.

Point source pollution usually has more immediate effects near its source. Point source pollution is easier to detect and easier to control.

Non-point source pollution which is primarily related to transportation is very pervasive and difficult to control. Abating and controlling this problem requires a multifaceted program, part of which includes good local, regional and state planning.

National ambient air quality standards for most pollutants have already been attained in the coastal zone. For these pollutants, an air resource management plan must stress maintenance of the standards. For those areas still in a non-attainment status, the plan must first stress attainment and then maintenance.

Aspects of the Problem

The federal Clean Air Act places with the U. S. Environmental Protection Agency the responsibility of setting national ambient air quality standards. Such standards exist for seven pollutants - suspended particulate matter, sulfur oxides, carbon monoxide, nitrogen oxides, hydrocarbons, ozone and lead. These pollutants can be categorized as either attainment pollutants or nonattainment pollutants.

Attainment Pollutants

In most of the coastal zone the ambient air quality standards for all pollutants except ozone and carbon monoxide have been attained. Therefore, the emphasis for the other five (attainment) pollutants is on maintaining this

attainment status and on assuring that significant deterioration of the air resources does not occur.

The attainment pollutants result primarily from stationary sources. The pollution control strategies for these pollutants thus include provisions for control of emission from existing sources and from new sources.

Nonattainment Pollutants

One problem pollutant in the coastal zone is ozone. Ozone is not emitted directly into the atmosphere by any emission source. It is produced through a complex photochemical reaction involving such precursors as hydrocarbons and nitrogen oxides. These emissions are discharged directly into the atmosphere in large amounts from both stationary (point) sources and mobile (non-point) sources. Since ozone is not directly emitted into the atmosphere, it cannot be controlled by direct means. Controlling ozone pollution must be approached by controlling emissions, primarily hydrocarbons. Since these emissions emanate from both point and non-point sources, the emission control strategies must address both categories.

The other problem pollutant in the coastal zone is carbon monoxide. It is derived mainly from transportation sources. Therefore, the emission control strategies for carbon monoxide deal mainly with transportation controls.

Control Strategies

The air pollution control strategies can be broadly divided into three categories--strategies for existing sources, strategies for new or modified

sources, and strategies for transportation control.

The existing source strategies deal only with stationary sources. Emission standards have been developed for existing operations and processes which result in emissions of air pollutants. These standards basically require the application of reasonably available emission control technology. The requirements for existing sources are enforced through an inspection program supported by an engineering review. Any noncomplying source is required to prepare and submit a plan indicating both the compliance efforts which it will undertake and the schedule by which compliance will be achieved as expeditiously as possible.

The new or modified source strategies also deal only with stationary sources. The application of the best available emission control technology is required for new or modified facilities. New or modified sources may also be subject to the national New Source Performance Standards (NSPS) and/or the National Emission Standards for Hazardous Air Pollutants (NESHAPS) as promulgated by the U.S. Environmental Protection Agency (EPA). In Virginia, the State Air Pollution Control Board has been delegated the enforcement responsibility for NSPS and NESHAPS. Major new or modified sources of any nonattainment pollutant are also required to offset their emissions by controlling part of the emissions of some existing source. A permitting process is used to enforce the requirements for new or modified sources. The air quality impact of a new source is assessed for all pollutants, both attainment and nonattainment, during this process.

The transportation control strategies address the mobile (non-point) sources and have their application in major urban areas. They are aimed at reducing the amount of emissions per vehicle, at limiting or discouraging usage of vehicles, and at enhancing the planning process for future

development (highways, commercial areas, etc.). Extensive public acceptance and cooperation is needed to make these strategies work. Therefore, public involvement and education are very important parts of this portion of the control plan. Large-scale transportation control strategies are a new element in Virginia's air pollution control plan and are presently being formulated.

The foregoing discussion of the effects of air pollution apply equally to all areas of the state. Although developments in the Coastal Zone pose unique problems in their impact on water quality and on wetlands, the air quality impact of such developments would not differ from the impact of similar developments in inland areas.

DEVELOPMENT AT THE EDGES

This section of the CRM program addresses the management problems of particular resources, hazards, and potential access areas which are classified as Geographic Areas of Particular Concern (GAPCs). Development pressures on the coastal "edges," where the land and tidal waters meet, have created concerns relative to the use and protection of those particular resources and areas of concern.

Natural Resource Areas of Particular Concern

Certain natural resources, such as wetlands, along the coastal edges are vital to the health and productivity of Virginia's estuarine and marine ecosystems. Other resources, such as dunes, are integral to the stability of the shoreline and may protect inland areas from flooding.

Vegetated Tidal Wetlands

Vegetated tidal wetlands, commonly called tidal marshes, are those shoreland areas that are periodically flooded by normal tide action and upon which vascular wetland vegetation grows. A majority of the plant matter produced by tidal marshes is utilized as a food source either directly by marsh animal communities or indirectly by estuarine and marine aquatic organisms. Marshes also provide essential habitat for wildlife, waterfowl and marine organisms, and act as a buffer against flooding and erosion.

Non-vegetated Tidal Wetlands

Non-vegetated wetlands are those lands lying on the immediate foreshore between mean low water and mean high water and upon which no vascular vegetation grows. Despite the absence of vascular vegetation, many intertidal flats support algal growth which may have the potential to exceed the primary production rates of the most productive marsh plants. Algae is an important food source for estuarine and marine organisms because it may be utilized more directly than marsh vegetation which must be broken down to usable components by bacterial action (decay). Non-vegetated wetlands also provide essential feeding grounds for many species of finfish, crustaceans and birds.

Submerged Grass Beds

Nearshore shallows may support the growth of rooted vascular plants (eelgrass and widgeon grass) and benthic algae which are utilized as food by estuarine and marine organisms. Because of the protection from predators afforded by submerged grass beds, they serve as important nursery grounds for finfish and, in particular, blue crabs. Submerged aquatic vegetation also

helps buffer shorelines against erosive wave action through the dissipation of wave energy and trapping of sediments. However, submerged grass beds have declined drastically in recent years.

Spawning, Nursery, and Feeding Areas

Maintenance of the biological productivity and integrity of Virginia's valuable fisheries requires the protection of those areas within coastal waters that serve as spawning, nursery, and feeding areas for finfish, shellfish and crustaceans. These areas are difficult to identify and delineate because they vary among the major classes of organisms and by species. Proper management of these areas not only requires protection of the physical habitat (tidal flats, wetlands, shallows, and grassbeds), but also maintenance of proper water quality conditions.

Coastal Sand Dunes

Sand dunes serve several vital functions, the most important of which are stabilization of the shoreline and protection of the beach and backshore areas from erosion and the effects of storm surge flooding. Further, dunes help promote the growth of vegetation and subsequent stabilization of backshore areas, and provide important habitat and reservoirs of sand for beach replenishment.

Virginia's Barrier Islands

Virginia's barrier island complex includes the only intact and least altered chain of barrier islands of the east coast of North America. As such,

this 60-mile island chain constitutes a unique and priceless asset to the Commonwealth. The islands act as a buffer against coastal storms and protect the extensive wetland areas and mainland lying behind the islands from erosion and flooding. These islands, and the dune systems found on them, serve as storage units for sand and other sedimentary materials utilized in coastal processes along the island chain. The islands and the important resources found on or around them (salt marshes, tidal flats, submerged grassbeds, shallows, dunes) provide food and/or habitat for numerous species of fish, birds, waterfowl, and other organisms.

Coastal Natural Hazard Areas of Particular Concern

Highly Erodible Areas

Tidal shoreline erosion is a natural phenomenon produced by the effects of changes in sea level and waves (wind, tide, and storm driven) on coastal shorelands. Shoreline erosion poses a significant threat to coastal property owners because it often results in the loss and/or impairment of land and structures representing significant public and private investments. Because the potential for and severity of impacts to both natural and man-made environments may increase dramatically with the extent and rate of erosion, it is essential to identify shoreline segments that are exhibiting high rates of erosion and to develop effective means to minimize the effects of erosion in these areas. Areas with high rates of erosion (highly erodible areas) are defined as those shoreline segments exhibiting an erosion rate equal to or greater than 2 feet per year.

Coastal High Hazard Areas

The destructive effects of coastal flooding are most frequently felt in low lying lands, bordering the Atlantic Ocean, Chesapeake Bay and associated tributaries, that are periodically inundated by tide, wind and storm driven waters. The area of particular concern is the coastal high hazard area, defined as those portions of the 100 year flood plain that may be subjected to high velocity waters including hurricane wave wash and extensive periods of strong winds associated with east coast weather phenomena.

Water Access Areas of Particular Concern

Shorefront Recreation Areas

Shoreland areas are being subjected to increasing commercial, industrial, and residential use and development pressures. At the same time, public demands for shorefront or water-based recreational opportunities are also rising steadily at a rate which in some recreational categories (boating, sailing, and beach use) far exceeds population growth.

Commercial and Industrial Sites

The economy of Tidewater Virginia depends heavily upon commercial and industrial activity which requires access to tidal waters. This activity includes such facilities as power plants, ports and harbors, marine terminals, shipbuilding and repair yards, commercial fishery operations and marinas. Again, the essential issue is the increasing demand for such facilities or operations and the resulting conflicts with other desirable uses for the

shorefront. In an increasing number of cases, local citizens, often property owners adjacent to the proposed facility, have sought to have the Marine Resources Commission block projects to which they objected principally because of incompatible highland uses in localities which do not have zoning. This is particularly so in recent proposals for location or expansion of marinas.

can't be done

SHORELINE EROSION

Although shoreline erosion is a natural phenomenon, it is often aggravated by human activity. Development of shorefront property raises two issues which are part of the shoreline erosion problem. First, along undeveloped shoreline where erosion processes are at work, the immediate issue is not the erosion, but (a) whether there should be development in that location and, if so, (b) whether it will be accommodated to the natural processes or whether the natural processes will be altered to accommodate the development. Second, in areas where the shorefront is developed, the issue is one of how the erosion should be controlled and managed.

The type, causes, and effect of shoreline erosion must be determined before any choices--which are usually both public and private--can be made for dealing with it. The legal, institutional, structural, or financial means of coping with erosion will vary according to each local situation. For example, one choice may be to use set back provisions, rather than structural measures to limit losses due to erosion. However, the problem may require a better solution than the implementation of set back ordinances could provide. Localized erosion could be the major source of sand for a nearby beach, but, at the same time, contribute to the sedimentation of a nearby creek entrance. The public choice would then become one of weighing the alternatives: maintenance dredging, which may threaten aquatic vegetation and nursery

grounds; or, erosion control structures to reduce the dredging requirements, which may then deprive a beach of sand replenishment. These site-specific choices can only be made at the local level with technical advice from the state.

Shoreline erosion has generally been dealt with on a piecemeal basis in Virginia. The artificial "stabilization" of the shorefront property of one or two owners neglects the effect the actions may have on an entire shorefront system and on other property owners. Structural stabilization methods of shore protection may starve a downdrift beach and accelerate the erosion at that site. Still another matter of concern is the fact that many new and prospective shorefront property owners are unaware of the potential risk of property loss due to erosion.

Other immediate concerns are the state's limited ability to provide technical assistance and advice to local governments and property owners, and the lack of consideration of the causes and effects of shoreline erosion in local land use plans. These problems seriously restrict state and local ability to assess shoreline erosion and to deal with it appropriately.

SHOREFRONT PUBLIC ACCESS

The Virginia coastline is one of the most extensive in the United States because Tidewater, as defined in the Code, is divided by the Chesapeake Bay and intersected by several major rivers and a multitude of tidal creeks. As a result, the Commonwealth has within its jurisdiction over 5,000 linear miles of shoreline and adjacent subaqueous lands. Because this extensive shoreline exists, opportunities for public access to Virginia's shorelands and coastal waters for commercial and especially recreational purposes should be numerous

and varied. Actually however, public recreational use of the coast is either quite limited or threatened by the encroachment of competing uses.

Access to coastal waters for marine recreation is provided primarily through commercial campgrounds and marinas. The Virginia Outdoors Plan estimates that existing marinas provide most of the slips for 97,000 registered boats in Tidewater and that, on a broader scale, the private sector (commercial facilities, clubs and individual homeowners) furnishes over 50% of all outdoor recreational opportunities. Demands for boating are expected to increase with population, however, private enterprise may be unable to provide opportunities for a proportional increase in marinas. Marina operators are already encountering difficulties with existing facilities and proposals for new construction because of the water quality problems they seem to present to adjacent waters and shellfish areas. Additional water access-related problems focus on the issue of marine recreational activities, such as water-skiing, pleasure boating, swimming and sailing, competing for the use of the same water area.

With regard to shoreline access, beaches appear to be the most desirable form of shoreline for marine recreation because they may be used for a variety of popular activities, including surf fishing, sunbathing, picnicking, swimming, camping, shell collecting, jogging, and walking. However, access opportunities to the shoreline and especially beaches, are severely limited because very little completely accessible shoreline exists (.4% of Virginia's shoreline), and the condition of existing public beaches, although highly used, is poor due to the lack of parking facilities and comfort stations. In addition, pressures on existing beaches are intense due to the availability of only one oceanfront beach (Virginia Beach) suitable for swimming (because of stinging nettles at the others), the competition for use of that beach between

Virginia residents and out-of-state visitors, and the persistant forces of development and erosion which continued to threaten Virginia Beach and others.

Efforts to plan for public access to Virginia's coast have been complicated somewhat due to the unavailability of decision-making information specifically geared to analyzing Tidewater (the geographic focus of the CRM program) marine recreation demands, use and needs. The bulk of available information on outdoor recreation is contained in the Virginia Outdoors Plan which displays survey data obtained from the entire state. Because of the survey's statewide focus, the results do not adequately meet the information needs of the coastal program. Consequently, one of the issues which CRM must address is assessing coastal access information needs and developing an appropriate data acquisition program in conjunction with the continuing planning effort of the Commission of Outdoor Recreation.

SPILLS

Petroleum products account for most of the volume of hazardous materials transported in the Chesapeake Bay and its tributaries. In 1975, 95 per cent of all hazardous materials transported were petroleum products. The Corps of Engineers reported a 17 per cent increase in the transport of petroleum products on the Bay and its tributaries between 1970 and 1974, from 39,675,000 to 47,979,000 short tons.

Reported spills of hazardous materials in Virginia and Maryland waters in 1975 totalled 457,000 gallons. In 1976, total reported spillage was 500,400 gallons, including a 132,000 gallon sulfuric acid spill. Of these 1976 spills, petroleum products accounted for 67 per cent. Most spills occur at the point of loading or unloading operations. Few spills have occurred during

transit of oil in the Bay and its tributaries. However, the 250,000 gallons of No. 6 fuel oil spill off Smith Point in February 1976, the August 1976 sulfuric acid spill and a second oil spill off Smith Point in 1978 indicate that there is a potential for major spills and consequent damage to the ecology of the Bay and its rivers and their shorelines, as well as the economic sector dependent upon those resources.

The effect of an oil spill on the estuarine ecology is visibly apparent in terms of wildfowl destruction and damage to shorelines and marsh grasses. The effects on marine life are much less apparent and vary according to the type of oil spill, location, weather conditions, season, and the length of time the oil may remain in the aquatic environment. The constant spillage of small amounts of oil which occurs during the handling of petroleum products may pose as great a danger to marine resources as does a single large spill from shipping. Accumulating over time, oil products may eventually disrupt the food web of fish by killing larvae and destroying benthic organisms.

The demand for oil and chemical products for domestic, commercial, and industrial uses in the Bay and its tributaries will increase, and the volume of these products transported in Virginia waters will increase as well.

FISHERIES MANAGEMENT

The basic issues in Fisheries Management are to identify the goals and objectives of management and the basic fisheries policy of the Commonwealth and to determine the degree of regulation or change in the fishing industry necessary to realize the stated goals and objectives.

The setting of goals and specific objectives for fisheries management is difficult because management has biological, social, and economic

implications. The goals of maximum sustainable yield aim at taking the greatest number of fish while maintaining adequate stocks for propagation. Primary consideration here is biological. On the other hand, goals aimed at optimum sustainable yield consider economic and social factors in addition to biological factors, such as the amount of effort expended by recreational and commercial fishermen and the rate of return to the industry.

After biological information is developed which can provide a reasonable estimate on the amount of fish which can be taken, the difficult process of allocating this quota begins. Conservation methods currently employed tend to emphasize inefficient harvesting methods, such as hand tonging, and restricted seasons rather than some type of limited entry or quota program. Difficult decisions concerning goals for management plans and their effect on the sport and commercial fish stocks have to be addressed by fishing interests and consumers.

SHORELINE PERMITTING

The process of obtaining the necessary permits for projects involving alterations to tidal waterways has been one of the most frequently raised issues during the development of Virginia's coastal resources management program. Waterfront property owners, developers, community leaders, and local officials have related incidents of delay, frustration, confusion, and cost in securing permits for shoreline and nearshore construction. An analysis of the problem leads to three basic findings.

First, the permit approach to controlling proposed shoreline activities which are likely to affect the public interest is to subject them to a public interest review conducted by government agencies on the basis of appropriate

development guidelines. Those who might be affected by a project are afforded an opportunity to register their concerns. Such a system takes time if it is to function properly.

Second, there are many unavoidable sources of delay. Some delays, for example, are traceable to the applicant (e.g., an incomplete application). Protests and appeals may cause lengthy delays. Noncompliance with permit conditions have caused projects to be halted prior to completion. Disagreements among local, state, and federal permit agencies and between such agencies and their advisory bodies, have on occasion delayed projects.

Third, the majority of applications are for small, non-commercial, residential projects designed to improve riparian access or to control shoreline erosion. These projects accounted for nearly sixty percent of all projects authorized by the Corps of Engineers in coastal Virginia between July 1972 and January 1976.

ENERGY FACILITY PLANNING PROCESS - KEY FACILITIES

There are certain public works and private development activities of such a scale that they are of regional, statewide, inter-state, and even national interest. These are "key facilities" and may include such major projects as power transmission facilities, ports and docks, oil and gas energy facilities, or solid and hazardous waste disposal areas. Such facilities have widespread social, economic, and environmental consequences and they cannot be located without extensive analysis of their likely effects or without the involvement of local, state, and federal agencies and numerous private interests.

The State has a major interest in key facilities and already plays a central role in location decisions because (1) the impacts of these facilities

extend far beyond the limits of a single jurisdiction, (2) many are public works projects, and (3) state permits must be granted for their siting.

specifics needed

From the standpoint of coastal resources management, there is a special interest in the State being able to coordinate the planning and permitting of key facilities. Coastal resources in estuarine environments are extremely fragile. Such facilities are likely to cause the greatest impacts on these resources and therefore require the greatest care in siting and measures to mitigate against adverse environmental impacts.

Recent experience has shown that the location and siting of key facilities is a lengthy, often contentious, and costly process. The manner in which the state government makes decisions on major projects is essentially reactive and is carried out as part of the permit review process, rather than through a deliberate, coordinated planning process. As a result, the state decision on an individual project is incremental, with each agency judging the project on the basis of its own particular responsibility. This does not provide a chance for a comprehensive consideration of the project and limits the ability of the state government to weigh all the alternatives for location and conditions of use.

LOCAL ROLE IN CRM - FINANCIAL AND TECHNICAL ASSISTANCE

To embark on a coastal program jointly with the state, local governments need the state's technical and financial aid; clearly stated goals, objectives, and policies; and standards, criteria, and guidelines for the use of resources. By the same token, state agencies need the experienced advice of local officials on purely local situations to understand the coastal problems on site. The proper management of coastal resources depends upon

both state and local officials understanding the value of those resources; their limits and potential for use; their physical, biological, and chemical characteristics; and their relationship to one another. The state therefore, must provide a continuing educational opportunity for local officials and its own officials about these resources.

State assistance is presently available to localities, but is given on a case-by-case basis by various state agencies and is not offered as part of an overall resource management program. Other state assistance services related to coastal management, such as erosion and sediment control, may be available only on a limited basis because of lack of staff and financial support.

Under the coastal program, local governments will be invited to assume greater responsibility for water permitting decisions. They will also be asked to review and possibly revise plans, ordinances, and management practices to reduce or prevent the loss or degradation of marine resources from runoff. These activities have not been anticipated by localities, and most will need some degree of financial or staff assistance, or both. They will particularly need detailed engineering and environmental advice for shoreline permitting activities.

Voluntary

RESEARCH AND EDUCATION

Proper management of coastal resources depends upon the availability of adequate information enabling public officials to make informed decisions. The only way to ensure this is to conduct the research needed to provide the base data and the understanding of how the physical, chemical, and biological processes of the coastal environment work.

A number of research needs stand out. These include the long-term

effects of low level discharges of toxic substances; design criteria for improving creek systems for navigation or for constructing artificial channels; identification of spawning and nursery areas; the effects of herbicides on aquatic vegetation; improved commercial fisheries statistics and an assessment of recreational fisheries; criteria for shoreline structures in conjunction with shoreline permitting; alternatives to chlorination of wastewater effluent; and legal research with respect to the application of the riparian doctrine to shoreline alterations.

The success of the program will largely depend on how well the general public, as well as private groups and associations, knows that there is such a program and understands its purposes. There must be at least a general understanding of the importance and value of coastal resources, and care which must be taken in managing their uses.

The state is obligated to keep citizens informed about how coastal resources are being managed and how that affects them. The most effective way to establish the needed public support is to provide an educational program which will increase public understanding and offer plenty of opportunity for participation.

STATE ORGANIZATION AND AUTHORITY

Because there is an overriding state interest in coastal resources, which reaches beyond the jurisdictional limits of any one political subdivision, the responsibility for public management of these resources or seeing that they are managed rests with the state government. With this state responsibility must go the legal ability to enforce compliance.

The Congressional intention to vest the primary responsibility and

authority for implementing a coastal resources management program with the state government is clear in the act itself:

> The key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zones... [§302(h)]

The state organization established to administer and carry out coastal resources management will integrate these various coastal activities into a comprehensive, coordinated state program. Such activities will include, for example, providing and maintaining shorefront recreational access; measures to reduce the likelihood of pollution; protection of wetlands; state assistance to local governments; and measures to deal with shoreline erosion.

The particular coastal management activity will determine which State agencies will be participating, and the extent to which they will be involved. For example, permitting shoreland uses to protect the marine environment will involve the Department of Health, State Water Control Board, Soil and Water Conservation Commission, the Marine Resources Commission, and the Virginia Institute of Marine Science. Increasing public recreational access to coastal waters could involve the Commission of Outdoor Recreation, Game and Inland Fisheries Commission, and the Department of Highways and Transportation.

The coastal program will depend on the authorities and responsibilities of the participating agencies. It shall have a clear locus of State responsiblity and specific policies which agencies follow when deciding the uses of coastal resources. Successful implementation requires that the State act as more than the sum of its (agency) parts in setting and carrying out coastal policies.

Coastal resources management also depends on the State and local governments jointly carrying out their respective resource management responsibilities in a complementary manner. The way the State organizes for coastal resources management and the authority which the State assumes shall reflect the concerns important to local government. Localities have influenced the decisions on what the coastal resources management programs shall include and how it is implemented. They now want to know what they will be expected to do and how much it will cost them. In establishing a coastal program, the State shall continue to provide localities the opportunity to participate in the decision-making on how coastal resources can be used; it shall organize a program of technical and financial assistance; and it shall clearly establish the state agency responsibilities.

OBJECTIVES OF THE PROGRAM

The issue statements describe the problems with respect to coastal management. From these issues, certain objectives have been derived. The objectives are listed below according to each issue which has been identified.

THE EFFECTS OF LAND USE ON THE MARINE ENVIRONMENT

To minimize or eliminate non-point pollution in tidal streams, estuaries, embayments, and coastal waters caused by land use and land management practices.

To ensure that localities are able to acquire basic land planning data, particularly soil and groundwater surveys, as well as that marine resources data which is essential to land planning and management along

the edges.

To incorporate consideration for the non-point pollutant effects of land uses on the living marine resources in local commprehensive, land use, or facilities plans and in local land use control ordinances.

To provide guidelines for land use planning, control, and management practices which will prevent non-point pollution and consequent degradation or loss of marine resources.

To establish a continuing program of public education so that property owners may be encouraged to implement land management practices which will reduce non-point pollution.

THE EFFECT OF AIR POLLUTION ON THE COASTAL ENVIRONMENT

To maintain compliance with the national ambient air quality standard with respect to attainment pollutants.

To prevent significant deterioration of the State's air resources.

To attain and then maintain compliance with the national air quality standards for ozone.

To incorporate consideration of air quality impacts of land uses in local comprehensive land use plans.

To establish a continuing public education and participation program in order to acquaint the public with various issues and seek their input.

DEVELOPMENT AT THE EDGES

a. Protection of Natural Resource Areas of Concern

To protect and preserve tidal marshes from despoliation and destruction while accommodating needed development.

To extend state or local management protection and conservation, similar to that for tidal marshes, to the non-vegetated wetlands or tidal flats.

To minimize damage to the marine environment from alteration of nearshore subaqueous bottoms and submerged aquatic vegetation.

To protect and preserve spawning, nursery, and feeding areas.

To extend state or local management protection and conservation, similar to that of wetlands, to coastal sand dunes.

To preserve Virginia's barrier islands in their natural state.

b. Coastal Natural Hazard Areas of Concern

To improve our current knowledge of shoreline erosion and the present methods of managing its effects.

To reduce or prevent erosion in those shoreland areas where dwellings, property improvements, and public facilities are now in jeopardy.

To protect life and property from the effects of coastal flooding.

c. Water Access Areas of Concern

To ensure access to coastal waters for those recreational uses which require such access.

To ensure access to coastal waters for those commercial and industrial uses requiring such access.

SHORELINE EROSION

To develop strategies for dealing with shoreline erosion problems which will accommodate development to the natural processes of shoreline erosion and accretion.

To reduce, where possible, shoreline erosion which destroys or degrades marine resources.

To establish programs for managing shoreline erosion based upon the identification of a shoreline system, rather than on a site-specific basis.

in conflict with issue discussion. this letter

To prevent future property damage and the loss of taxable land.

To provide more technical assistance on shoreline erosion problems to localities and property owners.

To include shoreline erosion problems as a continuing part of local land planning and management programs.

SHOREFRONT PUBLIC ACCESS

To consider in all coastal resources management decisions those recommendations of the Virginia Outdoors Plan that apply to shorefront recreation and access.

To coordinate federal, state, and local financing and staff resources in assisting public agencies to provide increased access locations to tidal waters.

To secure additional public access to underutilized governmental shorefront land, either by transfer or use agreements.

To encourage regional approaches to servicing local shorefront access areas, such as by regional park authorities, or coordinated and jointly funded services under planning district commissions.

To continue to increase technical assistance to private operators of access sites and facilities and encourage private enterprise to fulfill identified needs.

SPILLS

To prevent or reduce the potential for oil spills in Virginia waters.

To establish joint policies, programs, and procedures with Maryland for preventing spills and for handling hazardous material spills when they occur.

To reduce the potential for damage to marine resources from spills through effective site planning.

To reduce the potential for damage to marine resources from spills through improved containment and clean-up programs.

FISHERIES MANAGEMENT

To establish clear legislative direction and policy for the future management of the Commonwealth's fisheries.

To provide the Marine Resources Commission with greater latitude, responsibility, and flexibility in establishing and implementing fisheries regulations and for entering into federal and interstate fisheries

agreements.

To assess the effectiveness of current fisheries regulations in achieving fisheries goals and objectives.

To prepare plans for management of the recreationally and commercially important species in Virginia waters.

To improve the productivity of the fisheries of the Commonwealth.

SHORELINE PERMITTING

To place the authority and accountability for shoreline permitting decisions with local governments, whenever and wherever possible.

To make the shoreline permitting process more responsive to citizens by reducing the delays experienced by permit applicants for projects.

To obtain the delegation of certain administrative authority now exercised by the federal government for regulating shoreline projects. what?

ENERGY FACILITY PLANNING PROCESS

To encourage the exploration, recovery, and development of outer continental shelf oil and gas, consistent with sound environmental practices.

To establish a state level procedure which will provide a coordinated planning process for the location and conditions of use for major energy related facilities.

To enable localities directly affected by OCS-related development to prepare for the probable social, economic, and environmental impacts.

To establish a coordinated state planning process for major projects which account for long term development needs and alternatives as well as guide the locations of major facilities in the coastal zone.

To tie the coordinated state planning process with state and federal permit decision and environmental impact review for major projects.

To consider the local, regional, interstate, and national interests in the planning of major projects and the siting of the facilities.

LOCAL ROLE IN CRM - FINANCIAL AND TECHNICAL ASSISTANCE

To provide local governing officials with the financial assistance, technical advice, and information they need to make decisions about the use of coastal resources.

To establish and support a continuing educational program for local (and state) officials in coastal resources management.

RESEARCH AND EDUCATION

To acquire the base data and scientific evaluation necessary to make informed decisions on the allocation and management of coastal resources.

To carry out an education program for local officials, citizens directly involved in coastal resources management, interest groups and the general public.

ORGANIZATION AND AUTHORITY

To establish a program for managing coastal resources, with which the appropriate state agencies will comply and for the purposes of which they will coordinate their planning, development, and permitting decisions.

To place as much authority and responsibility for coastal resources managment with local governments as is practical and possible.

CHAPTER II

BOUNDARIES

A. Boundaries of the Coastal Zone II-1

B. Existing Boundaries II-1

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Appendix II-1. Federal Land in Tidewater by Site

CHAPTER II

BOUNDARIES OF THE COASTAL ZONE

One of the requirements to be considered in the development of Virginia's Coastal Resources Management Program is the delineation of those areas within which provisions in the total plan will apply. However, it is first necessary to identify those boundaries now recognized as sovereign, both as a starting point from which to base coastal zone boundaries, and to prevent confusion resulting from superimposition of new boundaries upon previously established ones.

EXISTING BOUNDARIES

1) The three mile limit of state ownership of submerged lands. The Chesapeake Bay, however, is considered to be "enclosed waters." Therefore, within the Bay, state authority extends over all bottoms within the state boundaries.

2) The mean low water line marks the seaward limit of private property ownership in Virginia.

3) Mean sea level is used as a basis for elevations on most topographic maps and is often used for surveying purposes. It usually marks the lower limits of wetlands vegetation if any is present.

4) The mean high water line, or the average elevation of high tides, is a jurisdiction line utilized by the U. S. Army Corps of Engineers in regulating waterways under the federal Rivers and Harbors Act of 1899.

5) The upper limits of vegetated wetlands have been established in Virginia by the Virginia Wetlands Act of 1972 which, in addition to a

biological definition, establishes an elevation equal to 1.5 times the mean tide range measured above mean low water at a site. The mean tide range is the difference in elevation between mean low water and mean high water. The Virginia upper limits of wetlands closely proximates the "high tide line" used now by the Corps of Engineers in regulating shoreline activity.

Coastal flood plains are shown on special maps for some coastal areas. Where not shown, the 10 foot contour line may be used as an approximation.

INTERSTATE BOUNDARIES

Interstate (lateral) boundaries determining the extent of adjacent state sovereignty in coastal waters have been established by compact and approved by Congress. They are defined in the Code of Virginia.

§ 7.1-4.1. Boundary line between Virginia and North Carolina eastward from low-water mark of Atlantic Ocean. --The boundary line between Virginia and North Carolina eastward from the low-water mark of the Atlantic Ocean shall be and hereby is a line beginning at the intersection with the low-water mark of the Atlantic Ocean and the existing North Carolina-Virginia boundary line; thence due east to the seaward jurisdictional limit of Virginia; such boundary line to be extended on the true ninety degree bearing as far as a need for further delimitation may arise.

§ 7.1-7.1. Boundary line between Virginia and Maryland eastward from Assateague Island. --The boundary line between Maryland and Virginia eastward from Assateague Island shall be, and hereby is, established and described as follows: Beginning at a point on the Maryland-Virginia line located on Assateague Island designated as station "Pope Island Life

Saving Station (1907)" defined by latitude 38°01' 36.93" and longitude 75°14'47.105"; thence due east (true) to the Maryland-Virginia jurisdictional limit.

SUB-COASTAL BOUNDARIES

The management of coastal waters of the Commonwealth will continue to require the periodic designation of sub-coastal areas. There are numerous precedents in State statute as well as in administrative regulation for the designation of special purpose areas within territorial waters and on subaqueous bottomland. These relate primarily to fisheries regulation and include the designation of "natural oyster beds, rocks, and shoals" on plats and maps (known as the Baylor Survey) (§ 28.1-100), platted oyster grounds leased to individuals for private use (§ 28.1-109), the regulation of commercial and sport fishing on portions of certain rivers (§ 28.1-80, 81), and areas condemned for fishing and shellfishing for public health reasons (§28.1-177). Other special purpose designations include areas with navigation restrictions imposed by the U. S. Coast Guard because of hazards (e.g., military weapons test ranges) and subaqueous lands adjacent to beaches reserved for recreation use as permitted by the Virginia Marine Resources Commission.

PROGRAM REQUIREMENTS

The Coastal Zone Management Act of 1972 requires "an identification of the boundaries of the coastal zone subject to the management program" and defines "coastal zone" as

> ...the coastal waters (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and includes islands, transitional and

intertidal areas, salt marshes, wetlands, and beaches. The zone extends...seaward to the outer limit of the territorial sea. The zone extends inland from the shoreline only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters.

The Act specifically excludes from the coastal zone "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."

Coastal waters are defined 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." While the Act states that estuaries may be "measurably diluted with fresh water derived from land drainage," it does not require that the inland boundary of estuaries be drawn at the point where a specific percentage of seawater can be found.

The legislative mandate for boundary delineation is extended by rules and regulations promulgated by the Office of Coastal Zone Management. These require that the State determine or identify:

1. the extent of the territorial sea, (determined);

2. the transitional and intertidal areas, saltmarshes, wetlands, and beaches;

3. all federally owned lands, or lands which are held in trust by the federal government, its officers, and agents in the coastal zone and over which a state does not exercise any control as to use; and

4. the inland boundary required to control, through the management

program, shorelands and the uses of which have direct and significant impacts upon coastal waters.

The regulations also stipulate that the coastal zone must include "those lands which have any existing, projected, or potential uses which have a direct and significant impact upon the coastal waters..." States are left to their own discretion to determine the actual boundaries, based on these criteria.

BOUNDARIES OF TRANSITIONAL AREAS

The identification and management of areas subject to periodic tidal flooding or supporting ecological systems dependent upon such flooding represents a major focus of Virginia's coastal resources management program. However, some difficulty is encountered in determining a management boundary in these transitional areas. Virginia law (§ 62.1-2) extends private ownership to mean low water but gives the State both jurisdiction and title to the "beds of bays, rivers, creeks, and shores," which lie below the mean low water line. Consequently the boundary in transitional areas, for property ownership purposes, is well defined and fixed at the mean low water line.

Management boundaries in transitional areas are not nearly as fixed or well-defined and vary considerably due to overlapping federal, state, and local management jurisdiction. With the exception of the extension of the Corps of Engineers 404 permit program, federal management jurisdiction over navigation, interstate commerce, water pollution, and other programs extends inland to the mean high water mark. The 404 program has extended federal jurisdiction beyond mean high water in some cases.

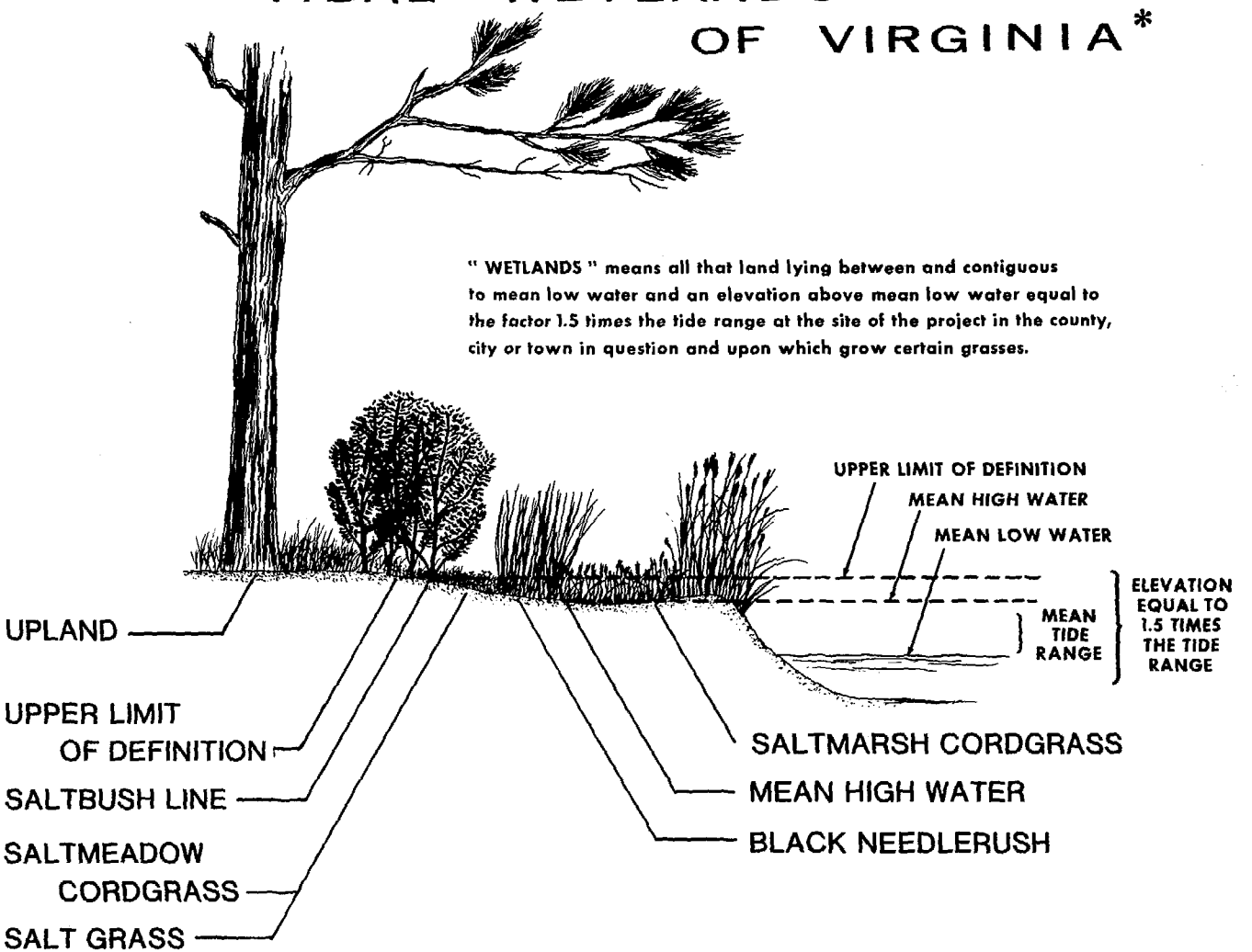
The primary purpose for which state management jurisdiction has extended into transitional areas above mean low water is for the protection of tidal

vegetated wetlands. The Virginia Wetlands Act of 1972 recognized that vegetated wetlands are an irreplaceable natural resource essential to the ecological integrity of the Commonwealth's tidal rivers, bays, and estuaries. The Act (§62.1-13.2) defines tidal wetlands as "all that land lying between and contiguous to mean low water and an elevation above mean low water equal to the factor 1.5 times the mean tide range at the site..." and upon which certain species of plants grow (see Figure II-1). Tidal vegetated wetlands are being identified (down to one-quarter acre in size and smaller where "fringing" marshes occur), geographically located, and classified as to environmental values by the Virginia Institute of Marine Science in their Tidal Marsh Inventory series of locality-by-locality publications. In addition, shoreland transitional areas are being similarly identified and mapped in the Shoreline Situation Report series.

Considering "the unique character of the wetlands, and irreplaceable natural resource...essential to the ecological systems of the tidal rivers, bays, and estuaries...", the General Assembly has directed that "Development in Tidewater Virginia, to the maximum extent possible,...be concentrated in wetlands of lesser ecological significance..." Tidewater Virginia is defined in the Code to include the following counties and cities:

> Accomac, Arlington, Caroline, Charles City, Chesterfield, Essex, Fairfax, Gloucester, Hanover, Henrico, Isle of Wight, James City, King George, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Northampton, Northumberland, Prince George, Prince William, Richmond, Southampton, Spotsylvania, Stafford, Surry, Sussex, Westmoreland, and York; and the cities of Alexandria, Chesapeake, Colonial Heights, Fairfax, Falls Church, Fredericksburg, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Portsmouth, Richmond, Suffolk, Virginia Beach, and

TIDAL WETLANDS OF VIRGINIA*



* EXCEPT BACK BAY

Williamsburg.

Thus, the General Assembly of Virginia has located the transitional areas, for purposes of jurisdiction, within the territory of specified local governments. //

A statewide, on-the-ground demarcation of this boundary has not been undertaken and is probably not desirable because natural fluctuation of the mean low water line, over time, would eventually make such a determination inaccurate. However, this transitional boundary has been used successfully for regulatory purposes for several years with exact boundary measurements and disputes resolved on an ad hoc basis.

BOUNDARIES OF FEDERAL LANDS

The Coastal Zone Management Act excludes federal lands from the definition of "coastal zone."

> 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.

Such lands are excluded, no matter what type of jurisdiction the federal government may exercise over them.

The U. S. Department of Justice has ruled that this provision was intended to exclude all federal lands from the coastal zone and therefore from state management. The Justice decision identified four categories of federal lands:

1) Lands over which the United States is empowered to exercise exclusive legislative jurisdiction.

2) Lands over which the United Staes and a state exercise concurrent jurisdiction.

3) Lands held in proprietorship by the United States.

4) Lands held in trust by the United States.

Sizeable land areas are therefore excluded from Virginia' coastal zone and management by virtue of federal ownership and/or jurisdiction. Indeed, one of the largest single users of land in Tidewater Virginia is the federal government. Maps and charts depicting federal lands have been developed with the cooperation of federal agencies which hold land in Tidewater. From these individual agency maps, figures indicating total federal holdings have been compiled.

In Table II-1, total federal land holdings, by agency, are displayed and compared with total land area in Tidewater Virginia. These federal holdings include fee simple, permitted, licensed, and leased areas. Table II-2 breaks federal holdings down by planning district and compares the amount of federal land with the total land area in each district. Appendix II-1 presents an extensive list of federal installations by planning district, locality, acreage, and agency and indicates whether or not the land is held in fee simple or in a lesser interest.

Of more than 6.4 million acres in Tidewater Virginia, federal land holdings or interests total approximately 365,000 acres, or 5.7 per cent. The Department of Defense accounts for 232,680 acres (63.8 per cent) of this total. In numbers of acres, the largest federal interests are in the Northern Virginia Planning District (8) an the Southeastern Virginia Planning District (20). In percentage of land area, federal acreage accounts for 21 per cent of the total area in the Northern Virginia Planning District (8) and 16 per cent

TABLE II-1

Federal Land In Tidewater Virginia by Planning District

District	Total Area	Federal Acres	Per Cent
8	508,278[1]	106,472	21.0
15	1,015,552[2]	5,154	.5
16	899,392	81,480	9.0
17	477,120	3,965	.8
18	827,584	10	.001
19	690,061[3]	9,078	1.3
20	1,282,304[4]	85,446	7.0
21	292,361	46,824	16.0
22	445,504	21,715	5.0

[1]Does not include Loudon County
[2]Does not include Goochland and Powhatan
[3]Does not include Dinwiddie, Greenville, and Emporia
[4]Does not include Franklin

TABLE II-2

Federal Land In Tidewater Virginia by Federal Agency[1]

Agency	Acres
U. S. Army	113,443.84
U. S. Navy	109,319.25
Department of Interior (Fish & Wildlife Service)	65,560.00
Department of Interior (National Park Service)	47,844.58
Federal Aviation Administration	11,875.96
U. S. Air Force	9,282.87
NASA	6,772.00
Coast Guard	634.56
Department of Commerce	6.90
Federal Highway Administration	4.20
TOTAL FEDERAL ACREAGE	364,744.16
TOTAL ACRES IN TIDEWATER VIRGINIA	6,438,156.00
PERCENTAGE FEDERALLY OWNED	5.7%

[1]Includes fee simple and land where federal government has lesser interests such as leases, permits, and licenses.

in the Peninsula Planning District (21).

THE INLAND BOUNDARY

The determination of Coastal Resources Management Program boundaries comes as a result of deliberation on various alternatives within the Virginia Coastal Studies Commission, the Joint Subcommittee on the Coastal Resources Management Act, the CRM staff members and many public hearings. As indicated in Proposals for Coastal Resources Management in Virginia published as a draft in September 1977, the final inland boundary has been determined on the basis of the management program.

What has resulted is a boundary concept somewhat similar to the "tiered" approach used by several other coastal states, that is, a broad boundary for administrative purposes, and a narrow shoreline zone for intensive management efforts. In Virginia, this broad boundary conforms to the traditionally accepted definition of "Tidewater" as defined in the Code of Virginia. Within this area, such elements of the program as energy facility planning (Chapter VI), water access (Chapter VII) and federal consistency provisions (Chapter X) will apply.

The narrow shoreline zone which is being actively managed will not, in fact, conform to a continuous inland boundary. Rather, those sections of the shoreline for which it has been proven that activities upon them will have a direct and significant impact on marine or other coastal resources will be bounded by definition and managed within that boundary. In Virginia, these criteria indicate that vegetated wetlands, non-vegetated wetlands including tidal flats and beaches and primary sand dunes have both a direct and significant impact on marine resources.

no comprehensive authority even here

Although the State realizes that land use activities inland of wetlands

and dunes may have significant impact on marine resources, the "pollutants" of such activities are not transmitted directly, and it is within the locality's existing police power to require the implementation of ameliorating measures. In the case of artificially stabilized shoreline, the Commonwealth must assume that any significant impacts from the improvement have already occurred. Bluffs, although somewhat analogous to sand dunes and while amenable to stabilization are not particularly "managable" because, unlike dunes, they do not migrate, nor do they rebuild naturally. Some dunes may, however, provide a source of material to nearby wetlands via erosion. If the bluff is determined to be vital to the maintenance of the wetland areas, or if the bluff is receding at a rate of two feet per year or greater due to erosion, it then falls within the scope of the program as a Geographic Area of Particular Concern.

Future research will indicate other areas in which activity may have "direct and significant" impact on marine resources. It is also conceivable that the definitions of "direct" and "significant" may be determined as being excessively restricting, and changed as a result. However, until such time, Virginia's Coastal Resources Management Program will be applied with in the boundaries described.

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 8

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
CALFA	.5		Arlington	Air Force
Arlington House	3.5		Arlington	National Park
George Washington National Parkway	3,785.00		Fairfax	National Park
Wolf Trap Farm Park for the Performing Arts	786.56		Fairfax	National Park
Manassas National Battlefield Park	3,108.87		Prince William	National Park
Prince William Forest Park	17,000.00		Prince William	National Park
Mason Neck	1,025.00		Fairfax	Fish & Wildlife
Marumsco	63.00		Prince William	Fish & Wildlife
Featherstone	264.00		Prince William	Fish & Wildlife
Washington National Airport	860.00		Arlington	Federal Aviation Admin.
Dulles International Airport	10,942.90		Fairfax	Federal Aviation Admin.
Dunn Loring, Va RCAG	.98		Fairfax	Federal Aviation Admin.
Leesburg, Va ARTCC	18.27		Fairfax	Federal Aviation Admin.
Fairbanks Highway Research Station	1.80		Arlington	Federal Highway Admin.

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 8

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Barracks K	2.40		Alexandria	Federal Highway Admin.
Naval Reserve Center	1.249		Alexandria	Navy
Henderson Hall Marine Headquarters	21.40		Arlington	Navy
Navy Department Service Center	17.10		Arlington	Navy
Quarters K	16.460		Arlington	Navy
Marine Corps Development and Education Center, Quantico	57,521.05		Prince William	Navy

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 8

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Marine Corps Air Station	310.26		Prince William	Navy
Marine Corps Hospital	49.50		Prince William	Navy
Air Force Technical Application Center		79.59	Fairfax	Army
Alexandria U.S.O. Site	.41		Alexandria City	Army
Army Map Service Herndon Site	29.31	31.69	Fairfax	Army
Arlington Hall Station	86.57		Fairfax	Army
Arlington National Cemetary	509.84	1.51	Arlington	Army
Cameron Station	169.62		Alexandria City	Army
Fort Belvoir	9,015.75	206.53	Fairfax	Army
Fort Meyer	355.71		Arlington	Army
Fort Ritchie Tyson Corner Site	2.69		Fairfax	Army
Manassas Communication Facility Annex 2	.5	7.8	Prince William	Army
Pentagon Building Site, Va	259.0		Arlington	Army
Quantico Microwave Site		.6	Prince William	Army
Army Reserce Center Alexandria	7.76		Alexandria	Army
Woodbridge Housing Site	7.0		Prince William	Army
	106,143.96	327.72		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 15

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Byrd Field		143.2	Henrico	Air Force
Richmond National Battlefield Park	746.56		Henrico	National Park
Presquile	1,329.0		Chesterfield	Fish & Wildlife
Harrison Lake	445.0		Charles City	Fish & Wildlife
Dancing Point Shoal Channel Rear Range Light	.8		Charles City	Coast Guard
Naval and Marine Reserve Training Center, Navy Recruiting, Richmond	22.0		City of Richmond	Navy
James River Channel (Real Estate) Improvements		1,035.95 489.68	Chesterfield Henrico	Army
Arlington Road Photographic Storage Facility	4.74	.29	Henrico	Army
Army Reserve Center, Richmond	6.0		Chesterfield	Army
Defense General Supply Center	639.06	6.69	Chesterfield	Army
Byrd Field National Guard Site	160.0	.93	Henrico	Army
Army Reserve Center Sherwood Ave., Richmond		4.28	Henrico	Army
Appomattox River Diversion Channel	118.89	.74	Chesterfield	Army
	3,472.05	1,681.76		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 16

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Brooks, Virginia VORTAC	22.5		Statford	Federal Aviation Admin.
Naval Surface Weapons Center, Dahlgren	4,318.66		King George	Navy
Stoney Point		.02	King George	Navy
Fort A. P. Hill	77,027.82	111.39	Caroline	Army
	81,368.98	111.41		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 17

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
George Washington Birthplace National Monument	393.68		Westmoreland	National Park
Bluff Point #7	.34		Westmoreland	Navy
Colonial Beach #9	.20		Westmoreland	Navy
Colonial Beach #11		.03	Westmoreland	Navy
Colonial Beach #13		.06	Westmoreland	Navy
Paynes Point #15		.34	Westmoreland	Navy
Wakefield #17		.003	Westmoreland	Navy
Muses Beach #21	.87		Westmoreland	Navy
Stafford Hall #27		.07	Westmoreland	Navy
Nomini Cliffs #29	.005		Westmoreland	Navy
King Copsoco #37A	.26		Westmoreland	Navy
Ragged Point #45	.41		Westmoreland	Navy
Green Vale Creek (Real Estate)	.25		Lancaster	Army
	396.015	.503		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 18

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Milford Haven Station	8.4		Mathews	Coast Guard
New Point Comfort Light	2.0		Mathews	Coast Guard
Hoskins Creek Range Rear Light	.03		Essex	Coast Guard
	10.43			

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 19

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Petersburg National Battlefield	2,731.0		Prince George	National Park Service
Jordan Point Range Rear Light	.1		Prince George	Coast Guard
Fort Lee	5,805.65	540.24	Prince George	Army
	8,537.75	540.24		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 20

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Back Bay	4,589.0		Virginia Beach	Fish & Wildlife
Great Dismal Swamp	49,097.0		Chesapeake	Fish & Wildlife
Mackay Island	842.0		Virginia Beach	Fish & Wildlife
Hansemond	208.0		Suffolk	Fish & Wildlife
Atlantic Marine Center	1.3		Norfolk	Dept. of Commerce
Cape Henry Light Station	4.7		Norfolk	Coast Guard
Little Creek Station	1.5		Norfolk	Coast Guard
Craney Island Day Beacon	5.0		Norfolk	Coast Guard
Support Center Portsmouth	187.3		Portsmouth	Coast Guard
Virginia Beach Station	1.2		Virginia Beach	Coast Guard
Portsmouth Flag Quarters	.3		Portsmouth	Coast Guard
Portsmouth Base	8.7		Portsmouth	Coast Guard
Norfolk Port Safety Station	19.6		Norfolk	Coast Guard
Portsmouth Communication Station	222.5		Portsmouth	Coast Guard
Sewells Point Area	4,528.45		Norfolk	Navy
West Norfolk Degaussing Facility		.14	Norfolk	Navy
Shore Patrol Headquarters	1.38		Norfolk	Navy

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 20

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Navy Housing Area, Hewitt Farms	73.74		Norfolk	Navy
Naval Ship Engineering Center	.05		Norfolk	Navy
Human Resource Management Center	.05		Norfolk	Navy
NAVYSUPCEN Craney Island Fuel Section	873.67		Portsmouth	Navy
Regional Medical Center	114.37		Portsmouth	Navy
Norfolk Naval Shipyard	806.2		Portsmouth	Navy
Naval Ammunition Depot, St. Juliens	489.47		Portsmouth	Navy
Naval Electronics Systems Engineering Center	2.4		Portsmouth	Navy
Antenna Test Facility	2.0		Virginia Beach	Navy
Naval Amphibious Base, Little Creek	2,219.44		Norfolk	Navy
Amphibious Base Landing Beach Area, Camp Pendleton	390.19		Virginia Beach	Navy
Explosive Ordnance Disposal Group	30.0		Virginia Beach	Navy
Virginia Beach Officers Club	1.72		Virginia Beach	Navy
Naval Air Station, Oceana	5,455.05		Virginia Beach	Navy
Naval Auxiliary Landing Field	3,306.65		Chesapeake	Navy

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 20

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
FLTCOMBATDIRSYSTRACENLANT	1,036.15		Virginia Beach	Navy
Nortwest Security Group Activity	3,186.22		Chesapeake	Navy
NAVCOMSTA Driver	605.23		Suffolk	Navy
Gallop Farm Housing Site	87.99		Virginia Beach	Navy
Norfolk District Engineer Site	20.05		Norfolk	Army
Black Water River and Chowan River Channel Improvements		96.04	Southampton	Army
Intra-Coastal Water - Norfolk	256.5		Virginia Beach	
to N.C.	1,703.59		Chesapeake	Army
Lynnhaven Inlet Bay (Real Estate)		61.56	Virginia Beach	Army
Craney Island Disposal Site	3,439.02		Portsmouth	Army
Tylers Beach (Real Estate)		4.85	Isle of Wight	Army
Fort Storey	1,433.65	17.40	Virginia Beach	Army
Army Rescue Center (Suffolk)	8.12	1.87	Suffolk	Army
Army Reserve Center Norfolk	1.72		Norfolk	Army
	85,261.17	184.86		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 21

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Langley Missile Site	86.4		Hampton	Air Force
Langley AFB	2,837.14	269.44	Hampton	Air Force
Langley Family Housing Annex	286.51	3.67	York	Air Force
Morrison Radio Beacon Annex	.44	.29	Hampton	Air Force
Colonial National Historical Park	943.0		James City, York	National Park
Jamestown National Historic Site	1,477.0		James City	National Park
Plum Tree Island	3,276.0		York	Fish & Wildlife
Langley Reserach Center	474.0		Hampton	NASA
NASA Space Radiations Effects Lab	110.0		Newport News	NASA
Area East of Langley AF Runway	23.0		Hampton	NASA
Yorktwon Reserve Training Center	152.0		York	Coast Guard
Old Point Comfort Light Station	1.8		Hampton	Coast Guard
Naval Weapons Station	10,990.99		James City, York	Navy
NAVSUPCEN Yorktown Fuel Section	110.02		York	Navy
NAVSUPCEN Cheatham Annex	2,358.49		York	Navy
Copeland Park	8.0		Newport News	Navy

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 21

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Naval Ordnance Lab Test Facility	1.28		Hampton	Navy
Camp Peary	10,298.99		Williamsburg, York, James City	Navy
Navy Reserve Center, Newport News	5.03		Newport News	Navy
Deep Creek (Real Estate)	8.5	46.53	Newport News	Army
Big Bethel Military Reservation	460.74		York, Hampton Newport News	Army
Fort Eustis	8,382.06	.05	Newport News	Army
Fort Monroe	568.54	5.50	Hampton	Army
Army Reserve Center, Hampton	20.78		Hampton	Army
Army Reserve Center, Newport News	5.24		Newport News	Army
	42,885.95	325.48		

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 22

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Cape Charles Communication Facility	78.1		Northampton	Air Force
Cape Charles Facility Annex	23.0		Northampton	Air Force
Chincoteague Nat. Wildlife Refuge	9,039.0		Accomack	Fish & Wildlife
Fisherman's Island	1,025.0		Northampton	Fish & Wildlife
Wallops Island	3,000.0		Accomack	Fish & Wildlife
Wallops Main Base, Marsh Area	397.0		Accomack	Fish & Wildlife
Marine Fisheries Service	5.6		Accomack	Fish & Wildlife
Wallops Main Base	1,833.0		Accomack	NASA
Wallops Island	3,084.0		Accomack	NASA
Wallops Mainland	108.0		Accomack	NASA
Marsh land (Wallops)	1,140.0		Accomack	NASA
Cape Charles Family Housing	2.0		Northampton	Coast Guard
Cape Charles Station	2.2		Northampton	Coast Guard
Cape Charles Lighthouse	.8		Northampton	Coast Guard
Chincoteague Station	3.5		Accomack	Coast Guard
Assateague Light	.2		Accomack	Coast Guard
Parramore Beach Station	6.8		Accomack	Coast Guard

Appendix II-1

Federal Land in Tidewater by Site

PLANNING DISTRICT 22

INSTALLATION	OWNED	LESSER INT.	COUNTY	AGENCY
Cape Charles City Range Rear Light	.13		Northampton	Coast Guard
Cape Charles VORTAC		31.31	Northampton	Federal Aviation Admin.
Harbor Defense Unit, Fisherman's Isld.	25.0		Northampton	Navy
Tangier North Site		23.98	Accomack	Navy
Tangier South Site		6.34	Accomack	Navy
Onancock Municipal Dock		.2	Accomack	Navy
Chincoteague Bay Harbor Improvement		4.48	Accomack	Army
Chincoteague Bay Harbon (Real Estate)		6.32	Accomack	Army
Cape Charles City Harbor (Real Estate)		4.4	Accomack	Army
Porker Creek (Real Estate)		.63	Accomack	Army
Quinby Creek Channel Improvement (Real Estate)		6.0	Accomack	Army
Star Lings Creek (Real Estate)		9.36	Accomack	Army
Tangier Creek (Real Estate)		52.57	Accomack	Army
	19,774.33	145.59		

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CHAPTER III

RESOURCES SUBJECT TO MANAGEMENT

This chapter identifies the resources and the uses of those resources which are subject to state management under Virginia's coastal program and the policies by which those uses are permitted. Such policies are derived from the state code, agency regulation, or guideline. These uses are deemed to have a "direct and significant impact" upon coastal resources because they have the potential to degrade or destroy them by altering their physical, chemical, or biological properties.

The description of resources and uses subject to management is arranged by major resource category:

1) Coastal waters

2) Fisheries

3) Subaqueous Lands, Including Submerged Grass Beds

4) Wetlands

5) Primary Dunes

6) Land Uses

7) Air Resources

For each resource category, existing state authority and the new authority established as a result of the coastal program is described. In the case of wetlands and dunes, all exempted uses are listed, all other uses being subject to state standards and criteria. For land uses, existing state authority is described for each type of use.

COASTAL WATERS

"Coastal Waters" are all the tidal waters of the Commonwealth within the Coastal Zone, extending west to east from the fall line to the 3-mile limit and north to south from Maryland to North Carolina.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

The authority to control and supervise the quality of the state waters is vested in the State Water Control Board. The basic purposes and policies of the State Water Control Law are to protect existing high quality state waters, restore all others to high quality, safeguard clean waters from pollution and reduce existing pollution. It is further declared to be against public policy for any owner to discharge wastes into state waters without first obtaining a certificate for waste discharge from the SWCB. The stated policies of the Commonwealth therein evidence a serious concern over the protection of aquatic life and its environment and an acknowledgement that reasonable use of the state waters can be made in concert with their protection.

To enforce this law, the Board establishes water quality standards, issues waste discharge certificates, adopts regulations, and requires compliance.

Establishment of Water Quality Standards

The State Water Control Law assigns the duty and authority to the SWCB to establish standards of quality and policies for any State waters, and to modify, amend or cancel any such standards or policies established. Water quality standards established under the authority of the State Water Control Law must also comply with federal law. Both federal and state law provide for periodic review and possible revision of water quality standards after their adoption.

The water quality standards are more than advisory guidelines; enforceable rules and policies are incorporated therein and have been adopted pursuant to statutory authority. The basic state-wide standard provides that all state waters shall be maintained at such quality as will permit all reasonable, beneficial uses and will support the propogation and growth of all aquatic life including game fish, which might reasonably be expected to inhabit them. The water quality standards provide precise standards for the monitoring of water quality and policy guidelines for the attainment of the legislative policy of anti-degradation of state waters.

The law expressively states that: "(1) no right to continue existing quality degradation in any State waters shall exist nor shall such right be or be deemed to have been acquired by virtue of past or future discharge of sewage, industrial wastes or other wastes or other action by any owner. (2) waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at high quality..."

Issuance of Certificates

The issuance of waste discharge certificates traditionally has been the primary mechanism through which the Board exercises control over the quality of state waters. This process provides a means for the general requirements of law to be translated into specific restrictions on the individual discharges.

Under the existing permit program, the Board is authorized to issue certificates for the discharge of sewage, industrial wastes and other wastes into or adjacent to State waters or for the alteration otherwise of the physical, chemical or biological properties of these waters. Pursuant to this

authority the Board issues separate certificates for sewage discharges, industrial-waste discharges, and non-discharging operations involving materials which constitute a potential source of pollution.

Sewage Discharges

All sewerage systems and sewage treatment works are subject to joint supervision of the Board and State Department of Health. The State Water Control Law contains an explicit statement of Board and Department authority regarding smaller systems, but the statutory requirement for a permit applies only to treatment works designed to serve more than 400 persons. The Board, however, may require a certificate for treatment works serving less than 400 persons if the Board determines it necessary. Current National Pollutant Discharge Elimination System (NPDES) procedures require a permit for essentially all sewage discharges to surface waters. Application for the necessary permit is made concurrently with the Board and Department, and both agencies are involved in the determination regarding approval. (§62.1-44.18 - §62.1-44.19).

Industrial Discharges

Any facility which, upon construction or alteration has the potential to discharge or will, in fact, discharge industrial wastes must receive an industrial discharge permit before construction or alteration may begin. The law specifies that such application will be made to the Board which must then process the application according to a statutorily mandated timetable. The same application procedure is used in situations where domestic sewage from the industrial establishment is treated and disposed of jointly with industrial wastes. A ruling approving or disapproving the application is made within a four-month period from the date the application is filed.

(§62.1-44.16)

Non-discharging Operations

A third type of certificate is concerned with non-discharging operations by any owner "who handles, stores, distributes, or produces" substances other than sewage or industrial wastes when such substances would cause pollution if they found their way into state waters. Non-discharge certificates may also be applicable to some industrial wastes at the discretion of the Board.

Upon request of the Board, such owners are required to install facilities or adopt measures necessary to prevent the escape, flow, or discharge of the materials involved into state waters. If the measures taken are approved by the Board, it issues a certificate. (§62.1-44.17)

Water Quality Requirement

Although the above permit programs are invoked in many industrial and commercial permit applications, the requirement most frequently encountered by applicants is the water quality "401" certificate. This certificate is required for any firm, person or group that must obtain a federal permit for an activity, when that activity may produce a discharge to State waters. This certificate issued pursuant to the Federal Water Pollution Control Act Amendments of 1972 certifies that the proposed activity will be conducted in compliance with applicable state water quality control laws. Issued by the State Water Control Board to the applicant, this certificate is tantamount to a permit, since the Army Corps of Engineers which requires the certification is statutorily prevented from issuing a federal permit in the absence of this certification.

Adoption of Regulations

State Water Control Law provides authority for the ~~SCWB~~ SWCB to adopt those regulations necessary to enforce the general water quality management program in all or part of the State.

Nine individual regulations have been adopted by the Board pursuant to this authority. They are as follows:

Regulations 1-2: Require certain waste control programs for the reduction of existing pollution.

Regulation 3: Provides that the SWCB may issue certificates for sewage treatment facilities only after approval of the site by the appropriate local governing bodies.

Regulation 4: Requires an owner who is certified by the Board to immediately advise the SWCB should any unusual or extraordinary discharges of wastes to state waters occur.

Regulation 5: Requires certain actions to be taken by boat owners, operators, etc. in order to control the discharge of sewage and other wastes within all navigable and non-navigable waters of the Commonwealth.

Regulation 6: Establishes procedures to be used by the SWCB in connection with permits issued under the National Pollutant Discharge Elimination System established by the Federal Water Pollution Control Act Amendments of 1972.

Regulation 7: Establishes procedures to be followed by an owner who owns or operates a sewerage system or a sewage or industrial waste treatment works for the conduct of a survey of industrial and other wastes

discharged into its sewerage system or treatment works.

Regulation 8: Establishes procedural, operational, and design regulations for sewage treatment works and sewerage systems.

Regulation 9: Establishes regulations for the proper and safe design, construction, maintenance, and operation of impounding structures not exempt from the law to the extent required for the protection of public safety.

Enforcement of the State Water Control Law

The SWCB exercises direct regulatory authority over all owners including governmental bodies which discharge waste materials into the waters of the Commonwealth. Any owner violating or failing, neglecting or refusing to obey any rule, regulation, water quality standard, or requirement of any provision of any certificate issued by the Board may be compelled in any appropriate court by injunction, mandamus or other appropriate remedy. Discharge certificates are issued on a case-by-case basis and the SWCB has a complete enforcement capability including both criminal and civil sanctions against violators. The Board has the authority to amend or revoke and reissue certificates to reflect new discharge requirements and may issue a cease and desist order to the discharger if the requirements are not met within a reasonable time.

The administrative methods used to obtain compliance are:

1) Directives, in which the SWCB outlines steps requiring owners to comply. These are formal requests, but cannot be enforced by court injunction or mandamus.

2) Consent Orders, in which owners and the Board agree on actions to

bring about compliance. These are agreements and not subject to public hearings, but are enforceable by court injunction or mandamus.

3) Special Orders, in which the Board requires compliance. These are based on evidence presented at public hearings and are enforceable by court injunction or mandamus.

Although the Board may seek to enforce its requirements directly through the courts if the seriousness of an infraction warrants, the usual procedure is first to issue a consent order or special order. If compliance or suitable action is not forthcoming, the next step is to proceed with court action.

ADDITIONAL LEGAL AUTHORITY

No additional legal authority is proposed under this program to enforce the state's water quality programs.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF THE USES

Water Quality (in general)

It is the policy of the State:

1) To protect existing high quality waters and to prevent them from being degraded. (§62.1-44.2)

2) To restore all state waters which are not of high quality to such condition of quality that any such waters will permit all reasonable public uses and will support the propagation and growth of all aquatic life, including game fish, which might reasonably be expected to inhabit them. (§62.1-44.2)

3) To safeguard the clean waters of the state from pollution. (§62.1-44.2)

4) To prevent any increase in pollution and to reduce existing pollution. (§62.1-44.3)

5) To render decisions relating to water and land related resources on the basis of the long-term protection of the environment. (§3.3-1, SWCB Water Resources Policy)

Discharges

"Discharge" shall mean any spilling, leaking, pumping, pouring, emitting, emptying or dumping.

It is the policy of the State:

1) To prohibit the discharge into state waters of inadequately treated sewage, industrial wastes, other wastes, or any noxious or deleterious substances without a certificate to do so as issued by the Board. (§62.1-44.5)

2) To prohibit the alteration of the physical, chemical, or biological properties of state waters so as to make them detrimental to the public health, or to animal or aquatic life, or to their use for domestic or industrial consumption, or for recreation, or for other uses without a certificate to do so as issued by the Board. (§62.1-44.5)

3) To require owners to eliminate untreated sewage discharges to state waters. (SWCB Regulatory Policy adopted pursuant to §62.1-44.15)

4) To require that "fail-safe" devices be installed in wastewater treatment facilities to prevent discharges which would cause a potential

hazard to downstream uses, and to design and operate such systems so that by-passing occurs only under emergency conditions. (§3.4-7, SWCB Water Resources Policy)

5) To prohibit the disposal of spoils from original dredging and channel maintenance in a manner that would adversely affect wetlands or circulation in estuaries. (§3.4-6, SWCB Water Resources Policy)

6) To encourage the incorporation of structural and non-structural means of minimizing the adverse effects of runoff in community, natural resource and development projects. (§3.1-1, SWCB Water Resources Policy)

Impoundments

"Impoundment" shall mean a man-made device, whether a dam across a watercourse or other structure outside a watercourse, used or to be used for the authorized storage of flood waters for subsequent beneficial use.

It is the policy of the State:

1) To protect reservoirs against pollution from runoff or discharges from point sources. (§3.5-4, SWCB Water Resources Policy)

2) To provide the highest degree of protection for the water quality of reservoirs through programs designed to assure reliable waste treatment systems, effective erosion and runoff controls, and effective control of runoff quality in newly developed areas. (§3.5-8, SWCB Water Resources Policy)

Pollution from Boats

It is the policy of the State:

1) To control and prohibit overboard discharge of oily wastes and human wastes pursuant to U. S. Coast Guard and Virginia State Water Control Board regulations and standards. (§62.1-44.3)

Oil Discharges

It is the policy of the State:

1) To prohibit the discharge of oil into or upon the waters of the Commonwealth. (§62.1-44.34:3)

2) To require notification to the State Water Control Board of any or expected discharge of oil into State waters. (§62.1-44.34:4)

3) To establish and maintain the Virginia Oil Spill Contingency Fund for the abatement, containment, removal and disposal of oil and for the protection, cleanup and rehabilitation of waterfowl, wildlife and other natural resources damaged or threatened by the discharge of oil. (§62.1-44.34:7)

FISHERIES

"Fisheries" includes all operations involved in using, setting, taking, catching or operating apparatus employed in killing, taking or catching fish or in transporting and preparing fish for market.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

Conservation and promotion of marine resources is accomplished through the authority of the Virginia Marine Resources Commission (VMRC) to promulgate and enforce regulations and establish licenses. Additionally, by statute, "the VMRC has the authority to make such regulations as it deems necessary to promote the seafood and marine resources of the State, including regulations as to the taking of seafood, when regulations do not conflict with the provisions of statutory law" (§28.1-23). Jurisdiction of the VMRC extends inland to the fall-line of all streams and rivers and seaward to the three mile territorial limit.

Conservation of Fisheries Resources

Statutes are currently in effect to conserve certain species and control a wide range of fishing devices. Sturgeon, striped bass, cobia, croaker, fluke and red drum are addressed specifically in regards to harvestable length. Fixed fishing devices and oyster harvesting equipment are regulated by statutes for resource conservation and reduction of conflict situations.

Shellfish Management

The Commission has explicit authority in the areas of shellfish management. Seasons, gears used, areas harvested and catch limits are basic vehicles used in management. The oyster tax system and State monies provide

for oyster shell and seed planting of public grounds defined in the Baylor Study which currently comprise approximately 240,000 acres. The Pocomoke and Tangier Sound pilot oyster management program currently underway is proving successful in increasing utilization of the oyster resource in that area and paves the way for other progressive oyster management initiatives. This division also supervises the shellfish relaying system which controls the transplanting of shellfish from shellfish closure areas in order to maximize resource potential from polluted areas.

The Engineering Division of VMRC surveys and maintains all records of all oyster and clam planting grounds in support of the Commission's policy to promote the production of oysters and clams. The Office of Coastal Zone Management is currently funding a project for Improved Management of Oyster Grounds and Other Marine Resources to facilitate increased efficiency of the VMRC's surveying and subaqueous ground leasing system and encourage private capital investment in the oyster industry. A surveying grid system has been established state wide for the accurate survey and resurvey of public and private oyster ground. Private leaseholds currently comprise approximately 100,000 acres and account for roughly 45 percent of total production of market oysters and 17 percent of seed oyster production.

Artificial Reef Program

The Artificial Reef Program provides for the enhancement of recreational fishing. A tire baling operation continues to supply reef material to the Tower Reef site located in the Atlantic Ocean off Cape Henry. Negotiations are presently underway to obtain and sink a seventh steel-hulled vessel.

Collection of Fisheries Statistics

The VMRC has authorized the expansion of the Statistical Project in 1979.

Data gathering systems have already been implemented on the oyster, blue crab and hard clam fisheries. Beginning February, 1979, the Statistical Project will be responsible for the collection of all inshore fishery statistics in agreement and under contract with the National Marine Fisheries Service. These data will be of high priority as comprehensive management approaches.

Coordination with Other States and the Federal Government Concerning Fisheries

The Commissioner of the VMRC is the conduit for coordination among interstate, regional and federal programs. He is a member of the Potomac River Fisheries Commission, Atlantic States Marine Fisheries Commission and the Virginia Fisheries Administrator to the Mid-Atlantic Fisheries Council. To provide staff support to the Commissioner, the National Marine Fisheries Service is funding a Fishery Plans Coordinator to assess the effects of fishery management on Virginia fisheries, review them for consistency with current programs and assist in the development of State plans to support regional plans and programs.

Fisheries Research

The Virginia Institute of Marine Science (VIMS) operates as an independent research and service agency in support of the management responsibilities of VMRC. The duties of VIMS are addressed in State Statutes (§28.1-195 through 28.1-197) and include studies and investigations of the commercial and sportfishing industries and problems of other sections of the maritime economy. VIMS advises VMRC as to the means by which fishery resources may be conserved, developed and replenished. VIMS is directed to conduct studies and investigations of marine pollution in cooperation with the State Water Control Board and the Department of Health, making results and

recommendations available to appropriate agencies, including VMRC.

Protection of Public Health

For the purpose of protecting the fish and shellfish industries of the State, as well as the public health of the country, the State Health Department has the authority (§28.1-175 through 28.1-184.2) to examine and analyze fish and shellfish in the growing areas, packinghouses, or any other place which fish or shellfish are taken for human consumption; to examine sanitary conditions within the seafood industry; to condemn polluted shellfish growing areas; to regulate the removal, transportation and relaying of any shellfish from condemned areas; to certify oysters and clams from out-of-state for human consumption; to regulate common carriers of seafood and to control the introduction of imported fish or shellfish into State waters. The State Health Department and VMRC cooperate closely in the enforcement of these statute authorities.

ADDITIONAL LEGAL AUTHORITY AND PROGRAMS

The necessary authority to manage the fisheries of the Commonwealth is being incorporated into the CRM program by referencing present fisheries law. not enough

While this authority is adequate for fisheries management, the CRM program will assist the General Assembly in developing specific fisheries goals in an ongoing process which utilizes information developed in the fisheries characterization project. The General Assembly must sanction these goals and policies all of which will have broad social and economic implications. Participation in the Office of Coastal Zone Management's Coastal Fisheries Assistance Program (CFAP) is perceived as a unique opportunity to accomplish management improvements which might not otherwise be accomplished. The purposes of the CFAP are to assist states in developing a comprehensive

how?

approach to managing living marine resources, fully integrate coastal zone management and fisheries management programs and provide better information for well informed decision making regarding fisheries and improved management of fish stocks.

The Virginia Coastal Resources Management Program has received approximately $75,000 from the CFAP which has been subcontracted to the Virginia Marine Resources Commission to begin two projects. The first is an oyster ground resurveying and mapping project to assist in oyster ground management and leasing operations, enforcement of condemned shellfish growing areas and the State's repletion efforts. The second project is a "characterization" of Virginia fisheries which is intended to gather existing information on important species and compile a broad description of the environmental, social and economic setting in Virginia relating to fisheries in order to assess the adequacy of present management, determine the need for individual species or fishery management plans and highlight research needs.

Another important reason to develop specific fishery goals and policies is the present regional and state-federal emphasis on fishery management plans. The Fishery Conservation and Management Act of 1976 directs regional councils to manage the marine resources within the 3 to 200 mile conservation zone while the Atlantic States Marine Fisheries Commission seeks to manage migratory coastal species inside the 3 mile limit. A clearly defined fishery policy will allow Virginia to develop, promote and coordinate fishery plans which best serve the citizens of the Commonwealth and ultimately the nation as a whole.

As Virginia moves towards improved and more responsive management of fisheries, the following activities and policies will be accomplished.

Developing Fishery Goals

It is the policy of the State:

1) to develop and establish clear legislative direction and policy for the future management of the Commonwealth's fishery;

2) to consider the interests of the adjacent states and the national interest when developing fishery goals.

Characterizations of Virginia's Fisheries

It is the policy of the State:

1) to identify problems and issues related to fisheries which require consideration by the General Assembly.

2) to gather existing information in Virginia fisheries into a form usable for decision making.

3) to work with and seek advice from commercial and recreational fishing interests on the effects of current regulations.

4) to study thoroughly the economic reasons for and consequences of current trends in fishing productivity and yields.

Preparation of Management Plans

It is the policy of the State:

1) to give priority to the management of species now under stress.

2) to determine the causes for declining stocks and to take steps to rebuild them.

3) to utilize the research and advisory services of the Virginia Institute of Marine Science and other state institutions in preparing such plans.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF USES

Commercial Harvesting of Fish and Shellfish From Tidal Waters

It is the policy of the State:

1) To require any resident desiring to take fish with any device other than a handline to apply for a license (§28.1-47).

2) To regulate the legal size of fish that may be caught (§28.1-49.1-50).

3) To determine the size of mesh and length and depth of certain nets (§28.1-51).

4) To restrict the use of certain fishing devices in certain waters (§28.1-51.1).

5) To regulate the length of fishing structures (§28.1-52).

6) To regulate the distance nets may extend across a body of water or channel (§28.1-53).

7) To require persons taking fish to be manufactured into fish meal, oil, etc., with purse nets to acquire a license.

8) To regulate the use of troll or travel nets, drag nets or similar devices to take or catch fish (§28.6-67).

9) To regulate the seasons and means for taking oysters from public rocks

(§28.1-82-85.1).

10) To regulate the taking of scallops from public scallop grounds (§28.1-163).

11) To require any person wanting to take or catch crabs to acquire a license (§28.1-165).

Scientific Collecting

It is the policy of the State:

1) To require any resident or nonresident person, partnership, association, corporation, school, educational institution, research or related group or organization before removing any marine fish, shellfish, or organisms for technical, scientific, research, educational or museum purpose to obtain a collection permit from the Marine Resources Commission (§28.1-3.1)

Artificial Reefs

It is the policy of the State:

1) To require any person building or placing an artificial reef in State waters to apply for a subaqueous permit from the Marine Resources Commission (§62.1-3).

2) To work with recreational interests in determining the need and location of future artificial reefs.

SUBAQUEOUS LAND

All the beds of the bays, oceans, rivers, streams and creeks which are the property of the Commonwealth and which are not conveyed by special grant

or compact according to law are considered subaqueous lands.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

Section 62.1-3 of the Virginia Code states that it shall be unlawful and constitute a misdemeanor for anyone to build, dump or otherwise trespass upon or over or encroach upon or take or use any materials from the beds of the bays and ocean, rivers, streams and creeks which are the property of the Commonwealth unless such act is pursuant to statutory authority or a permit by the Marine Resources Commission.

In granting or denying any permit for the use of State-owned bottom land, the Marine Resources Commission is guided in its deliberations by the provisions of Section I of Article XI of the Constitution of Virginia and considers, among other things, the effect of the proposed project upon: other reasonable and permissible uses of State waters and State-owned bottom land; marine and fisheries resources; wetlands; adjacent or nearby properties; anticipated public and private benefits; and state water quality standards.

To clarify the normal conditions attached to projects affecting the subaqueous land of Virginia, the Virginia Marine Resources Commission (VMRC) has formally adopted the "Virginia Marine Resources Commission Statement of Policies and Procedures Regarding Management of Subaqueous Land". The purposes of the statement are to confirm and standardize the policies and procedures of the VMRC for the permitting of activities affecting subaqueous land, to guide the VMRC staff in performance of their duties and to inform the general public of the usual terms and conditions under which subaqueous activities will be permitted in State waters. It is from this document that the Coastal Resources Management policies concerning subaqueous land were derived.

Subaqueous Permit System

The management procedures for encroachment on State-owned subaqueous land utilize a permit system. The permit application requires the following information at a minimum:

General Description of a project

Vicinity map - showing information for locating project

Site Drawing - using uniform and appropriate scale showing:

1) Mean low water mark (MLW) clearly defined (on both plan and cross-section views).

2) Mean high water mark (MHW) clearly defined (on both plan and cross-section views).

3) Property lines and property owners indicated.

4) Proposed and existing bulkheads, piers, docks, buildings, and/or other structures.

5) Location of any wetlands (marsh, fringe grasses, etc.). If possible, indicate location of wetlands limit.

6) Proposed and existing channels showing length, width, and depth. Soundings should be referred to mean low water (MLW).

7) Disposal area for dredge and spoil showing length, width, and depth. Show cross-sections and location of all levees, dykes, berms, and/or spillways.

8) All utilities and roadways.

Upon receipt of a completed application, the VMRC schedules a site visit with an environmental scientist from the Virginia Institute of Marine Science and a water quality technician from the State Water Control Board. This site visit serves to better familiarize the field personnel with the total project and its effect on: navigation, surrounding properties, immediate or nearby wetlands, public-private benefits, and standards of water quality as established by the State Water Control Board. Copies of the application are sent to other State agencies and adjacent property owners for comments. The project proposal is also advertised in a local newspaper to solicit public comments. Upon receipt of these comments, the applicant is acted on by the Commissioner or referred to the VMRC at its next regular monthly meeting. All protested applications must be set for a public hearing by the VMRC. All interested parties are officially notified regarding date and time of the hearing.

After the application has been processed and the permit approved, the permit is forwarded to the applicant for his notarized signature. It is then returned to VMRC along with any assessed fees and royalties to be signed by the Commissioner. In cases where rent or royalties are assessed, the approval of the Governor and Attorney General are required as well.

Water Quality "401" Certification

The State Water Control Board (SWCB), through its primary responsibility of maintaining water quality, is instrumental in protecting marine resources. The Water Quality "401" certification program managed by the SWCB reviews all dredging projects, new marina construction and filling projects affecting navigable waters in order to ensure the non-degradation of water quality.

ADDITIONAL LEGAL AUTHORITY AND PROGRAMS

Additional legal authority is not required since the Virginia Coastal Resources Management (CRM) Program is incorporating the State's present management system for state-owned land as the necessary authority to manage this resource. The program improvements which CRM has been instrumental in are the development of subaqueous guidelines, management of submerged aquatic vegetation (SAV), streamlining of the state/federal permitting process, and relating water and land use planning.

As mentioned in the "Authorities" section, subaqueous guidelines were developed with CRM assistance. These guidelines clarified the normal conditions placed on activities affecting subaqueous land and standardized the policies and procedures for permitting utilized by the Marine Resources Commission. The CRM policies concerning uses of subaqueous land were derived from these guidelines.

An issue highlighted by both the Virginia CRM Program and the Environmental Protection Agency's Chesapeake Bay Program (CBP) is the decline in SAV. SAV will be designated as a geographical area of particular concern by CRM in order to warrant special consideration during the subaqueous permit process. The subaqueous guidelines specifically mention that SAV will be considered in permitting of projects affecting subaqueous land.

The CBP has funded a project which will identify and inventory SAV in the Bay. As this resource is identified, it will be depicted on maps being developed by CRM for subaqueous land management.

While discussed more fully in a separate section, a single joint local/state/federal permit application has been developed and placed in use and monthly joint state/federal permit processing meeting are routinely held.

Both initiatives have streamlined the entire permit process.

An issue concerning subaqueous land which is being addressed by the CRM program is relating water planning (subaqueous permitting) with land use planning (local zoning). There are two methods being considered which are the requirement of localities to consider marine resources in local plans with state technical and financial assistance and the possibility of allowing localities to assume water planning from the State once localities have demonstrated the ability to manage some uses of subaqueous lands within their jurisdiction. By tying land and water planning together, many potential conflicts can be avoided, such as location of water dependent industries to minimize impacts on marine resources.

This is a need but no power to address now.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF THE USES

Dredging

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before dredging State-owned subaqueous land (§62.1-3).

2) To determine dredging depths by the proposed use as provided by the project applicant and the expected rate of sedimentation.

3) To place seasonal dredging restrictions on dredging projects where the project's size, proximity to shellfish and expected turbidity clearly warrant seasonal restrictions.

4) To require that sediment curtains be utilized when dredging projects are near productive shellfish grounds and curtains can be used

effectively and feasibly.

5) To not allow dredging for the single purpose of obtaining fill material.

6) To not allow double handling of dredged material unless no other alternative is feasible.

7) To consider the location of shellfish grounds, submerged aquatic vegetation and other highly productive subaqueous areas in the permit decision process.

Filling and Dredge Material Placement

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before filling on State-owned subaqueous land or disposing of dredge material (§62.1-3).

2) To not permit filling of State-owned subaqueous land for the creation of highland property unless the public benefits clearly outweigh the public loss and in these cases appropriate royalties will be assessed and the fee paid into the special public oyster rock replenishment fund.

3) To consider in the approving of a dredge material placement site the following criteria:

a) Encroachment on natural drainage ways.

b) Chemical nature of the dredged material and its potential for polluting adjacent or nearby underground water supplies.

c) Encroachment over underground utilities, i.e., water lines and sewer facilities.

d) Value of the site to the natural environment.

e) Proximity to populated areas.

4) To ensure that the dredge material placement site is properly prepared and constructed.

5) To permit overboard disposal of dredged material only when the material is uncontaminated and granular (sand size) and where no other alternative is feasible.

6) To ensure that contained overboard disposal areas are properly located to minimize impacts on shellfish grounds and other productive subaqueous habitat and properly shaped and located to reduce scour and sedimentation.

Mooring Buoys

It is the policy of the State:

1) To require any person placing mooring buoys in the waters of the State to obtain a permit (§62.1-3).

2) To insure that mooring buoys are not located:

a) In designated private or public shellfish areas except within a riparian owner's own shellfish leasehold.

b) In cable-crossing areas.

c) In navigational channels as designated by the U. S. Coast Guard.

d) Within 200 feet of a public or commercial bathing beach.

e) So as to interfere with the operation of or access through any bridge.

3) To require mooring buoys to be marked and maintained in accordance with the "Unified State Waterway Marking System" (USWMS) as approved by

the U. S. Coast Guard.

4) To designate certain areas as mooring areas or mooring restricted areas in order to protect public safety, welfare and recreational and commercial interests based on request by local, state or federal agencies and appropriate public hearing.

Piers, Docks and Boat Ramps

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before commencing the construction of a commercial pier, dock or boat ramp (§62.1-3).

2) To insure that private piers for noncommercial purposes do not extend beyond the navigation line nor unreasonably interfere with the rights of others.

3) To consider effects on navigation, width of channel, construction materials utilized, and relation to other structures in the permit decision process for commercial piers, docks and boat ramps.

4) To encourage open pile structures as compared to construction of solid structures for gaining access to water.

5) To require the removal or replacing of deteriorated piers, docks and boat ramps.

Marinas

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before commencing the construction of a marina (§62.1-3).

2) To insure approval of marina sanitary facilities by the Health Department before subaqueous permit for the marina is issued.

3) To apply policies listed for dredging, dredged material disposal, piers and bulkheads to marinas.

4) To foster proper water circulation and good flushing by not recommending dead end venetian canals and restricted inlets and ensuring adequate channel depth and width.

5) To consider the impact of possible condemnation of oyster grounds in the permit process.

Bulkheads

It is the policy of the State:

1) To require any person to obtain a subaqueous permit when the bulkhead is located below mean low water (§62.1-3).

2) To encourage the use of stone or rubble riprap as the preferred method of controlling shoreline erosion.

3) To ensure that vertical shoreline defense structures within State jurisdiction are properly engineered when a riprap type bulkhead cannot be utilized.

4) To discourage railroad tie bulkheads.

5) To require bulkheading to be placed behind existing wetlands, and if no wetlands exist, that the bulkheading be placed at or near the mean high water line.

6) To encourage the use of erosion controls utilizing riprap and/or

gabions and/or tongue and groove bulkheading with riprap for areas of unusually unstable shorelines, and/or areas having high values or reflected wave energy.

Jetties, Groins and Breakwaters

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before commencing the construction of jetties, groins and breakwaters below mean low water (§62.1-3).

2) To encourage that jetties, groins and breakwaters be designed in such a manner that their location will not create adverse sand transportation patterns or unduly disturb marine resources.

3) To encourage that jetties, groins and breakwaters be designed in such a manner that they will not be breached by normal tides and/or fail under normal winds, currents, or tides.

4) To consider the anticipated effect of all proposed groin-fields upon adjacent properties in evaluating a permit application.

5) To require that groins, jetties and breakwaters that are in a state of disrepair, or have become so deteriorated that their effectiveness appears to be negligible, be removed and/or replaced by the owner.

Overhead and Submarine Crossings

It is the policy of the State:

1) To require any person to obtain a subaqueous permit before commencing the construction of overhead and submarine crossings (§62.1-3).

2) To require that overhead structures be designed in such a manner that they will not impede normal waterborne traffic.

3) To require where practical that overhead structures be designed in such a manner that supports will not be constructed in the normal watercourse.

4) To encourage where practical that overhead crossings be located at or near existing crossings.

5) To require that submarine crossings be designed such that a minimum of three feet of cover will be provided over the upper extremity of the submerged structure.

6) To require that the disturbed area for submarine crossings be restored as closely as possible to the depth of the original bottom.

7) To ensure that submerged aquatic vegetation, shellfish beds and wetlands are carefully considered in the permitting and location of submerged structures.

Ports

It is the policy of the State:

1) To improve Virginia ports, and to increase the movement of waterborne commerce to, through and from these ports (§62.1-34).

2) To cooperate with federal agencies to maintain, develop, improve and use Virginia ports in connection with fulfilling State and national interests.

3) To ensure that port development is compatible with resource

protection policies concerning wetlands and water quality.

4) To incorporate State port land use plans which have already been reviewed by the Council on the Environment into the CRM program.

Offshore Mining

It is the policy of the State:

1) To require any person proposing to do any prospecting or offshore mining to obtain either an easement or lease for that use of State-owned subaqueous land from the Marine Resources Commission (§62.1-4).

2) To require that no easement or lease shall affect or interfere with the rights of the people of the Commonwealth to fish, fowl or take shellfish.

3) To ensure that no easement or leases in (Baylor grounds) are granted unless through approval of the Virginia General Assembly.

4) To ensure that adverse effects on oyster beds, submerged vegetation, and sand movement in areas of erosion and spawning areas be minimized.

WETLANDS

Wetlands includes all the land both vegetated and nonvegetated lying between and contiguous to mean low water and an elevation above mean low water equal to the factor 1.5 times the mean tide range.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

The Wetlands Act (§62.1-13.1 through 62.1-13.20) was enacted in 1972. This legislation establishes a local-state management program which sets forth a clear declaration of public policy to "preserve the wetlands and to prevent

their despoilation and destruction and to accommodate necessary economic development in a manner consistent with wetlands perservation."

Recognizing that control over the wetlands was a zoning problem and that the immediate impact of any projects that would alter wetlands would be greatest in the local community, the Act provided localities with the option of administering the Act's policies and provisions. Local wetlands boards were authorized with primary authorities and responsibility to review wetlands projects and to grant or deny permission to alter such wetlands in accordance with the policies of the Act.

While localities are primarily affected, wetlands are an important State resource thus the Act guarantees that no area of this unique resource go unregulated nor any local regulation be of such character as to be detrimental to the public interest. The Act accomplishes this by making the Virginia Marine Resources Commission (VMRC) responsible for reviewing all decisions of local wetlands boards, administering the policies and provisions of the Act in those localities electing not to enact the local zoning ordinance, by designating VMRC as an appeals board from decisions of local wetlands boards and by mandating VMRC, with the advice of the Virginia Institute of Marine Science, to promulgate Wetlands Guidelines to guide decision making concerning wetlands.

The management procedures for use or development of wetlands utilizes a permit system. The permit application and state inspection procedures are described in the subaqueous land section. The local wetlands board (if one has been appointed) receives the permit application, gives public notice, holds a public hearing and makes a decision which is reviewed by the VMRC and can be appealed to VMRC.

If the permit applicant indicates that the proposed project involves wetlands and no local wetlands board exists in the county, city or town of the project, a public hearing to consider effects on wetlands is held in the locality with a member of the VMRC staff acting as hearing officer after notice of that hearing has been advertised for two weeks in a local newspaper. A written synopsis of the wetlands public hearing is reviewed by the VMRC and a decision to either approve, modify or deny is rendered.

The "401" certification program managed by the SWCB reviews all dredging projects, new marina construction, marina expansion, bulkheading, boat ramp construction and filling projects affecting navigable waters in order to ensure the non-degradation of water quality and to preserve wetlands. Specific wetlands protection policies have been developed by the SWCB and are presented in the "Uses Subject to Management and Policies Governing the Permissibility of the Uses" section for wetlands.

DESCRIPTION OF ADDITIONAL LEGAL AUTHORITIES AND PROGRAMS

Tidal Marsh Inventories (TMI) which identify and map vegetated wetlands by political jurisdication have been conducted by the Virginia Institute of Marine Science. These inventories, partially funded by CRM, have assisted State and local personnel in wetlands management. A study of non-vegetated tidal wetlands explaining the value of these areas to the natural environment has also been completed.

Wetlands will be designated as geographical area of particular concern (GAPC) in order to highlight their importance to the State. This is amplified in the GAPC section.

The CRM program will aid local wetlands boards in more effectively managing wetlands by supplying increased State technical assistance,

educational workshops for wetlands board members and by offering some minimal remuneration for what has heretofore been a totally voluntary unremunerated program.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF THE USES

Uses Subject to Management Under the Wetlands Act

It is the policy of the State:

1) To require any person who desires to use or develop any wetlands other than for the exempted uses listed below to obtain a permit from the local wetlands board or the Virginia Marine Resources Commission (§62.1-13.5).

a) The construction and maintenance of non-commercial catwalks, fences, duckblinds, wildlife management shelters, footbridges, observation decks and shelters and other similar structures; provided that such structures are so constructed on pilings as to permit the reasonably unobstructed flow of the tide and preserve the natural contour of the marsh;

b) The cultivation and harvesting of shellfish, and worms for bait;

c) Non-commercial outdoor recreational activities, including hiking, boating, trapping, hunting, fishing, shellfishing, horseback riding, swimming, skeet and trap shooting, and shooting preserves; provided that no structure shall be constructed except as permitted in subsection (i) of this section;

d) The cultivation and harvesting of agricultural or horticultural products, grazing and haying;

e) Conservation, repletion and research activities of the Virginia

Marine Resources Commission, the Virginia Institute of Marine Science, Commission of Game and Inland Fisheries and other regulated conservation agencies;

f) The construction or maintenance of aids to navigation which are authorized by governmental authority;

g) Emergency decrees of any duly appointed health officer of a governmental subdivision acting to protect the public health;

h) The normal maintenance, repair or addition to presently existing roads, highways, railroad beds, or the facilities of any person, firm, corporation, utility, federal, State, county, city or town abutting on or crossing wetlands, provided that no waterway is altered and no additional wetlands are covered;

i) Governmental activity on wetlands owned or leased by the Commonwealth of Virginia, or a political subdivision thereof.

j) The normal maintenance of man-made drainage ditches, provided that no additional wetlands are covered; and provided further, that this paragraph shall not be deemed to authorize construction of any drainage ditch.

Development in Wetlands

It is the policy of the State:

1) To require that wetlands of primary ecological significance not be altered so that the ecological systems in the wetlands are unreasonably disturbed by development in wetlands (§62.1-13.2).

2) To require that development in Tidewater Virginia, to maximum extent possible, be concentrated in wetlands of lesser ecological significance, in vegetated wetlands which have been irreversibly disturbed before

July 1, 1972, and in areas of Tidewater Virginia apart from the wetlands (§62.1-13.3).

Alteration of Shoreline

It is the policy of the State:

1) To permit the alteration of the shoreline or construction of shoreline facilities, provided that significant marine fisheries, wetlands and wildlife resources are not unreasonably detrimentally affected, in order to:

a) Gain access to navigable waters by

1) Water dependent commercial, industrial and recreational activities.

2) Owners of land adjacent to waters of navigable depth or waters which can be made navigable with only negligible adverse impacts on the environment.

b) Protect property from significant damage or loss from erosion or other natural causes.

2) To not ordinarily permit alteration of the shoreline;

a) For purposes or activities which could just as well be conducted on existing fastlands and which have no inherent requirements for access to water resources.

b) For purposes of creating waterfront property from lots and subdivisions which are not naturally contiguous to waters of navigable depth or waters which can only be made navigable by substantial alteration or destruction of marine resources.

c) When damage to properties owned by others is a likely result of a proposed activity.

d) When the alteration will result in discharge or effluents which impair wetlands, water quality or other marine resources.

e) When there are viable alternatives which can achieve a given purpose without adversely affecting marshes, oyster grounds or other natural resources.

Activities Affecting Wetlands Under the Marine Resources Commission's Purview

It is the policy of the State that in those limited instances when dredging, filling or construction is authorized in wetlands, the specific policies enumerated in the subaqueous land section are applicable.

Alteration of Water Flow to Wetlands, Dredging and Filling, Waste Water Treatment Facilities and Other Uses Which Could Affect Wetlands Under The Purview of the State Water Control Board

It is the policy of the State:

1) To give particular cognizance and consideration to any proposal to the State Water Control Board that has the potential to damage wetlands, to recognize the irreplaceable value and man's dependence on them to maintain an environment applicable to society, and to preserve and protect them from damaging misuses.

2) To minimize alteration in the quantity or quality of the natural flow of water that nourishes wetlands and to protect wetlands from adverse dredging or filling practices, solid waste management practices, siltation, or the addition of pesticides, salts, or toxic materials

arising from non-point source wastes and through construction activities, and to prevent violation of applicable water quality standards from such environmental insults.

3) To not approve the construction of waste water treatment facilities or other waste treatment-associated appurtenances which may interfere with the existing wetland ecosystem except where no other alternative of lesser environmental damage is found to be feasible. In the applicant for such facilities or appurtenances, where there is reason to believe that wetlands will be damaged, an assessment will be requested from the applicant that delineates the various alternatives that have been investigated for the control or treatment of the waste water, including the reasons for rejecting those alternatives not used. A full economic appraisal of all alternatives should be included to the extent possible.

4) To promote the most environmentally protective measures for the wetlands and to advise those applicants for waste treatment facilities that the selection of the most environmentally protective alternative should be made, and to advise those applicants for discharge permits for all other activities which may affect the wetlands that those activities should be carried out in the most environmentally productive manner. The Virginia Institute of Marine Science, the Marine Resources Commission, and any other appropriate State or Federal agency will be consulted to aid in the determination of the probable impact on the pertinent fish and wildlife resources of wetlands. In the event of projected significant adverse environmental impact, a public hearing on the wetlands issue may be held to aid in the selection of the most appropriate action, and the Board may deny the issuance of a discharge permit, and may recommend against the furnishing of appropriate State or Federal grant funds.

(Policies E 1-4 above: SWCB Letter Ballot No. 3311)

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

Traditionally the State has left the management of sand dunes totally in the hands of local government. Enabling legislation to date has never been directed specifically at dunes, however, certain broad provisions contained in the Code of Virginia may be applied to the management of these areas. This is so especially in view of recent scientific findings relative to the importance of dunes in protection of inland areas from flooding and wind damage, and in the process of erosion and replenishment.

Most of these provisions are contained within the context of promoting the "health, saftey and general welfare" clauses in the Code, such as §15.1-446.1 which deals with the "Comprehensive plan to be prepared and adopted; scope and purpose.", and states within the section...

> The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants.
>
> The comprehensive plan shall be general in nature, in that it shall designate the general or approximate location, character, and extent of each feature shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.
>
> Such plan, with the accompanying maps, plats, charts, and descriptive

matter, shall show the commission's long-range recommendations for the general development of the territory covered by the plan. It may include but need not be limited to:

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, business, industrial, agricultural, conservation, recreation, public service, flood plain and drainage.

and other designations and methods of implementation.

For those localities which have adopted zoning as a method for community planning, there is also §15.1-486 "Zoning ordinances generally; jurisdiction of counties and municipalities respectively.", which states...

The governing body of any county of municipality may, by ordinance, classify the territory under its jurisdiction or any substantial portion thereof into districts of such number, shape and size as it may deem best suited to carry out the purposes of this article, and in each district it may regulate, restrict, permit, prohibit, and determine the following:

(a) The use of land, buildings, structures and other premises for agricultural, business, industrial, residential, flood plain, and other specific uses;

(b) The size, height, area, bulk, location, erection, construction, reconstruction, alteration, repair, maintenance, razing, or removal of structures;

(c) The areas and dimensions of land, water, and air space to be occupied by buildings, structures and uses, and of courts, yards, and other open spaces to be left unoccupied by uses and structures, including variations in the sizes of lots based on whether a public or community

water supply or sewer system is available and used;

(d) The excavation or mining of soil or other natural resources.

Within this same article §15.1-489. "Purposes of zoning ordinance." states...

> Zoning ordinances shall be for the general purpose of promoting the health, safety, or general welfare of the public and of further accomplishing the objectives of §15.1-427. To these ends, such ordinances shall be designed (1) to provide for adequate light, air, convenience of access, and safety from fire, flood and other dangers; (2) to reduce or prevent congestion in the public streets; (3) to facilitate the creation of a convenient, attractive and harmonious community; (4) to facilitate the provision of adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports and other public requirements; (5) to protect against destruction of or encroachment upon historic areas; (6) to protect against one or more of the following: overcrowding of land, undue density of population in relation to the community facilities existing or available, obstruction of light and air, danger and congestion in travel and transportation, or loss of life, health, or property from fire, flood, panic or other dangers; and (7) to encourage economic development activities that provide desirable employment and enlarge the tax base.

Other provisions which may be applicable to local management of dunes are found throughout Title 21, Chapter 1 of the Code, which is the Soil

Conservation Districts Law. Paragraph (d) Declaration of Policy of §21-2 declares...

> That whereas there is a pressing need for the conservation of soil and water resources in all areas of the State, whether urban, suburban, or rural, and that the benefits of soil and water conservation practices, programs, and projects, as carried out by the Virginia Soil and Water Conservation Commission and by the soil and water conservation districts, should be available to all such areas; therefore, it is hereby declared to be the policy of the legislature to provide for the conservation of the soil and water resources of this State, and for the control and prevention of soil erosion, and for the prevention of floodwater and sediment damages, and for furthering agricultural and nonagricultural phases of the conservation, development, utilization, and disposal of water, and thereby to preserve natural resources, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this State.

Also within Title 21, §21-11.16 of Article 2.2 - Shore Erosion Control, declares the policy that...

> The shores of the Commonwealth of Virginia are a most valuable resource that should be protected from erosion which reduces the tax base, decreases recreational opportunities, decreases the amount of open space and agricultural lands, damages or destroys roads and produces sediment that damages marine resources, fills navigational channels, degrades water quality and, in general, adversely affects the environmental quality; therefore, the General Assembly hereby recognizes

shore erosion as a problem which directly or indirectly affects all of the citizens of this State and declares it the policy of the State to bring to bear the State's resources in effectuating effective practical solutions thereto. (1972, c. 855).

Pursuant to Sections 21-89.1 through 21-89.15 of the Code of Virginia (the Virginia Soil Erosion and Sediment Control Act), the State Soil and Water Conservation Commission has promulgated the Virginia Soil Erosion and Sediment Control Handbook for mandatory adoption and implementation by localities throughout the state. A section of the handbook entitled Standards for Specifications for Dune Stabilization is designed to control surface movement of sand dunes or shifting sand by vegetative means and to build dunes by mechanical methods. These practices apply to land disturbing activities (as defined in the Soil Erosion and Sediment Control Act) within localities that have sand dunes. These practices constitute minimum standards and specifications and must be met in the local soil erosion and sediment control program for localities that have sand dunes on their shorelines.

ADDITIONAL LEGAL AUTHORITIES AND PROGRAMS

Coastal sand dunes have been designated as GAPCs in the Virginia CRM Program. The importance and usefulness of this designation is described in Chapter VII of this document.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF THE USES

By definition, a sand dune is a mount of unconsolidated (sandy) soil whose landward and lateral limits are marked by a change in grade from ten percent or greater to less than ten percent and upon any part of which is growing on July one, nineteen hundred seventy-nine, any one or more of the

following: american beach grass (Ammophilla breviligulata); beach heather (Dudsonia tomentosa); dune bean (Strophostylis umbellata var. paludigena); dusty miller (Artemisia stelleriana; saltmeadow hay (Spartina patens); seabeach sandwort (Arenaria peploides); sea oats (Uniola paniculata); sea rocket (Cakile edentula); seaside goldenrod (Solidago sempervirens) and short dune grass (Panicum ararum).

It is the policy of the State (p. III-148 through p. III-150 of the Virginia Soil Erosion and Sediment Control Handbook, promulgated by the State Soil and Water Conservation Commission):

1) to stabilize frontal dunes and reduce soil movement and the encroachment of shifting sands on valuable property.

2) to provide a barrier (sand dunes) against tide water.

3) To control surface movement of sand dunes or shifting sand by vegetative means (planting of American beach grass).

4) To allow the building of frontal dunes by mechanical methods (such as the erection of snow fences, brush or plastic fences, or Christmas trees set in parallel rows 20 to 30 feet apart, parallel to the beach, and well back from the mean high water line).

5) To direct foot or vehicular traffic over paths or roads of gravel or boards to prevent dune blow-out in areas where such foot or vehicular traffic is appreciable over frontal dunes.

USES RELATING TO NON-POINT POLLUTION

Summary of Existing Legal Authority

Septic Systems

The management of septic systems is under the jurisdiction of the State Board of Health. According to the Rules and Regulations of the State Board of Health, it shall be unlawful for any person to construct, alter or extent, or to allow construction, alteration or extension to an individual sewage system (septic system) in the state unless a valid permit has been issued for that system by the State Health Commissioner in the name of a specific person for a specific location. Application for a permit must be made to the State Health Commissioner through the local health department. The local health department shall require such tests, plans and/or specifications as it deems necessary to determine the adequacy and desirability of the system. Such information shall be made a part of the permit. When the local health department is satisfied that a proposed design is adequate for the conditions under which a system is to be installed and used, a written permit to proceed with construction shall be issued by the local health department on behalf of the State Health Commissioner. When the local health department determines that a proposed design is inadequate, or soil or geological conditions are such to preclude safe and proper operation of the desired installation, it (on behalf of the State Health Commissioner) will deny, in writing, a permit to proceed with construction and specify the reasons for denial.

The local health department (on behalf of the State Health Commission) shall make such inspections as it may deem necessary during construction and installation to determine compliance with the approved construction and installation standards.

Surface Mining Operations (Including Sand and Gravel Pits)

Any operator who intends to engage in any mining operation shall apply for a surface mining permit with the State Department of Conservation and Economic Development. Application for a mining permit shall be in writing on forms prescribed by the State Department of Conservation and Economic Development. The application, in addition to such other information as may be reasonably required by the Department, shall contain the following information:

1) A location map showing the names and location of all streams, creeks or other bodies of public water, roads, buildings, oil and gas wells, and utility lines on the proposed site and within five hundred feet of such site;

2) A drainage plan on and away from the site, including the directional flow of water, constructed drainageways, natural waterways used for drainage and the streams or tributaries receiving the discharge; and

3) An operations plan, describing the specifications for surface mining and restoration to include sketches delineating placement of spoil, stockpiles, and tailing ponds, to a surface that is suitable for the proposed subsequent use of the land after reclamation is completed.

Upon receipt of the above data, the Department shall review the

application and, if it meets with the Department's approval, issue a permit. If the Department finds that the operation will constitute a hazard to the public safety or welfare, or that a reasonable degree of reclamation or proper drainage control is not feasible, the Department may disapprove the permit application with written objections thereto and required amendments. Until the applicant shall amend his plans and file a satisfactory amended plan with the department, no permit shall be issued.

Public and/or Private Solid Waste Disposal Operations

Each person who operates, or contemplates operating, or proposes to alter a solid waste disposal operations (system) shall apply in writing for a permit. Application for such a permit shall be made on a form approved by the State Health Commissioner. When, upon review of the application, the State Health Commissioner determines that the proposed design meets the requirements of the Regulations of the State Department of Health Governing Disposal of Solid Wastes, a written permit to proceed with construction, alteration, and/or operation shall be issued. When, upon review of the application, the State Health Commissioner determines that the proposal precludes safe and sanitary operation, permit shall be denied. The State Health Commissioner may make such inspections as he shall deem necessary during construction, operation, and/or alteration of disposal system to determine compliance with these rules and regulations. In addition, the State Health Commissioner, by written request, may require any person who operates a solid waste disposal system to furnish, within 30 days after such request, such plans, specifications, and any other pertinent information as may deemed necessary to determine the safety and effectiveness of solid waste disposal operations, the effect, if any, of the waste upon soil and water, or such other information as

the State Health Commissioner may deem necessary to accomplish the purpose of these regulations.

Land Disturbing Activities (As Defined in the Virginia Soil Erosion and Sediment Control Act)

Each soil and conservation district in the state, except those counties and municipalities which have adopted an erosion and sediment control program prior to July 1, 1975, approved by the State Soil and Water Conservation Commission shall develop and adopt a soil erosion and sediment control program consistent with the state program and guidelines for erosion and sediment control over certain land disturbing activities (see policies section for exemptions).

Districts adopting such programs shall do so pursuant to the provisions of the General Administration Agencies Act. To assist in developing its program each district shall name an advisory committee of not less than seven nor more than eleven members which shall include but not be limited to representatives of such interests as residential development and construction, non-residential construction, and agriculture. At least two members of the advisory board shall be from the public at large having no direct pecuniary interest, and at least two members shall be from local governments. Upon the request of a district the State Soil & Water Conservation Commission (SWCC) shall assist in the preparation of the district's program. Upon adoption of its program, the district shall submit the program to the SWCC for review and approval.

To carry out its program the district shall, within one year after the program has been approved by the SWCC, establish, consistent with the State

program and guidelines, conservation standards for various types of soils and land uses, which standards shall include criteria, guidelines, techniques, and methods for the control of erosion and sediment resulting from land-disturbing activities. Such conservation standards may be revised from time to time as may be necessary. Before adopting or revising conservation standards, the district shall, after giving due notice, conduct a public hearing on the proposed conservation standards or proposed changes in existing standards. The program and conservation standards shall be made available for public inspection at the principal office of the district.

a) In areas where there is no district, a county, city, or town shall develop, adopt and carry out the erosion and sediment control program and exercise the responsiblities of a district with respect thereto, as provided in the Soil Erosion and Sediment Control Act; except that the provisions for an advisory committee shall not be mandatory.

b) Any county, city, or town that, prior to July 1, 1975, has adopted its own erosion and sediment control program which has been approved by the SWCC shall be treated under this article as a county, city, or town which lies in an area where there is no district, whether or not such a district in fact exists.

Any town, lying within a county which adopts its own erosion and sediment control program, must adopt its own program, or adopt jointly with the county an erosion and sediment control program or authorize the county to adopt the program for the town. If a town lies within the boundaries of more than one county, such town shall be considered for the purposes of this article to be wholly within the county in which the larger portion of the town lies. Any county, city, or town adopting an erosion and sediment control program may designate its department of public works or a similar local government

department as the plan-approving authority or may designate the district as the plan-approving authority for all or some of the conservation plans.

c) If a district, or county, city, or town not in a district, fails to submit a program to the SWCC within the period specified herein, the SWCC shall, after such hearings or consultations as it deems appropriate with the various local interests involved, develop and adopt an appropriate program to be carried out by such district, county, city, or town. The Commission shall do likewise with respect to any town lying within a county which adopts its own erosion and sediment control program and such town does not provide for land-disturbing activities within the town to be covered by a local control program.

Feed Lots

Most feed lots of larger size in Virginia, which utilize methods of solid and/or liquid waste storage or locate too close to surface waters, are required to obtain a non-discharge, point source discharge permit from the State Water Control Board. The permit application is to be submitted in duplicate. Processing of the application is performed by the appropriate regional office of the State Water Control Board. Upon receipt by the Board, the application must be advertised by public notice published once a week for two successive weeks in a newspaper of local distribution.

The appropriate regional office of the State Water Control Board will recommend approval of the application provided:

a) Inquiries received upon advertising can be satisfactorily answered by the staff, and

b) The facilities proposed are adequate to comply with the State Water Control Law and can reasonably be expected to prevent discharge to State waters.

Descriptions of Additional Legal Authorities and Programs

None.

Uses Subject to Management and Policies Governing The Permissibility of the Uses

Septic Systems

Definition. "Septic systems" shall mean any sewage disposal system that utilizes a septic tank with subsurface drainfield for disposal of sewage.

Policies (§32.9 of the Code of Va. and the State Health Department's Rules and Regulations Governing the Disposal of Sewage). It is the policy of the State:

1) To require any person, partnership, or other entity to obtain a septic tank permit before commencing the construction of any building for which a septic tank will be installed.

2) To require that no county, city or town issue a building permit until authorization be given in writing by the local health officer which authorization shall be given when such officer is assured that safe, adequate, and proper sewerage treatment is, or can be made available.

3) To evaluate soils for proposed septic drainfield system by considering the physiographic province, position of landscape, degree of slope and soil profile (thickness of horizon, color, texture) including an assessment as to whether or not the soil has problems relative to the position in the landscape, seasonal water table, shallow depth, rate of absorption, or a combination of the above.

4) To set the minimum absorption area for septic effluent at 400 square feet for a private, single family residence unless otherwise indicated by soil evaluation.

5) To locate a standard septic tank and/or drainfield no nearer than 35 feet of a Class I well, 50 feet of Classes II and III wells, and 50 feet of shellfish waters, impounded waters or a stream.

Solid Waste Disposal Operations and/or Sites (including incinerators and sanitary landfill)

Definition. "Solid waste disposal operations and/or "sites" shall mean any land site and/or facility on which industrial, commercial and residential solid wastes are disposed of by burning in a furnace or by burying under soils.

Policies (§32-9.1 of the Code of Va. and the State Health Department's Rules and Regulations Governing the Disposal of Solid Wastes). It is the policy of the State:

1) To require any person to obtain a permit from the State Health Commissioner to construct or operate a solid waste disposal system.

2) To forbid the disposal of solid waste in state waters.

3) To locate, design and operate a sanitary landfill so as to prevent pollution of ground and surface waters.

4) To cover solid waste at a sanitary landfill with 6 inches of earth or approved material at the end of each day of operation.

5) To prevent the disposal of hazardous waste in sanitary landfills unless approved by the Health Commissioner.

6) To require an intermediate cover on all cracked, eroded, and uneven areas of a sanitary landfill site on a weekly basis.

7) To require that a minimum depth of two feet of earth or approved material be placed on the solid waste within six months after the closing of a sanitary landfill site and that the sanitary landfill site be so graded that surface water will not pool on the surface.

8) To require that adequate provisions be made to prevent blowing paper and to control dust.

9) To require that an incinerator operation be designed to meet all applicable rules and regulations of the State Air Pollution Control Board and the State Water Control Board.

Feed Lots

Definition. "Feed lots" mean a concentrated, confined animal or poultry growing operation for meat, milk, or egg production, or stabling in pens or houses wherein the animals or poultry are fed at the place of confinement, and crop production is not sustained in the area of confinement.

Policies (§62.1-44.16 through §62.1-44.17 of the Code of Va.). It is the policy of the State:

1) To require that any owner who erects, constructs, opens, reopens, expands or employs new processes in or operates any establishment from which there is a potential or actual discharge of industrial wastes or other wastes to state waters shall first provide facilities approved by the State Water Control Board for the treatment or control of such wastes.

2) To require that any owner who intends to operate or construct a feed lot to submit an application to the State Water Control Board for review and approval.

3) To require that any owner who intends to operate or construct a feed lot to submit information to:

a) show the general location of the establishment in relation to nearby streams or drainageways, roads, municipalities and other pertinent geographical features;

b) illustrate the overall lay-out of the establishment, the waste collection, treatment, and disposal facilities, and the location of any potential receiving waters; and

c) describe the estimated volume and composition of wastes to be handled by the no-discharge system.

Surface Mining Operations (including sand and gravel pits)

Definition. "Surface mining operations" are defined as the breaking or disturbing of surface soils or rock in order to facilitate or accomplish the extraction or removal of minerals; any activity constituting all or part of a process for the extraction or removal of minerals, so as to make them suitable for commercial, industrial, or construction use; but shall not include those aspects of deep mining not having significant effect on the surface, and shall not include excavation or grading when conducted solely in aid of on-site farming or construction. This definition, as promulgated by the State Department of Conservation and Economic Development, shall not apply to coal, nor shall it be construed to apply to the process of searching, prospecting, exploring, or investigating for minerals by drilling.

Policies (§45.1-180 through 45.1-197.18 of the Code of Va. and the State Board of Conservation and Economic Development's Rules and Regulations on Minerals other than Coal Surface Mining Reclamation). It is the policy of the State:

1) To require and encourage the proper control of mining and minerals so as to protect the public health, safety and welfare consistent with the protection of physical property and with maximum employment and the well-being of the state.

2) To exercise the police power of (the) Commonwealth in a coordinated statewide program to aid in the protection of wildlife, in restoring (mined) lands to productive purposes and to control present and future problems associated with mining resources and the reclamation of disturbed lands.

3) To require that it shall be unlawful for any operator to engage in any mining operation in (the) state without having first obtained from the Department (of Conservation and Economic Development) a permit to engage in such operation.

4) To require that the application for a permit shall be accompanied by an operations plan...which shall include a provision for reclamation for land estimated to be affected by the mining operation for which the permit is sought.

5) To require that alterations and relocations of natural drainage ways...will be permitted if the natural drain-way will not be blocked and if no damage results to the natural drainway.

6) To require that a protective strip of absorbent undisturbed forested or grassed area at least 50 feet wide measured on the slope should be provided...between (a) road and stream and reduce the sediment load of the stream.

7) to require that ditches shall be provided when necessary and to be of sufficient capacity to control surface runoff.

8) To require that the operations plan shall be designed to minimize adverse effects on the environment and facilitate integration of reclamation with mining operations....

9) To require that slopes must be provided with proper structures, such as terraces, berms, waterways, etc. to accommodate surface waters...to minimize erosion due to surface runoff. Slopes must be stabilized, protected with a permanent vegetative or riprap covering and not be in an eroded state at the time reclamation is completed.

10) To require that all mining operations have adequate drainage, erosion, and sediment control measures incorporated in the operations plan and installed in accordance with the plan or as acceptable to the Division (of Mined Land Reclamation).

11) To require that disturbed areas that are not adequately controlled by acceptable erosion and sediment control measures or mining methods which incorporate sediment control shall have sediment basins installed on drainage ways for all proposed disturbed areas...sediment control measures shall be installed prior to land disturbing activities within the drainage area controlled by the sediment basin.

12) To require that all intermittent or perennial streams shall be protected from spoil by natural or constructed barriers.

13) To require that acid water produced by surface mining shall be adequately treated. The pH of all water resulting from surface mining of materials shall be between pH6 and pH9.

Land Disturbing Activities

Definition. "Land disturbing activities" shall mean any land change which may result in soil erosion from water or wind and the movement of sediments into state waters or into lands in the state, including, but not limited to clearing, grading, excavating, transporting, and filling of land, other than federal lands, except that the term shall not include:

1) Such minor land disturbing activities as home gardens and individual home landscaping, repairs, and maintenance work;

2) Individual service connections and construction or installation of

public utility lines;

3) Septic tank lines or drainage fields unless included in an overall plan for land-disturbing activity relating to construction of the building to be served by the septic tank system;

4) Surface or deep mining, neither shall it include tilling, planting, or harvesting of agricultural, horticultural, or forest crops;

5) Construction, repair or rebuilding of the tracks, right-of-way, bridges, communication facilities and other related structures and facilities of a railroad company;

6) Preparation for single-family residences separately built, unless in conjunction with multiple construction in subdivision development;

7) Disturbed land areas for commercial or noncommercial uses of less than ten thousand square feet in size; provided, however, that the governing body of the county, city, town, or district, may reduce this exception to a smaller area of disturbed land and/or qualify the conditions under which this exception shall apply;

8) Installation of fence and sign posts or telephone and electric poles and other kinds of posts or poles;

9) Shore erosion control projects on tidal waters recommended by the soil and water conservation districts in which the projects are located or approved by the Marine Resources Commission;

10) Emergency work to protect life, limb or property, and emergency repairs; provided that if the land-disturbing activity would have required an approved erosion and sediment control plan, if the activity

were not an emergency, then the land area disturbed shall be shaped and stabilized in accordance with the requirement of the local plan-approving authority or the Commission when applicable.

Policies (§21.89-1 through §21-89.15 of the Code of Virginia and the Virginia Erosion and Sediment Control Handbook, promulgated by the Virginia Soil and Water Conservation Commission). It is the policy of the State:

1) To conserve and protect its land, water, air and other natural resources from erosion and sedimentation through establishment of a statewide coordinated erosion and sediment control program.

2) To implement or cause to be implemented minimum standards, guidelines, and criteria for the effective control of soil erosion, sediment deposition, and non-agricultural runoff.

3) To require any person engaging in a land disturbing activity to submit and obtain approval of any erosion and sediment control plan from the appropriate plan approving authority prior to commencement of such activity.

4) To require any person engaging in a land disturbing activity to employ certain land conservation and runoff control practices, which may include, but need not be limited to:

a) Studying development areas and evaluating soil limitations and other conditions, such as topography, natural drainage, geology, and accessibility;

b) Identifying existing features that can be used in the development, such as vegetation, wildlife habitat, water areas, and

topsoil;

c) Limiting grading of areas to workable size to limit the duration of exposures of disturbed and unprotected areas of applying appropriate conservation practices in the first disturbed section of land before the next section is opened up;

d) Stripping and stockpiling topsoil for later use on areas to be stabilized by permanent vegetation and protecting the stockpiled material with mulch or temporary vegetation;

e) Controlling runoff either by diverting or conveying it safely thorugh the areas with structural measures;

f) Installing debris basins and other appropriate erosion and sediment control structures prior to or during the first phase of land grading;

g) Seeding and mulching of debris basins, diversions, waterways and related structures immediately after they are built;

h) Installing storm water management facilities, made operational as quickly as possible during construction;

i) Employing sediment traps to protect inlets of storm sewers below high self-producing areas;

j) Establishing temporary cover by seeding and/or mulching graded areas (except streets and parking areas where underground utilities are planned) which may otherwise be exposed for a period greater than 30 days before permanent stabilization can be achieved as soon as rough grading work is done; and

k) Stabilizing of all streets and parking areas, within 30 days of final grading, with base coarse-crushed stone.

Summary of Existing Legal Authority

Recreational Trailer Parks and/or Campgrounds

Sections 32-6, 32-65, 35-18, 35-55, 35-56, 35-73, and 62.1-47 of the Code of Virginia require that any person planning construction, major alteration or extensive addition to any recreational trailer parks and/or campgrounds shall, prior to the initiation of any such construction, submit to the State Health Commissioner, through the local health department in the county or city in which the proposed project is located, complete plans and/or statements which show the following:

1) The proposed method and location of sewage disposal system.

2) The proposed sources and location of the water supply.

3) The number, location and dimensions of all campsites.

4) The number, description and location of proposed sanitary facilities such as toilets, dump stations, sewer lines, and surface drainage.

5) Name and address of applicant.

6) Location, boundaries and dimensions of the proposed project.

7) Such other pertinent information as the State Health Commission may deem neessary.

When, upon review of the plans, the State Health Commissioner is satisfied that the proposed plans, if executed, will meet the requirements of these regulations designed to protect the public health, written approval

shall be issued. When, upon review of the plan, the State Health Commissioner determines that the proposed plans preclude a safe, sanitary operation, the plans shall be disapproved and the applicant shall be notified of any deficiency in the plans that constitute the basis for disapproval. No person shall begin construction, major alteration or addition to a recreational campground and/or trailer park, or engage in the development of a recreational campground and/or trailer park until written approval has been granted by the State Health Commissioner.

Seafood (Shellfish) Processing Plants

Sections 28.1-176 and 28.1-180 of the Code of Virginia require that any person, firm, or corporation operating an establishment for the picking, packing, repacking or storing of oysters, clams and other shellfish shall be required to obtain the approval of the State Health Commissioner in the form of a Certificate of Inspection.

Plans for new construction and major modification of establishments used for the storing, processing, packing, or repacking of oysters, clams, and other shellfish shall be submitted to the State Bureau of Shellfish of the State Health Department.

Public or Private Sewage Treatment Works

Section 62.1-44.19 of the Code of Virginia states that it shall be unlawful for any person to construct, alter or extend, or to allow construction, alteration, or extension to a sewage system in the Commonwealth of Virginia unless a valid permit has been issued for that system by the State Health Department and State Water Control Board in the name of a specific person for a specific location.

Plans and specifications for all sewage treatment facilities must be submitted to the State Health Department and State Water Control Board by the owner or sponsor for review and approval prior to the beginning of construction.

All sewage treatment systems must be constructed in accordance with the approved plans and specifications.

Power Generating and Transmission Facilities

Section 56.265.1 of the Code of Virginia states that any person who intends to construct or operate power generating plants must be licensed by the State Corporation Commission. In addition, any person who intends to construct power transmission lines of a designed capacity of 200 kilovolts or more must obtain a certificate of needs from the State Corporation Commission.

Major Airports

Section 5.1-8 of the Code of Virginia states that all airports and landfields in the Commonwealth shall be licensed by the Division of Aeronautics of the State Corporation Commission.

Outdoor Advertisements and Advertising Structures in Sight of Public Highways

Sections 33.1-351 through 33.1-378 of the Code of Virginia require that the erection and maintenance of outdoor advertising in areas adjacent to the rights-of-way of the highways within this state shall be regulated in accordance with the terms of this article and regulations promulgated by the State Department of Highways and Transportation in order to promote the safety, convenience and enjoyment of travel on and protection of the public investment in highways within this state, to attract tourists and promote the

prosperity, economic well-being and general welfare of the state, and to preserve and enhance the natural scenic beauty or aesthetic features of the highways and adjacent areas.

Except as in this article otherwise provided, no person, whether engaged in the business of outdoor advertising or not, shall erect, use, maintain, post or display any advertisement or advertising structure in this state, outside of municipalities, without first obtaining a permit therefor from the Commissioner of the Virginia Department.

Field Investigation, Exploration or Recovery of Objects of Antiquity on a State Archaeological Site or Zone

Sections 10-150.1 through 10-150.10 of the Code of Virginia state that it shall be unlawful for any person to conduct any type of field investigation, exploration or recovery operation involving the removal, destruction or in any way disturbing any object of antiquity on state-controlled land, or on a state archaeological site or zone without first receiving a permit from the Virginia Historic Landmarks Commission.

Description of Additional Legal Authorities and Programs

None.

Uses Subject to Management and Policies Governing the Permissibility of the Uses

Recreational Campgrounds (including trailer camps)

Definition. Recreational campgrounds, by State Health Department's definition, include but not be limited to tourist camps, travel trailer camps, recreation camps, family campgrounds, camping resorts, or any other area, place, parcel or tract of land, by whatever name called, on which three or

more campsites are occupied or intended for occupancy, or facilities are established or maintained, wholly or in part, for the accommodation of camping units for periods of overnight or longer whether the use of the campsites and/or facilities is granted gratuitously, by a rental fee, by lease, by conditional sale or by covenants, restrictions and easements.

Policies (§32-6, 32-65, 35-18, 35-55, 35-73 and 62.1-47 of the Code of Va. and Virginia Health Department's Rules and Regulations Governing Campgrounds). It is the policy of the State:

1) To locate each campground on land which has good surface drainage and which is free of natural and man-made hazards such as mine pits, shafts, and quarries.

2) To allow camps to discharge sewage, sink waste water, shower waste water, or other putrescible wastes in such a manner as to enter the ground surface or subsurface, or a body of water only by means of a treatment device or process approved prior to construction by the Health Commissioner.

Seafood (shellfish) Processing Plants

Definition. Seafood processing plants mean any property or premises where shellfish are stored, processed, packed, or repacked prior to removal from the property or premises for sale or for storage in the fresh or frozen state.

Policies (§28.1-176 and 28.1-180 of the Code of Va. and Virginia Department of Health's Rules and Regulations Governing the Seafood (shellfish) Processing Plants).

1) Locate, to the extent feasible, in areas that are not subject to flooding by ordinary high tides.

2) Protect its wet storage area from sewage contamination.

3) Discharge its sewage into public sewer wherever possible.

4) Construct its private sewage systems in accordance with state approved standards if private sewage systems must be utilized.

Public/Private Sewage Treatment Works

Definition. Public/private sewage disposal systems shall mean all or any part of a device, mechanism or instrumentation designed and constructed to collect, receive and/or treat and dispose of sewage.

Policies (Section 62.1-44.19 of the Code of Va.). It is the policy of the State that all sewage treatment works shall be located and/or designed so that:

1) The plant's operational components shall be located at an elevation which is not subject to the 100-year flood/wave action or shall other be adequately protected against the 100-year flood/wave action damage. The plant shall remain fully operational during the 15-year flood/wave action.

2) The minimum degree of treatment provided shall be adequate to produce an effluent to comply with the requirements of the Department, the provisions of the State Water Control Law and Federal Law, and any water quality standards or effuent limitations adopted or orders issued by the

State Water Control Board. Where there is special stream usage, such as downstream waterworks, shellfish producing areas or recreational areas, or where there are unusual stream conditions, a higher quality of effluent may be necessary and the State Health Department may require a higher degree of treatment in a particular case.

3) The construction of waste treatment facilities or other waste treatment-associated appurtenances will not interfere with the existing wetland ecosystem except where no other alternative of lesser environmental damage is found to be feasible. In the application for such facilities or appurtenances, where there is reason to believe that wetlands will be damaged, an assessment will be requested from the applicant that delineates the various alternatives that have been investigated for the control or treatment of the waste water, including the reasons for rejecting those alternatives not used. A full economic appraisal of all alternatives should be included to the extent possible.

4) The most environmentally protective alternative will be made to protect the wetlands. The Virginia Institute of Marine Science, the Marine Resources Commission, and any other appropriate State or Federal agency will be consulted to aid in the determination of the probable impact on the pertinent fish and wildlife resources of wetlands. In the event of projected significant adverse environmental impact, a public hearing on the wetlands issue may be held to aid in the selection of the most appropriate action, and the Board may deny the issuance of discharge permit, and may recommend against the furnishing of appropriate State or Federal grant funds.

Power Generating and Transmission Facilities

Definition. Power generating and transmission facilities mean:

1) Power generating plants and associated facilities designed for, or capable of, operation at a capacity of 10 megawatts or more; and

2) Power transmission lines and associated facilities of a design capacity of 200 kilovolts or more.

Policies (§56-265.1 of the Code of Va.). It is the policy of the State that:

The State Corporation Commission must give consideration to the effect of (each) facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact.

Major Airports

Definition. Major airports and land fields mean any airport listed in the "Virginia Air Transportation System Plan" and any airport with a published non-precision or precision instrument approach.

Policies (§5.1-8 of the Code of Va. and the State Corporation Commission's Rules and Regulations Governing the Licensing of Airports). It is the policy of the State that:

A detailed consideration of the economic, social and environmental effects of the airport location shall be conducted in order to assure consistency with the goals and objectives of such planning as has been carried out by the community.

"Ambient Air" is that portion of the atmosphere which is external to buildings and to which the general public has access.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

The authority to control and abate air pollution in the state is vested in the State Air Pollution Control Board. The public policy and purpose of the Air Pollution Control Law of Virginia (Title 10, Chapter 1.2, Code of Virginia) is "to achieve and maintain such levels of air quality as will protect human health, welfare, and safety, and to the greatest extent practicable prevent injury to plant and animal life and property, will foster the comfort and convenience of its people and their enjoyment of life and property, and will promote the economic and social development of the Commonwealth and facilitate enjoyment of its attractions."

The law authorizes the Board to issue rules, regulations, and orders; to conduct inspections and investigations; and to compel compliance.

Rules, Regulations, and Orders

The State Air Pollution Control Board is assigned by law the authority to adopt rules and regulations for the purpose of abating, controlling, and prohibiting air pollution.

The Board's regulations cover several basic areas. The regulations include emission standards for various types of existing sources. There are also emission standards for new or modified sources and emission standards for hazardous air pollutants. The regulations also contain provisions for the handling of noncomplying sources and for a permitting process for new or modified sources.

The Board is also authorized by law to issue special orders in certain situations. These orders can only be issued after a hearing has been held.

Inspections and Investigations

The Board is authorized to conduct any inspections or investigations as may be necessary to fulfill the purposes of the law. The law also provides the Board with the right of entry to any property at reasonable times for the purpose of conducting necessary investigations. The law also requires every "owner" to provide any information which may be required by the Board in the discharge of its duties.

Permitting Process

Section 2.33 of the regulations of the State Air Pollution Control Board requires that no "owner or other person shall commence construction, reconstruction or modification of any of the following types of sources without first obtaining from the Board a permit to construct and operate or to modify and operate such source":

a. stationary source,

b. indirect source,

c. stationary source of hazardous pollutants.

Some limited exceptions are included in Section 2.33 Subsection 2.33 (d) contains the following "Standards for Granting Permits":

a. The source will be designed, built and operated without causing any violations of applicable portions of the Regulations.

b. Any stationary source will be built and equipped to comply with

any applicable standards of performance as specified in Part V of the Regulations and will be equipped with the best available emission control technology.

c. Any stationary source of hazardous pollutants will be designed, built and equipped to comply with any applicable emissions standards for hazardous pollutants as specified in the Regulations.

d. Any indirect source will be designed and built to operate without causing any violations of the ambient air quality relating to carbon monoxide.

e. The proposed operation of the source will not prevent or interfere with the attainment or maintenance of any applicable air quality standards.

The Board uses various methods in analyzing permit applications. An engineering analysis is conducted to determine the emission levels of the proposed development. In addition, computer modeling can be used to simulate the effects that a source will likely have on the ambient air quality of the area surrounding the source.

The processing time required for a permit is 90 days following the receipt of a complete application. This processing time includes a 30-day public comment period. There is also a provision for a public hearing. The Board will normally take final action on an application within 30 days after expiration of the public comment period unless more information is required.

One aspect of a new or modififed source review is not yet a part of the State process--the prevention of significant deterioration (PSD) permits. PSD permits are required of major new or modified sources in attainment areas.

The PSD review is for the purpose of preventing nondegradation of clean air areas. Virginia has already applied for delegation of authority to handle Virginia PSD permits, but at present they are still being handled by EPA. This situation is creating much delay in the procesing of PSD permits with some delays as long as six to nine months. It is hoped that the delegation of authority will be approved soon so that this situation can be rectified.

Compelling Compliance

The law provides that the Board can compel compliance with any rule, regulation, or order of the Board by injunction, mandamus, or other appropriate remedy. The law provides for civil penalties with a maximum of $25,000 for each violation and for criminal penalties with a maximum of $1,000 for each violation. In both cases, each day of violation constitutes a separate offense.

The administrative methods used to obtain compliance are:

1) Notices of Violation, in which the SAPCB outlines specific violations and requires the owners to take corrective action;

2) Consent Orders, in which owners and the Board agree on actions to bring about compliance, and

3) Special Orders, in which the Board requires compliance.

All of these administrative methods of compelling compliance are enforceable in court. Although the Board may seek to enforce its regulations directly through the courts if the seriousness of a violation so warrants, the usual procedure is to first use one or more of the administrative methods of compelling compliance. If these efforts prove to be unsuccessful, then legal

action may be initiated.

ADDITIONAL LEGAL AUTHORITY

No additional legal authority is proposed under the Coastal Resources Management Program to enforce the State's air quality management program.

USES SUBJECT TO MANAGEMENT AND POLICIES GOVERNING THE PERMISSIBILITY OF USES

Policies

It is the policy of the State:

1) to maintain compliance with the national ambient air quality standard with respect to attainment pollutants.

2) to prevent significant deterioration of the State's air resources.

3) to attain and maintain compliance with the national air quality standards for ozone.

4) to incorporate consideration of air quality impacts of land uses in local comprehensive land use plans.

5) to establish a continuing public education and participation program in order to acquaint the public with various issues and seek their input.

Uses Subject to Management

The following activities result in air pollution and are subject to regulation by the State Air Pollution Control Board:

a. the operation of fuel burning equipment utilizing coal, oil, gas, wood, or some other fuel;

b. the conduct of processing operations which result in emissions of air pollutants;

c. the conduct of incineration of waste materials;

d. the handling and storage of volatile organic chemicals;

e. the traffic generated by large new commercial developments, by large new multi-family residential complexes, or by new highways and airports.

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CHAPTER IV

SHORELINE EROSION

Chapter IV - Shoreline Erosion has been taken in its entirety from a Draft Report On Shoreline Erosion in the Commonwealth of Virginia which is being prepared by the representatives of the Virginia Institute of Marine Science, Virginia Polytechnic Institute and State University and the Middle Peninsula Planning District Commission for the Office of the Secretary of Commerce and Resources of the Commonwealth of Virginia. Only editing changes for consistency with document format have been made.

SUMMARY OF EXISTING LEGAL AUTHORITY, POLICIES AND PROGRAMS

Any attempt to understand or reconcile our present law concerning accretion and erosion would be incomplete without first examining the common law which is the historical foundation of current law and policies. The following definitions are useful as a starting point:

> Erosion - The gradual eating away of the soil by the operation of currents or tides.(1)
>
> Alluvion - That increase of the earth, on a shore or bank of a stream or the sea, by the force of water, as by a current or waves, which is so gradual that no one can judge how much is added at each moment in time.(2)
>
> Accretion - The act of growing to a thing; usually applied to the gradual and imperceptible accumulation of land by natural causes, as out of the sea or a river.(3)

Avulsion - The removal of considerable quantities of soil from the land of one man, and its deposit or annexation to the land of another, suddenly, and by the perceptible action of water.(4)

One authority states the general rule of accretion as follows:

Under both the common law and civil law, when a river occupies land by erosion, the landowner loses title. He gains if the river recedes. The law of accretion was adopted with the common law of England... passed by Congress.(5)

This section states the general rule quite well. The riparian owner generally loses title when his land is eroded and gains when alluvion is deposited by accretion. These basic principles were recognized in Shively v. Bowlly(6) and St. Clair v. Lovingston.(7) In St. Clair, an important distinction was made between avulsion and accretion or erosion. The English courts, in applying the principle of de minimus non curat lex(8) (the law does not care for trifling matters), set the stage for a distinction between gradual (trifling) changes and significant or avulsive changes. The U.S. Supreme Court addressed this issue in St. Clair v. Lovingston when they set forth the following judicial test for distinguishing gradual from avulsive changes in the shoreline.

The test as to what is gradual and imperceptible, in the sense of the rule is, that though witnesses may see from time to time that progress has been made, they could not perceive it while the process was going on.(9)

The distinction between avulsive action and gradual or imperceptible accretion or erosion is of critical importance. If accretion or erosion occurs, title changes; title does not change if avulsion occurs.(10) The

doctrine of avulsion has been largely overlooked in Virginia, but has not been neglected in other states. As applied in New York, the following two cases will illusrate the potential significance of the avulsion doctrine. In City of New York v. Realty Associates,(11) the court held that a riparian owner was not divested of title, even temporarily, to land lost by submergence caused by reason of avulsion. This doctrine was expanded by a 1975 case, Trustees and Freeholders of Commonalty of Town of Southampton v. Heilner(12), which held the "owner of land abutting a navigable bay has the right to reclaim land lost through sudden submergence, but not that part of the land lost through erosion."(13)

This doctrine of avulsion could have a significant impact if applied to its maximum extent as it was in Freeholders v. Heilner. For example, under the New York rule, a landowner who lost forty feet during a storm would not only retain title to the submerged lands, but would be allowed to reclaim the land taken by nature's action. Possible stumbling blocks to the application of such a rule could be Sections 62.1-1 and 62.1-3 of the VIRGINIA CODE(14) which gives the State jurisdiction over the beds of state waters. Careful reading of these statutes indicates, however that the State has jurisdiction over bottom lands owned by the Commonwealth. On this point there is little room for debate. The key principle on which a landowner could rely is that when the change is sudden or avulsive, title does not change. Therefore the Commonwealth does not own the beds land created by avulsive action and the State would not have jurisdiction under 62.1-1 and 62.1-3 over these newly created bottom lands. Conversely, when the loss of property is due to erosion, the gradual eating away of the shoreline, the state gains title and the landowner loses title.

The law of accretion and erosion is reflected in two Virginia cases. In

Chesapeake and Ohio Railway Co. v. Walker,(15) the court held that the appellant, as successor in title to a tract of land, was entitled to accretions to that property. In Steelman v. Field,(16) the court held:

> The increase of land adjacent to the seashore, derived from alluvial deposits, happening so gradually that the increase could not be observed while actually going on, although a visible increase took place from year to year, belongs to the owner of the land bounded upon the sea. The riparian owner gains accretion, whether by reliction; the gradual and imperceptible recession of the water, or by alluvion; the gradual and imperceptible accretion from the water.(17)

The court in Steelman reasoned that access to water was one of the values of riparian land and adoption of any other rule would deny the riparian owner access and destroy the riparian nature of the land. The court went on to hold:

> Section 3574 of the Code of 1819, (Section 62.1-2 of the current Code), in terms extends the rights of riparian owners of lands on bays, rivers, creeks and shores of the sea to low water mark, however, as this line may change either for the advantage or disadvantage of the riparian owner, low water mark remains his true boundary under the Virginia statute. The title of the Commonwealth to public waters likewise shifts with the shifting sands.(18, see also 19)

These two cases effectively demonstrate that Virginia has adopted the general rules of erosion and accretion as inherited from the common law of England. Virginia courts have yet to come to grips with the doctrine of avulsion, but the majority rule seems likely to prevail.

One additional doctrine merits discussion before advancing to specific

laws regarding Virginia's erosion problem. This is the doctrine of reemergence. An explanation follows:

> Where a landowner loses acreage to a navigable river by erosion, title to this acreage is transferred by law from him to the state or owner of the bed. If the river were to move in the other direction and replace the same acreage with accreted land, the landowner would obtain title by the doctrine of accretion. If the river were moved by an avulsive shift rather than by slow and imperceptible accretive movements, some jurisdictions recognize the "doctrine of reemergence," and hold that title to such land revests in its former owner.(20)

This rule is therefore the exception to the normal rule regarding avulsion. Normally, title does not change as the result of an avulsive action, but when an avulsive action recreates a former estate, title revests in the original owner. This doctrine is important to our study because when a lot (Lot A) erodes gradually away and is totally submerged, the next landowner behind this lost lot (the owner of Lot B) becomes a riparian owner and thereby receives an economic windfall. The question which is next posed is what occurs when accretions attach to Lot B and part of the land that was formerly Lot A is reformed. The answer suggested by the above passage is that if the reformation is a gradual accretion, title goes to the owner of Lot B, but if the deposit is the result of an avulsive sudden change the doctrine of reemergence will apply and the owner of Lot A can reclaim his reformed property. Obviously, because two conditions must be met (1) total erosion of Lot A; and 2) the avulsive reemergence of what was formerly Lot A), the doctrine of reemergence is seldom applicable, and no instance of its application has been found in Virginia law. Its existence should nevertheless be noted.

SHORELINE EROSION POLICY IN VIRGINIA

Many states have passed legislation and shown a willingness to spend large sums of money to combat erosion. An analysis of Virginia law has been conducted to determine what, if any, legislative action has been taken.

Despite the fact that erosion is a serious problem in Virginia, the Commonwealth has taken little action to remedy this increasingly costly problem. Analysis of Virginia law reveals that statutory liability has not been imposed against those causing shoreline erosion. There are four sections of the Code of Virginia which deal with the erosion problem. The Shore Erosion Control Act (21), presented below is basically a statement of policy.

Article 2.2 Section 21-11.16

> Declaration of policy. The shores of the Commwealth of Virginia are a most valuable resource that should be protected from erosion which reduces the tax base, decreases recreational opportunities, decreases the amount of open space and agricultural lands, damages or destroys roads and produces sediment that damages marine resources, fills navigational channels, degrades water quality and, in general, adversely affects the environmental quality; therefore, the General Assembly hereby recognizes shore erosion as a problem which directly or indirectly affects all of the citizens of this State and declares it the policy of the State to bring to bear the State's resources in effectuating effective practical solutions thereto. (1972, c. 855)

The act also gives the Virginia Soil and Water Conservation Commission responsibility to coordinate shore erosion control programs and authorizes the

Commission to hire one shore erosion engineer to assist in carrying out these programs. Two things should be noted about this statute. First, it is simply a statement of policy; it contains neither organizational nor enforcement provisions. Second, no funds were appropriated to hire the shore erosion engineer.

One year later another Virginia statute, the Erosion and Sediment Control Law,(22) delegated responsibility to the Virginia Soil and Water Conservation Commission to create an erosion and sediment control program. The act calls for the Commission to cooperate with soil and water districts and local governments in developing a statewide coordinated erosion and sedimentation program. The statute, however, specifically excludes tidal shore erosion control projects approved by the Marine Resources Commission from coverage. A review of this legislation and the guidelines promulgated by the Soil and Water Conservation Commission indicates that the law is intended to address the problem of upland erosion and sedimentation rather than the particular problem of shoreline erosion in coastal areas. Thus, Virginia is still without a comprehensive statewide approach to the coastal erosion problem.

The Code of Virginia further authorizes the creation of the Virginia Beach Erosion Commission to deal with shoreline problems in the Virginia Beach oceanfront area.(23) The Commission has addressed the beach stability problem by implementation of an extensive beach nourishment program.

In 1977 approximately 285,000 cubic yards of sand were used to stabilize the Virginia Beach shoreline. 160,000 cubic yards of this sand was pumped from Rudee Inlet, and the remainder trucked in from Fort Story. This massive beach nourishment program was carried out on a budget of $945,000. Of this money, $150,000 was a direct appropriation from the General Assembly.(24) The Army Corp of Engineers provides 50% matching funds for new source materials to

be applied to the shoreline. The remainder of the funds came from the "sand tax" which is levied by the city on the resort (hotel/motel) shoreline owners. Under this special tax scheme, the monetary burden of financing shoreline protection is placed on those who benefit most from the program. The money collected is not spent solely on shoreline nourishment, however. Other programs funded by the Virginia Beach Erosion Commission include offshore surveys and channel maintenance. One significant problem looms on the horizon for Virginia Beach; the sand stockpile at Fort Story is virtually depleted and an alternative sand source must be found if the nourishment program is to continue as in the past.

Norfolk has also received a $90,000 appropriation from the General Assembly. The Community Improvement Department of the City of Norfolk is charged with responsibility for these funds and for development of an effective erosion plan. Current plans include a channel bypass feasibility demonstration to be conducted at the Little Creek Channel, beach nourishment, (similar to the Virginia Beach Program), an analysis of long range sources of sand, and the development of long range strategies to deal with the overall shoreline erosion problem in Norfolk.(25)

In 1978 the Coastal Erosion Abatement Commission was formed(26). The Commission, which has both legislative and citizen members is to study on the effects of erosion on the beaches, islands and inlets of the Commonwealth and shall make such recommendations as are deemed necessary to prevent the further destruction of these valuable natural resources. The Commission is scheduled to complete its study and report its findings to the Governor and the General Assembly no later than December 1st, nineteen hundred seventy-nine.(27) The work of this Commission and the recommendations made by them may well represent the future of Virginia's shoreline erosion laws.

The final legislative action examined was the passage in 1960 of section 15.1-31 of the Virginia Code which has significance in terms of liability of the state and its subentities for actions taken to control erosion. According to this section:

(a) Any county, city or town may construct a dam, levee, seawall or other structure or device.....the purpose of which is to prevent the flooding or inundation of such county, city, or town, or part thereof.

(b) The General Assembly withdraws the right to bring....any action at law or suit in equity against any county, city, or town because of, or arising out of the design, maintenance, performance, operation or existence of such works.....but this provision shall not be construed to authorize the taking of private property without just compensation.....(28)

Erosion can cause flooding and inundation, and action taken to control erosion may arguably fall within the purview of this provision. Any ambiguities regarding this section may be resolved by the simple addition of the word "erosion" to the enumerated hazards of flooding and inundation. This freedom from tort liability could also be made available to a broader group of state subentities by simple amendement. Any changes to or interpretations of this section must be consonant with Article I, section 11 of the Virginia Constitution prohibiting taking or damaging of private property for public use without just compensation.

FEDERAL PROGRAMS

A survey of applicable Federal law pertaining to shoreline erosion is important when considering development of a state erosion plan. Several Federal agencies have addressed the problem and are currently involved with the shoreline erosion problem on a national scale. These agencies include: The Office of Coastal Zone Management in the National Oceanographic and Atmospheric Administration (NOAA), as administrators of the Coastal Zone Management Act of 1972 (CZMA as amended in 1976)(29); the United States Army Corps of Engineers(30); the National Flood Insurance Administration (NFIA); and, to a limited extent, the Small Business Loan Administration. These agencies' actions and policies concerning shoreline erosion will be discussed in the order they are listed above.

One of the paramount considerations when adopting a state erosion program should be compliance with Section 305(b)(9) of the CZMA. Satisfaction of the Section 305(b)(9) guidelines is a condition precedent to qualification for Federal funds to implement a state coastal zone management plan.

Those shoreline areas identified as Geographic Areas of Particular Concern, as erosion hazard areas must meet the requirements of Section 923.21:

Sec. 923.21 - Areas of Particular Concern

For areas designated as GAPC's a state must:

1) 'Describe the nature of the concern and the basis on which designations are made.'

2) 'Evaluate areas of <u>significant hazard if developed</u>, due to storms, slides, floods, erosion, settlement, and saltwater intrusion, to

determine if such areas should be addressed by a special management program (GAPC).

3) Describe how the management program addresses and resolves the concern on which such a designation is based.'

4) 'Provide guidelines regarding uses in the designated areas, including uses of lowest priority,' in order to:

a. 'provide an adequate basis for special management in areas of particular concern,' and

b. 'provide a common reference point for resolving conflicts.'

5) GAPC's must be designated in sufficient detail 'so that effected landowners, governmental agencies, and the public can determine with reasonable certainty if an area is or is not designated' (maps are suggested).(31)

The United States Corps of Engineers Beach Erosion Control Program is another Federal program which concerns the shoreline erosion problem. A thumbnail sketch of the Corps involvement in shoreline erosion appears below:

Sec. 426e - Federal Aid in Protection of Shores and Declaration of Policy (Condensed from 33 U.S.C. 426 et seq.)

1) Policy - "With the purpose of preventing damage to the shores of the United States and promoting and encouraging healthful recreation of the people, it is the policy of the U.S. to assist in the construction, but not the maintenance, of works for the restoration and protection against

erosion by waves and currents, of the shores of the United States."

2) Federal Contribution

a. In the case of any project the Federal contribution shall not exceed one-half of the total cost of the project.

b. In the case of projects for restoration and protection of publicly owned parks and conservation areas, the Federal contribution may be as much as 70 percent of the total costs (exclusive of land costs), when such areas:

1. Include a zone which excludes permanent human habitation;

2. Include but are not limited to recreational beaches;

3. Satisfy adequate criteria for conservation and development of natural resources;

4. Extend landward to include protective dunes, bluffs, or other natural protective features where appropriate.

5. And provide essentially full park facilities for public use.

c. All of the requirements of (b) above will meet with the approval of the Chief of Engineers.

d. Federal participation in projects providing hurricane protection may be not more than 70 percent of the total cost exclusive of land costs.

3) Definition of "construction"

a. When the most suitable and economical remedial measures would be

periodic beach nourishment, the term 'construction' shall be construed to include such artificial supply of sand.

4) Shores other than public will be eligible for Federal assistance if:

a. There is benefit such as that arising from public use;

b. There is benefit from the protection of nearby public property; or

c. If the benefits to those shores are incidental to the project; and

d. The Federal contribution shall be adjusted according to the degree of such benefits.

Allotment to States, Localities

1) Not more than $1,000 shall be alotted for any simple project (Sec. 426g).(32)

The policies outlined above indicate that only shoreline projects which benefit public lands are eligible for Federal assistance. The Corps is quite active in the field of shoreline erosion and has developed considerable expertise in this particular area of coastal zone management. In addition the U.S. Corps of Engineers is authorized (Section 55, Public Law 93-251, Water Resources Development Act of 1974) to provide technical advisory services to any duly authorized agency of any State, county, city or subdivision thereof. While these services do not include funding of structural or non-structural controls, technical advice and comment on engineering design is supplied. If the costs of technical services exceed $3,000, the District level authority

must secure Division level authorization.

The Federal Insurance Administration is involved, although to a more limited extent with the erosion problem. Compliance with the requirements of the Flood Disaster Protection Act of 1973, which amended Section 1302 of the national Flood Insurance Act of 1968 to extend flood insurance coverage to "damage and loss resulting from the erosion and undermining of shorelines by waves or currents in lakes and other bodies of water exceeding anticipated cyclical levels", must also be considered. This language has caused technicians some difficulty as it is difficult to determine what constitutes "anticipated cyclical levels". This difficulty has in fact hampered development of practical regulatory and insurance policies.(33)

Section 1910.5 of the National Flood Insurance Program proposed a set-back requirement for lands designated as type E zones by the Administrator of FIA. The FIA has been unable to develop useful guidelines for determining when erosion damage is covered, and therefore this section has not achieved any of the goals which Congress had intended in the legislation amending the Flood Disaster Protection Act of 1973. This standstill in development is confusing and difficult for both technicians and for communities seeking the protection that the FIA was mandated to provide.

Recent discussion with FIA officials indicates a desire to repeal the V (coastal high hazard area) and the E zone (special flood-related erosion hazard area) provisions of the Flood Disaster Protection Act of 1973, as amended.(34) Officials indicated a desire to place the erosion provision in another program, possibly the Coastal Zone Management Program. One may place some significance on the fact that to date no E zones have been designated by the administrator.

A study was recently completed (June, 1978) by the Great Lakes Basin Commission Standing Committee on Coastal Zone Management.(35) Because of the difficulties in implementation the FIA has been experiencing, the study recommends repeal of the erosion coverage sections of the Flood Disaster Protection Act, and that a national program be established to provide financial assistance for state level implementation of erosion plans developed pursuant to Sec. 305(b)(9) of the Coastal Zone Management Act. A brief summary of the study is included in Appendix IV-A.

The Small Business Administration makes low or no interest loans available following storm related damage. In order to be eligible for this relief a designation as a disaster area must be declared. An assessment of damage by the Governor and, in some cases, a follow up by the President is necessary, but the potential availability of such funds should not be overlooked.

MANAGEMENT STRATEGIES -

POSSIBILITIES AND CONSTRAINTS

ELEMENTS TO BE CONSIDERED IN FORMULATING STRATEGY

A number of input elements are required before any particular management strategy can be reasonably selected for any reach of coastline under consideration. These are:

1) A statement of the erosion induced problem,
2) A clear statement of the management goal(s) for that reach.
3) A complete technical assessment of the options for structural and non-structural treatment and a statement of the trade-offs within and among options,
4) An assessment of the costs and benefits of the various technical options in the light of current and projected or planned land use characteristics, and
5) An assessment of possible mechanisms to fund the mitigation program. These institutional considerations include the distribution of costs between private and public sectors.

Of course the resolution of the legal issues involved in various strategies is critical to successful management. The remainder of this section discusses these elements.

Statement of the Erosion Induced Problem

The erosion induced problem may differ appreciably for different reaches within the same region. However, the underlying cause of the problem is an erosion rate which is perceived as intolerable; property improvements may be

jeopardized. In another reach the erosion rate may be so high (greater than 2 feet per year) that regulation of building activity in that hazard zone is deemed necessary. In another reach, shoreside tourist facilities and/or the beach itself, the keystone of the system, may be eroding.

Management Goals For A Reach

The management goal(s) may be framed in terms of the principal effects of erosion:

1) To reduce, eliminate or prevent the victimization of existing or future property owners of the loss of property property improvements, and productive use of property due to erosion,
2) To reduce the loss of taxable lands within localities.
3) To reduce the influx of erosion products into the estuarine system and its flanking tidal entrances, and
4) To maintain a supply of sand to beaches fringing the Bay system and the ocean shoreline.

Certainly other management goals may be stated; however, these goals must be viewed as the principal goals of the total program. Not all goals will have equal weight for any given reach. In fact, satisfaction of all of the goals for any reach is not likely as some are mutually exclusive.

Technical Assessment of Options

The technical assessment for options within a reach involves five principal elements:

1) Determination of the limits of the reach. A reach is a segment of shoreline wherein the erosion processes and responses are mutually interactive. Appreciable littoral sand supply, for example, would

not pass the boundaries of the reach. Another way to define a reach would be to say that a reach is a shoreline segment wherein manipulation of the shoreline within that segment would not directly influence adjacent segments.

2) Determination of the rates and patterns of erosion and accretion within the reach.

3) Determination within the reach or the sites of erosion induced sand supply and the volumes of that sand supply for incremental erosion distances. Also determine the sand volumes lost from the reach.

4) Determination of the direction of net littoral drift, and, if possible, estimatation of the magnitude of gross and net drift rates.

5) Estimation of erosion causing factors other than wave induced, such as ground water or surface runoff.

The importance of these five elements can be illustrated by considering an example. Suppose we have a shoreline reach in which one-half is an eroding bluff containing a high percentage of sand and there is a strong net littoral drift such that as erosion of the bluff proceeds, the sand supplied by erosion acts to supply beach materials to the downdrift beaches which may also be eroding. This case nicely illustrates the interactive nature of processes within a reach since the erosion of the bluff supplies sand to the beach fronting the bluffs as well as the downdrift beaches in the same reach. The sand supply, in turn, retards the erosion rate by at least partially maintaining the beach. These elements are cornerstones in the evaluation of various options. For example, if the decision were made to stop erosion of the bluff with, let us say, the installation of a riprap revetment, that action influences the options remaining for the remainder of the reach. For example, the installation of a groin field in the downdrift portions of the reach would be a marginally effective action, as the sand supply required for

their proper function would be starved by preventing continued erosion of the sandy bluffs. It is this type of interactiveness between components of the reach which must be considered in the formulation of options.

Economic Assessment of Costs and Benefits-An Economic Decision Framework

The objectives of the economic assessment methodology is to estimate those costs and benefits which are necessary for a comparison of alternative erosion control strategies. Alternative strategies include both structural and non-structural measures as well as a no-action strategy. The methodology provides for an assessment of benefits and costs on the basis of a shoreline reach.

Control measures may have an impact on benefits and costs in three different shore areas. These areas are:

1) Shore zone - a buffer between the water body and the fastland. The seaward limit is essentially the mean low water line which generally separates the steeper slope of the foreshore from the low tide terrace of lesser slope. The landward limit is the fastland which is generally discernable by a topographic feature such as a bluff face or upland vegetation.
2) Nearshore zone - the nearshore zone extends seaward from the shore zone to the 12-foot contour.
3) Fastland zone - the zone extending from the landward limit of the shore zone is termed the fastland. Fastland is relatively stable and is the site of most material development and construction.

Calculations of costs and benefits should include the impact of controls on each of these areas. Either private or public entities may incur costs and accrue benefits. Therefore, total costs and benefits are calculated with a

secondary breakdown between private and public entities.

Costs

For each shoreline reach, an assessment of options was made by shoreline erosion technical experts. Appropriate structural control measures were proposed. Structural controls include measures or combinations of measures from the following general categories:

groin fields	riprap revetments
bulkheading or seawalls	perched beach
contouring of the fastland	jetties at inlet entrances

Costs of implementing the proposed structural control measures were based on standard cost guides with costs in present dollar values. For activities such as dredging and beach nourishment, continuing expenditures were discounted to a present value.

Another cost factor assigned to costs of structural controls was the cost of technical assistance. This type of assistance was provided by shoreline technical experts and includes:

1) work of technicians, including the measuring of erosion rates, interpreting maps and photos and tabulating data,

2) scientific analysis including field, laboratory and office work using data from 1 above, and

3) general oversight for technical aspects of erosion control programs.

In addition to the impact on the value of property and improvements in the fastland zones, structural measures may result in impacts in both the shore and nearshore zones. The impact on costs are generally described as the changes in opportunity to use a resource - in this case a change in the flow

of service from the water based activity. These activities include:

1) change in water quality,
2) change in fish and plant resources,
3) marina locations,
4) restrict or change recreation uses,
5) shellfish harvest,
6) congestion of waters, and
7) change in potential flood damages.

With the exception of information on dredging and beach replenishment, measurements of the impact of control measures on the nearshore and shore areas were unavailable. The placing of values on these impacts was outside the scope of this study. Therefore, only limited information for these activities can be included in the analysis.

A second set of costs were derived from estimated decreases in values of property and improvements or losses from restrictions on use of resources because of implementation of selected non-structural control measures. Non-structural controls include the following categories:

1) ownership restrictions - such as public acquisitions, easements, etc.,
2) regulating actions - such as permitting, zoning, setback lines, etc.,
3) relocation - this measure involves relocation of major structures
4) financial incentives - such as taxation, low interest loans, grants, etc., and
5) insurance programs.

Values are calculated for each reach on the basis of a "without" and "with" approach. That is, values for resources and their uses were estimated for the

current situation and compared to their values after implementation of a control measure.

The third set of costs were those associated with transaction and administration activities involved in the actual implementation and control program. Cost categories include:

1) ownership restrictions (includes relocation),

2) regulatory action,

3) financial incentives,

4) data collection/planning, and

5) educational assistance.

Where appropriate, legal costs and the cost of administering compensation programs were included. These costs as with the first two sets are calculated as an average for a reach.

Administrative and transaction costs for an ownership restriction or regulating action program were based on implementation and control of that program for a shoreline reach area. Likewise costs were calculated for administering a financial/incentive program which included grants, taxation, loans, and insurance programs.

Costs of data collection/planning/research include necessary activities to allow for a comparison of benefits and costs of alternative management strategies. This category included costs of collection of real estate and assessment data, land use information, calculation of changes in values of property and improvements and land uses in each shoreline reach area, and costs of analyzing the impact of various control strategies on costs and benefits.

This third set of costs should be extremely important to the process of making comparisons between various levels of jurisdictional control over management strategies.

Benefits

Benefits from erosion control measures may accrue in all three shore areas - the shore zone, nearshore zone and fastland zone. However, as with the cost calculations, only limited "information" exists for the impacts in the shore and nearshore zone. Benefits associated with dredging and beach replenishment were included for the shore zone. Benefits from accretion and the flow of services from water-borne activities were excluded because information on those activities was not readily available.

Onshore benefits of structural control measures were derived by applying a "without" and "with" control analysis. Benefits were derived by calculating future erosion damages which would be prevented by implementing erosion control measures. These benefits are calculated for four categories:

1) land use (productivity)
2) buildings and structures
    a. dwellings
    b. other buildings on land (sheds, garages, barns, etc.)
    c. structures on water (piers, docks, boat houses, etc.)
3) property values (land minus improvements)
4) loss of tax revenue

Other damage reduction benefits may result from reduced disaster payments, reduction in damage from as storm surge, flooding, tidal action, etc. To the extent information was available, these benefits were included in the analysis. In those cases where an erosion control program reduces

administration and transaction costs of another program such as the insurance program, those reduced costs were included as benefits to this program.

Establishing Values for Current Situation

Evaluation of the impact of erosion control strategies on value of property (including improvements) and uses of that property for each individually owned parcel was based on the value of those resources in a status quo state (that is, let erosion continue without additional control measures) compared to the value with control strategies. Therefore, values for the resources in the identified impact area were established as the basis for calculation of impact costs and benefits.

For purposes of this study, the value of property and improvements of individually owned parcels was determined for both a 100-foot and 200-foot depth frontage a 10-year, a 15-year, a 30-year, and a 67-year erosion rate area and then consolidated for each identified reach. These six alternative impact areas will allow a decision maker to compare the magnitude of costs and benefits of various management strategies. The six alternatives were selected because the 100-foot and 200-foot depth frontage are commonly suggested management strategies. Also recent erosion rates are approximate indicators of future erosion rates for 10, 15, and 30-year periods and many control structures are amortized on those years of useful life. Likewise 67-year erosion rate has been suggested for use in the federal flood insurance program. The 67-year period is based on the average useful life of residential structures.

Establishing Impact Values for Insurance Programs

Discussions with Federal Insurance Administration (FIA) officials indicate a desire to repeal the V zone (coastal high hazard area) and the E zone

(special flood-related erosion hazard) provisions of Flood Disaster Protection Act of 1973, as amended, and place those provisions into another program, possibly the Coastal Zone Management Program. Day-to-day erosion and bluff type undercutting would be excluded from the FIA program. Overwash-type erosion flood problems or unanticipated recession of the shoreline where erosion is associated with inundation would be covered under the normal flood disaster program. That insurance covers structures and contents of those walled and roofed structures but generally does not cover boat houses over the water. Land is excluded because is is generally not tied to disaster relief. Docks and appurtenant structures are not covered.

In addition to the option of removing erosion from the program, four other options are suggested for consideration. The four options are:

1) total prohibition of new construction in erosion hazard areas,
2) setback requirements within erosion zones,
3) no insurance zones as an alternative to setback requirements, and
4) moveable structures and buffer zones.

This study acknowledges that a difference in insurance rates may be tied to erosion characteristics or erosion control practices. Also, insurance rates are directly related to structure evaluation and flood proofing. Because the insurance rate structure (both subsidized and actuarial) is dependent on many variables, unknown at this time, no attempt was made to calculate those differences or the cost and benefits of flood proofing and structure elevation which will remain as part of the provisions of the traditional flood insurance program.

Nevertheless the established values for property and improvements were used to provide sufficient information as to the probable impacts of the

proposed insurance alternatives.

Use of Costs and Benefits in Evaluation of Management Strategies

The calculated costs and benefits values were consolidated into a summary budget for each study reach. Detailed procedures for construction of the budget is explained in Appendix IV-A. The compilation of the costs and benefits into the summary budget provided the basis for making the following comparison for each shoreline reach:

1) between no-control (continue as is) and selected control measures for selected areas,
2) between various levels of control as represented by the proposed options for each reach,
3) between structural and non-structural control measures, and
4) distribution of costs and benefits between private and public sector.

An important constraint and limitation to the analysis is the current inability to relate cost for each level of control (the marginal cost) to the benefits for each level of control (the marginal benefit). That analysis is needed before the optimal level of control for each area can be determined. Our analysis does, however, provide reasonable estimates for selected levels of control.

A secondary use of the consolidated figures on the value of resources in a status quo state within each reach and for each depth area or year zone was to provide a comparison of the magnitude of costs and benefits involved in various policy actions. For example, costs and benefits were calculated for impacts from such proposed insurance related practices as total prohibition of construction in an area, open space requirements, setback requirements and relocation costs.

Evaluation of Policies on Management Strategies

The consolidated budget figures also provide necessary cost and benefit data for use in making a policy decision on the best management strategy. Costs and benefits on the basis of total costs and benefits and between private and public entities can be allocated amongst various management strategies which are based primarily on the level of jurisdictional authority and control.

POTENTIAL INSTITUTIONAL MECHANISMS

A variety of public and semipublic tools exist for dealing with local land use problems and environmental concerns. These tools, described individually in the following section, can be grouped in several broad categories: direct ownership and control; use regulation; incentive measures; and educational/advisory services. It should be noted that in the case of public actions other standards become relevant in assessing appropriateness. These include principles of: 1) equity in the distribution of public costs and benefits; 2) maximized administrative efficiency and coordination; and 3) maximized return on investment except where superceded by the public need.

Among institutional options available for targeting the structural and non-structural control measures to local needs would be included the actions of local, state, and federal governments; quasi-public organizations (e.g., universities, special districts, and nonprofit corporations); private collectives (e.g., property owner associations); and private individuals; as well as various combinations of these groups. An outline of the options follows.

Public Ownership

Full or partial public ownership of land (and/or structures) offers the most direct means of managing erosion-prone shorelines. Outright ownership of erodible property would basically insure full control of development, plus proper construction and maintenance of shoreline structures in these areas. But it is a limited approach. In the case of property acquisition, major limiting factors include purchase costs of the property and selection of a party to be responsible for the property.

Funds for selective acquisition of shoreland areas could be raised either through an earmarked appropriation from the state's general fund, or through solicitation of funding from foundations (e.g., the Nature Conservancy). In the case of appropriation, a state funding priority scheme favoring shoreline preservation would need to be developed.

A related approach in developing shoreline areas is that of mandatory and/or voluntary dedication of public easements or property. Local governments are already empowered to require land dedication for public use as a condition of subdivision plat approval. Under Delaware's erosion control program, for example, the State will fund a shoreline stabilizing project if the property owners agree to allow access to the once private beach (Del. Code Ann. 6801 et seq.).

Voluntary dedication of easements or property would also be solicited for acceptance by third parties as gifts to be held in public trust, in combination with some of the regulatory and tax incentive tools discussed later in this section. It should also be noted that federal assistance for erosion control under the U.S. Army Corps of Engineers Beach Erosion Control Program (33 U.S.C. 426e et seq.) is only available for projects which benefit

public use of shore property. Appropriate holding bodies for such properties could include special purpose federal, state, or regional authorities, local or regional special districts, quasi-public organizations or public trusts, state agencies, and the like. Authorization for cooperation among local governments in such activity is provided by the "joint exercise of powers" provision of the Intergovernmental Cooperation Act of 1972. Federal Title V commissions such as the Coastal Plains Regional Commission provide a model for interstate cooperation.

Regulation and Use Restriction

Regulation of shoreline uses could take the form of several existing land/water use management models. A key design value would be the avoidance of new regulatory machinery where possible. Regulatory approaches hold greater promise in the case of hazardous shorelines (GAPCs) where the police power can be invoked.

Zoning is the basic tool provided to local governments for regulation of future land uses. Enabling legislation currently allows local governments to establish zones within which minimum setbacks may be required, and also to establish special conditions for the development and use of environmentally-sensitive lands. The limiting factor in the shoreland zoning approach is the degree of dependence on state agencies created for information about local erosion rates. The federal Flood Insurance Administration has recently suggested several variants of shoreland hazard zones with boundaries determined by multiplying average useful lives of shoreline structures by the predicted local shoreline erosion rate. Within the zone, (a) future uses would be limited to open space, or else (b) specified "no-construction" setbacks would be created, inside of which new structures would either be prohibited or allowed only if capable of being relocated. The City of

Virginia Beach has adopted specific building regulations applicable to areas subject to coastal storm flooding and wave action.

Subdivision and/or site plan review ordinances represent companion tools to local zoning ordinances more directly focused on construction standards. Subdivision regulations (now required of all Virginia localities) apply to land division and transfer, and allow localities to: 1) review plats for consistency with established standards for erosion, drainage, and flood control; 2) require dedication or rights-of-way or land for public use as a condition of plat approval; and 3) reserve lands for future public acquisition on the basis of approved plans for public facilities. Authorization by the General Assembly to extend power of contract zoning (conditional rezoning) to all local governments in the coastal zone may provide an important supporting measure, allowing these governments to negotiate with developers and produce binding agreements on specific uses to be permitted in particular districts. Assistance in assessing possible impacts of (or hazards to) various uses would need to be provided by the state or other sources, however.

Public acquisition of development rights allows the imposition of various forms of use restriction. One of the more frequent applications of the principle has been in the case of historic or scenic easements, where property owners agree to transfer certain development rights to the public while retaining ownership of the property. A more elaborate approach involves the creation of housing and redevelopment authorities, empowered under special legislation to purchase, clear, and return to market land at somewhat reduced value and with use restrictions. Authorization can also include provisions for design and construction of protective measures. Use of this device for the management of hazard areas specifically might require some clarification of the enabling legislation, but the most critical factors would probably be

funding and staff. In Virginia, such authorities have functioned well only when federal funding has been available and in limited, intensively-developed areas where high costs of operation are balanced by high returns in the form of hazard or blight reduction.

Virginia's wetlands legislation provides another regulatory model generally relevant to the erosion problem. Under the legislation all local governments in Tidewater Virginia are authorized to adopt wetlands zoning regulations for specified wetlands areas and to establish local wetlands board with permit issuance authority over uses within these areas. Permit decisions of local wetlands boards are subject to review and override by the Virginia Marine Resources Commission (VMRC), and, in areas where local wetlands ordinances are not adopted, the VMRC retains direct control of wetlands uses. Variances for demonstrated hardships are permitted, as in the case of conventional zoning.

The regulatory jurisdiction of the VMRC also extends to activities upon subaqueous land, and provides still another regulatory framework. Under the State Code, the VMRC administers a permitting/leasing program for all uses of state-owned subaqueous land not specifically exempted, with provision for limited environmental impact assessment in coordination with the Institute of Marine Science and other advisory agencies of proposed actions.

Incentive/Disincentive Measures

Incentive measures for managing erosion-prone shorelines could include various combinations of grants, cost-sharing, and preferential tax, loan, and insurance policies closely tied to the regulatory and advisory approaches described elsewhere in this section. Maryland's Shore Erosion Control construction fund (which offers long-term, interest-free loans for

construction of control structures) is one example of direct incentive approach. However, such programs might foster the individual piecemeal approach. The erosion abatement district option discussed earlier provides an example of an incentives package while maintaining the benefits of treating an entire reach.

Another approach would involve the adoption of enabling legislation authorizing local governments to design, construct, and maintain shoreline defense structures on a shoreline reach basis, through creation of erosion abatement districts with limited bonding power. Under this approach, shoreline property owners would initiate requests to their local governments to create such a district, as in the case of present soil and water conservation districts under the Erosion and Sediment Control law. The local government would then be authorized to issue special two-way bonds for financing of the construction of suitable erosion abatement structures for the district and to assess individual property owners along the shoreline for the purpose of repaying the bonds and financing maintenance costs. Several coastal states use this approach to finance local erosion projects. (See Florida, Connecticut, Maine, Maryland as examples). A number of variations on this basic scheme are possible.

Incentives should be designed to encourage nonconflicting uses of the shoreline, as well as (a) replenishment (where considered feasible and necessary) of eroding shorelines and (b) proper installation and maintenance of control structures. One major problem area is the present system of property taxation, which in effect tends to encourage transfer and development of shorefront property rather than retention in low-intensity use or improvement in the form of flood-proofing or erosion defense. Local assessment of low-intensity shorefront land as commercial property, for

example, now has the effect of forcing conversion to that use, since the carrying costs of holding the land in any lower use will be prohibitive. Property tax exemptions and/or income tax credits for improvements to property in hazard areas could be offered, although these measures alone would probably not be sufficient to offset the true "costs" of improvements to property owners (or even retention in nonproductive use) since such improvements would seldom enhance the property's market value. This problem might be attacked more directly through broadening of the present land use assessment law to take into consideration raw land and use of structures as well as productivity of land.

Educational/Advisory Services

Educational and advisory services would constitute a key component of any erosion abatement program. Educational activities dealing with the erosion problem in large would need to be targeted separately to the general public and to officials, by means of meetings, brochures and newsletters, audiovisual packages, and other media. Some form of training/advisory program for local officials and program staff would probably be essential, along with the development of management guidelines for use in local planning and permitting activities.

Advisory services to current and prospective shorefront property owners would remain an important element of an overall management program, and might be expanded to include development of state-of-the-art design and construction guidelines for marine contractors. Advisory services to private property as well as public bodies, are now available from the Virginia Institute of Marine Science and the Soil Conservation Service (USDA). The U. S. Corps of Engineers provides advice as well, upon request of duly authorized state and local agencies. One major addition to these existing services could be the

establishment of a mandatory risk alert system, in which property title transfer would be preconditioned on acknowledgement of a shoreline property's erosion to the prospective owner. Lack of knowledge of risks has been a chronic problem producing both unnecessary liabilities in the form of shoreline improvements and poorly-designed remedial/protective structures which often increase the erosion threat to properties throughout the reach.

RECOMMENDATIONS

It is recommended that:

1) Legislation be enacted which requires that the transfer of shoreline property be conditioned so that the prospective buyer signifies his awareness of the erosion rate of the property in question by requiring formal acknowledgement of that awareness.

2) It be the policy of the State to encourage the treatment of shoreline reaches in shore erosion mitigation measures as opposed to individual lots. Furthermore, any programs of public cost sharing should be restricted to reach comprehensive measures.

3) It be policy of the State to augment the development and implementation of a public education program on tidal shoreline erosion.

4) The State enhance its program of technical advisory services to private property owners, municipalities and counties.

5) The State should enable local governments to establish minimum setback lines along those shoreline segments designated as hazardous, shoreward of which new construction would be prohibited, restricted according to type of use, or allowed by permit with such conditions attached thereto as deemed appropriate by local governments.

"reach" "authorize and direct"

6) The State should enable local governments to establish erosion abatement districts wherein the locality would be empowered to issue financing with assessments borne by the individual property owners in the district.

7) It be the policy of the State to encourage the development of comprehensive plans and local regulations which direct future development away from erosion hazard areas.

8) The State adopt the policy of not providing funding in undeveloped erosion hazard areas for provision of public services (water, sewer, etc.) unless a comprehensive erosion plan, possibly including setbacks and/or structural controls, has been completed along the reach. The approval of such a comprehensive erosion abatement plan would include, among other things, consideration of the degree to which the plan has minimal adverse effect upon the ecological, economic, aesthetic, and recreational values in the area.

9) The final designation of the erosion hazard areas be made by the State through a comparison of aerial photographs obtained at least 25 years apart. The recent photography should be newly acquired as part of the program implementation. Evaluation of the hazard zone should be based on the retreat of the fastland edge (either bluff line or vegetation).

10) The construction of erosion control structures should be placed under the review of suitably trained inspectors so as to insure the use of appropriate construction techniques and materials.

ADDITIONAL LEGAL AUTHORITIES AND PROGRAMS NECESSARY FOR IMPLEMENTATION

To implement the previously stated recommendations, a number of specific public policy actions by the State can be suggested here. In the following list, recommendations are reordered slightly simply to highlight areas of linkage under existing legislation and also to present the recommendations in the form of a broad agenda for action in establishment of a State coastal erosion abatement and impact mitigation program.

A basic question arising from current State policy concerns the designation of a lead agency to direct such a program. Article 2.2, section 21-11.16 of the State Code ("Declaration of Policy," Shore Erosion Control Act) assigns broad responsibility to the Virginia Soil and Water Conservation Commission for coordination of shore erosion programs. To date, however, as noted previously, funding appropriations, to effectuate a program have not been adequate.

Following the discussion of recommendations, a) a draft version of a reconstituted Article 2.2, sec. 21-11.16,[1] b) supporting sample subdivision and zoning ordinance amendments, and c) sample language for possible incorporation in new enabling legislation to authorize creation of erosion abatement districts, are all presented.

DESIGNATION OF COASTAL EROSION AREAS

Shoreline segments experiencing average erosion rates greater than two feet per year have been defined as erosion hazard zones. Given this definition, about 330 miles of shoreline has been given an interim designation as erosion hazard zones. This interim designation is based upon a comparison

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[1] Refer to Appendix IV-B

of maps which exhibit the high water line published circa 1850 and circa 1950 (36). Although these sources were suitable for an interim designation which illustrates the magnitude of the problem they are unsuitable for final delineation because:

1) The delineation does not account for shoreline segments which have been stabilized.

2) The averaging process used results in cases where the length of shoreline delineated is larger than that actually experiencing an erosion rate greater than 2 feet per year.

3) Finally, the comparison was between high water lines. The high water line may show appreciable variability in position due to seasonal variation in wave input or to storms. A more meaningful criterion would be the retreat of the fastland-shore boundary. This would be either a bluff line or the limit of permanent vegetation.

Given the above it is proposed that the final designation of the erosion hazard zones be made using comparison of aerial photographs obtained at least 25 years apart. Preferably the shoreline should be rephotographed at the start of implementation and every 5 to 10 years thereafter, so that the extent and effectiveness of existing shoreline defense structures can be incorporated in process of hazard delineation.

Early action by the state in identifying and designating coastal erosion areas will be needed prior to action on a number of this report's other recommendations. The designation procedure described above represents the most practicable one now available, but a time frame for completion of "interim"

designations by the state needs to be established. This time frame should be incorporated in Article 2.2, sec. 21-11.16 as well as any subsequent legislative or administrative proposals dealing with local planning and regulation of erosion area uses. Several examples are discussed later. Designation of erosion areas will also establish an operational basis for conducting the state's program of financial assistance to localities for shoreline management.

EROSION ABATEMENT POLICY ADDENDA

Recommendations 2, 3, 4, and 8 concern possible refinements in the State's present policies toward erosion control objectives and responsibilities. The following actions should be considered for possible use in implementing this aspect of the State's program.

Public Education Program

Recommended actions include:

Issuance of an executive order by the Governor to authorize development of a State research and public education program designed to address the causes and effects of coastal erosion and preferred methods of treatment. The State's lead agency(s) should be assigned responsibility for development and administration of the program in cooperation with other state advisory agencies and educational institutions (e.g., Virginia Institute of Marine Science, Marine Resources Commission, State Water Control Board, Soil and Water Conservation Commission, and others). Accomplishment of the program's objectives will depend largely on the level of funding it receives.

Application of Erosion Abatement Measures By Shoreline Reach

Recommended actions include:

1. Amendment of Article 2.2, s. 21-11.16 to provide for the establishment of a cooperative State-local program of a) designating coastal erosion areas by shoreline reach and b) considering both structural and nonstructural methods of reducing erosion damages to an acceptable level.

2. Amendment of Title 15.1, Chapter 11 (Planning, Subdivision of Land and Zoning) by addition of the following:

   a) A definition of "shoreline reach" in Art. 1, s. 15.1-430.

   b) A reference to study of erosion areas in Art. 4, s. 15.1-447.

Technical Assistance

Recommended actions include:

1. Initiation of a State training program placed under the direction of the State's lead agency in cooperation with the Virginia Institute of Marine Science and regional soil and water conservation districts. Such a program should provide:

   a) Training for local and State officials.

   b) Training for private marine contractors.

2. Development of shoreline erosion abatement technical guidelines by the State's lead agency in cooperation with the Virginia Institute of Marine Science, the Virginia Soil and Water Conservation Commission,

and appropriate local or regional agencies.

State Funding to Localities

An implicit assumption in the discussion of recommended actions is that funding to conduct a State program will, in fact, become available for allocation to responsible State agencies and local public agencies engaged in shoreline management. Early action should be taken by the State, however, to insure that such funding will be forthcoming on a continuing basis. Establishment of an Erosion Fund by the General Assembly is strongly recommended to insure this continuity. The sequence for establishing such a fund might consist of the following:

1. Designation of a lead agency to coordinate all financial assistance of the State to coastal localities for any projects within designated erosion hazard areas, and vesting of this agency with authority to promulgate rules and regulations regarding:
   a) Disposition of available funds, and
   b) Certification of prescribed erosion abatement plans submitted by funding applicants.

   Amendment of Article 2.2, s. 21-11.16 to provide for this designation and authorization is recommended.

2. Articulation of legislative priorities regarding costs and benefits to be accrued as a result of the program. A suggested listing of considerations for funding assistance would be:

   The degree to which a proposed project;

   a) is intended to serve intensely developed coastal areas experiencing severe erosion impacts.

b) is intended to serve areas offering superior suitability for public access to water.

c) demonstrates greatest anticipated public benefits of state assistance in relation to anticipated costs.

d) is intended to serve areas for which proven structural erosion abatement measures applied by shoreline reach exist or are planned.

As noted, funding for projects within designated erosion areas should be predicated on preparation and submission of acceptable abatement plans (supplemented with a financing element) according to the procedure outlined below.

PUBLIC NOTIFICATION OF EROSION HAZARD

Recommended actions for insuring public notification of erosion rates include the following:

1. Development of model subdivision ordinance amendments[1] containing a provision for posting of signs in subdivisions within designated erosion areas indicating the area's existing and projected natural erosion rates. The model should include the following provisions for new shoreline property owners:

   a) The owner must be notified of and acknowledge the property's erosion rate.

   b) The owner must notify the local planning agent of any planned shorefront improvements.

   c) The owner is then notified of projected increases or reductions in the property's erosion rate resulting

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[1]Refer to Appendix IV-C1

from the proposed improvement.

d) The developer must then post a performance bond upon the property sufficient to offset costs of adequate abatement structure installation and maintenance prior to initiation of the planned improvement.

2. Amendment of Title 15.1, Chapter 11, Article 7 (Land Subdivision and Development) by addition of the following:

   a) A requirement that plans and specifications for erosion mitigation or abatement measures be submitted, in Article 7, s. 15.1-480.

   b) The words "erosion abatement" to s. 15.1-466.d.

   c) A new section to provide for inspection of abatement structure maintenance by a qualified agent.

3. Amendment of Title 55, Chapter 19 (Subdivided Land Sales Act) by addition of local erosion rate information material to required notices of intention filed with the Virginia Real Estate Commission (s. 329.2).

4. Adoption of legislation which requires that prior to the sale of any shore property, the prospective purchaser be notified, in writing, if the land be within a designated erosion area, and if the land be within a designated erosion area, that the prospective purchaser be notified, in writing, of the rate of erosion of that land. Additionally, the prospective purchaser of any shorefront land should be advised, in writing, by the seller that the land in question may be subject to some degree of alteration due to the natural interaction of land and water.

MITIGATION MEASURES

As noted above, the power to regulate shoreline uses in erosion zones resides largely with local governments, and needs to be considered in close conjunction with abatement planning and financing methods. Recommended actions for addressing each of these three concerns include the following:

Development of Erosion Abatement Plans

1. Amendment of Title 15.1, Chapter 11 to provide a legal basis for local land management with the objective of preserving and protecting the State's coastal shorelines. Suggested additions include:
   a) Amendment of Art. 4, s. 15.1-446 by addition of the words "erosion area."
   b) Amendment of s. 15.1-447.1 by addition of the words "erosion abatement and erosion damage prevention measures."
   c) Amendment of s. 15.1-447.2 by addition of the following:
      "(f) Erosion Abatement Plan for designated areas, to include:
         (1) Identification of available structural and nonstructural mitigation measures.
         (2) An environmental assessment of available mitigation measures.
         (3) Provision for a cost/benefit analysis of available mitigation measures."

Zoning

Recommended actions include:

1. Development of model zoning ordinance amendments[1] providing for creation of a floating, or overlay, "Erosion" district which would set forth:
   a) A legal basis for establishing the district.
   b) Provision for conditional permitting of specified shoreline uses, conditioned upon satisfaction of minimum shoreline defense standards determined by the local planning commission in consultation with the State's lead agency.
2. Amendment of Title 15.1, Chap. 11, Art. 8 (Zoning) by addition of the following:
   a) The word "erosion" to s. 15.1-489.1.
   b) The words "erosion damage protection" to s. 15.1-489.4.
   c) The word "erosion" to s. 15.1-489.6.
   d) The words "and shorelines" to s. 15.1-490.

Setback Regulation In Lieu of Zoning

Amendment of Title 15.1, Chap. 1, s. 29.2 (General Provisions) to authorize establishment of shoreline setback regulations within areas experiencing severe shoreline erosion or within other areas subject to approved State Coastal Resources Management policies.

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[1] Refer to Appendix IV-C2

Subdivision Regulation

Recommended actions for regulation of coastal subdivisions are presented above in PUBLIC NOTIFICATION OF EROSION HAZARD, above.

Erosion Abatement Districting (Cost-Sharing)

Provisions to insure adequate financing of public erosion abatement measures are considered critical to accomplishment of the overall management program. In combination with measures described earlier, the following is recommended:

1. Adoption by the State of new enabling legislation to authorize creation of erosion abatement districts corresponding in operation to water supply and sewage disposal authorities (Title 15.1, Chap. 28). Legislation should provide for:
    a) Creation of an erosion abatement district either by:
        (1) Petition of property owners residing within the political jurisdication and within a designated erosion hazard area; or
        (2) Request of the local governing body(s) prior to or following consideration by the local planning commission(s).

In the case of either (1) or (2) provision for preparation of a local erosion abatement plan supplemented by a financing element prior to district establishment should be set forth. Provision should also be made for optional assumption of erosion district powers and responsibilities by the local governing body or bodies creating the district. A district would be governed by a board of directors with the following qualifications, powers, and duties:

a) A majority of board members must reside within designated erosion

hazard areas within the jurisdiction(s) establishing the district.

b) Board powers would include:

(1) Power to receive and disburse funds.

(2) Power to impose assessments upon properties abutting designated erosion hazard areas on the basis on shorefront footage owned, in amounts sufficient to obtain adequate contributions toward costs incurred through provision of necessary shoreline impovements by the district.[1]

(3) Power to issue revenue bonds to finance necessary facilities, and power to seek financing support.

(4) Power to exercise eminent domain to acquire construction and maintenance easements provided by the district.

(5) Power to own and dispose of property, to contract for detailed structural designs, to obtain bids for construction of structures, and to construct and maintain structures and necessary facilities.

c) Upon creation, district board members should be empowered to address erosion abatement needs in designated erosion hazard areas throughout the jurisdiction(s) upon petition of a majority of property owners within such areas or upon request by the local governing body(s). In such case, abatement plans with financing elements for each hazard area served should be required for submission to district, with provision for public hearing, prior to execution of an agreement to serve the area requesting the service.

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[1]Through amendment of Title 15.1, Chap. 7, Art. 2 (Assessment for Local Improvements) so as to incorporate assessments imposed for the purpose of financing coastal erosion abatement structure installation and maintenance by the local governing body.

Amendment of 15.1-31

Amendment of 15.1-31 by inclusion of the words "erosion protection devices" in the list of "work" in section (a) and the words "or erosion control district" following "town" in both (a) and (c). These changes would serve to broaden 15.1-31 to include erosion protection devices in the list of construction a county, city, or town could perform and be free from suit and to include "erosion control districts" in that freedom from suit.

The reworded section would read as follows:

> §15.1-31. Construction of Dams, levees, seawalls, ect.; certain proceedings prohibited. -(a) Any county, city or town or erosion control district may construct a dam, levee, seawall, erosion protection devices or other structure or device, or perform dredging operations hereinafter referred to as "works", the purpose of which is to prevent the flooding or inundation of such county, city or town, or part thereof. The design, construction, performance, maintenance and operation of any such works is hereby declared to be a proper governmental function for a public purpose.
>
> (b) The General Assembly hereby withdraws the right of any person, firm, corporation, association or political subdivision to bring, and prohibits the bringing of, any action at law or suit in equity against any county, city or town or erosion control district because of, or arising out of, the design, maintenance, performance, operation or existence of such works but nothing herein shall prevent any such action or suit based upon a written contract, but this provision shall not be construed to authorize the taking of private property without just compensation therefor and provided further that the flooding or inundation of any lands of any other person by the construction of a dam or levee to impound or control fresh water shall be a taking of such land within the meaning of the foregoing provision. (Code 1950 (Suppl.), §15-20.6; 1960, c.516; 1962, c.623; 1966, c.270; 1968, c.793).

END NOTES

1) Black's Law Dictionary, revised fourth edition.
2) Id.
3) Id.
4) Id.
5) Thompson on Real Property, Vol. 5A p. 2562 1957 (Repl. Vol.)
6) Shively v. Bowlly, 152 U.S. 1, 35 (1893).
7) St. Clair v. Lovingston, 90 U.S. (27 Wall.) 49 (1874).
8) 2 Blackstrone commentaries 262.
9) St. Clair v. Lovingston, see note 7.
10) City of New York v. Realty Associates, 176 N.E. 171, 265 N.Y. 217 (1931).
11) Id. as above.
12) Trustees and Freeholders of Commonalty of Town of Southampton v. Heilner, 375 NYS 2d 761, 84 Mix 2d 318 (1975).
13) Id. as above.
14) Va. Code Ann. Sec. 62.1-3.
15) Chesapeake and Ohio Railway Co. v. Walker, 100 Va. 69,40 S.E.633 *(1902).
16) Steelman v. Field, 142 Va. 383, 128 S.E. 558 (1925).
17) Id. as above.
18) Id. as above.
19) See also Va. Code Ann. Sec. 62.1-2.
20) 14 Arizona Law Review 325 (1972).
21) Va. Code Ann. Secs. 21-11.16 thru 21-11.9.
22) Id. at 21.89-1 thru 21.89-15.
23) Id. at 62.1-153.
24) Ken Melson, Va. Beach Erosion Commission, personal communication (1978).
25) Don Mathias, Norfolk Community Improvement Dept. personal communication (1978).
26) Senate Joint Resolution No. 22, February 15, 1978.
27) Id. as above.
28) Va. Code Ann. Sec. 15.1-31.
29) Coastal Zone Management Act Amendments, 1976; 16 U.S.C. 1451 et. seq.
30) U.S. Army Corps of Engineers Beach Erosion Control Program, 33 U.S.C. 426 et. seq.
31) 43 Fed. Reg. 8403 (1978).
32) Id. at 30.
33) Quotes from a report by the FIA for the National Conference on Coastal Erosion, July 1977.
34) Discussion with Nick Lally, Chief, Flood Plain Management, and Kennon Garvey, staff, FPM, FIA, Washington, August, 1978. Paper presented at "The National Conference on Coastal Erosion," July 6-8, 1977, by FIA staff.
35) Erosion Insurance Study conducted by the Erosion/Hazard Management subcommittee of the Great Lakes Basin Committee Study Coastal Zone Management. June 1978.
36) Byrne, R. J. and G. L. Anderson. 1977. Shoreline Erosion in Tidewater Virginia. SRAMSOE No. 111, Virginia Institute of Marine Science, Gloucester Point, VA., 102 pp.

APPENDIX IV-A

Summary and Recommendations of the Erosion/Insurance Study conducted by the Erosion/Hazard Management Subcommittee of the Great Lakes Basin Commission Standing Committee on coastal Zone Management, June 1978.

Study Description

This study proposes a new solution to the problem of assisting private property owners and protecting the public interest in the nation's shoreline erosion hazard areas. This study recommends repeal of the erosion provisions of the National Flood Insurance Act of 1968, as amended (a recommendation supported by the Federal Insurance Administration), and replacing them with a new program that would provide financial assistance and considerable management flexibility to coastal states for implementing state erosion plans developed pursuant to the Coastal Zone Management Act of 1972, as amended. The study finds federal investment in erosion hazard areas to be in the national interest. The recommended program would not use public funds repeatedly or indefinitely.

The Great Lakes region has for many years been concerned with the use and management of shoreline erosion hazard areas. Responding to these concerns, Congress addressed this issue in the 1973 amendments to the National Flood Insurance Act. However, the ambiguous language of the erosion provisions of the act precluded successful implementation by the Federal Insurance Administration (FIA).

Recognizing these problems, the erosion hazard management subcommittee of the Great Lakes Basin Commission's Standing Committee on Coastal Zone Management agreed to undertake the Erosion/Insurance Study for FIA. This report on the study results from the five-month effort by representatives of four Great Lakes states, the U.S. Army Corps of Engineers, the Federal Insurance Administration and Fisheries and Environment Canada.

The purpose of the study was twofold:

(1) to develop and recommend a management program with appropriate means of compensation for shoreline erosion hazard areas which would be socially, economically, politically, and physically workable; and

(2) to develop guidelines for recession rate calculation for the Great Lakes shorelines.

The report is likewise organized into two main sections - one describes the development and details of the recommended management strategy which applies to the entire nation, and the second describes the recommended guidelines for Great Lakes recession rate calculation.

The following conclusions regarding management strategies were reached.

(1) The process of shoreline erosion and associated damage is not insurable.

(2) Erosion hazards not directly related to inundation do not readily fit within the National Flood Insurance Program developed pursuant to the National Flood Insurance Act of 1968, as amended.

(3) The erosion provisions of the Flood Insurance Act of 1968, as amended, should be replaced.

(4) There is significant national interest in and justification for federal investment in erosion hazard areas.

(5) There should be federal interest and a federal role in supporting the implementation of the state erosion plans developed pursuant to the Coastal Zone Management Act of 1972, as amended. There is presently not adequate support for implementation of the state erosion plans.

(6) Federal financial assistance is needed to implement the state erosion plans.

(7) State and/or local regulations of new development in the imminent erosion hazard zone would be required as a condition for federal assistance.

(8) If the state is to have a role in ensuring enforcement of the selected management techniques, special state enabling authority may be necessary.

(9) Considerable state flexibility in any erosion management program is necessary.

(10) If structural erosion protection is used in lieu of nonstructural controls, the devices must be designed with their effects on the entire coastal reach in mind, with legally binding assurances that the structures will be property installed and maintained.

(11) Substantial technical developments in recent years have been achieved for both recession rate calculation and design of shore protection structures.

Recommendations

(1) The erosion hazard insurance provision (Sections 1302(g) and 1370(c)) of the National Flood Insurance of 1968, as amended, should be repealed to eliminate the insurmountable technical and administrative problems that have resulted since 1973 from attempts to implement an insurance program for coastal erosion.

(2) A national program should be established to provide financial assistance to states to implement the state erosion plans (developed pursuant to Section 305(b)(9) of the Coastal Zone Management Act of 1972, as amended). Flexibility must be retained at the state level to respond to particular circumstances related to erosion management, with implementing techniques including hazard area identification, technical assistance, state/local regulation, relocation, land acquisition and shore protection.

Appendix IV-B

PROPOSED REVISION OF ARTICLE 2.2, s. 21-11.16

(Retain as presently written)

"Declaration of Policy. The shores of the Commonwealth.....therefore, the General Assembly hereby recognizes shore erosion as a problem.....in effectuating effective practical solutions thereto."

(Add)

To this end, the General Assembly specifically authorizes the implementation of a program of coastal erosion abatement and impact mitigation, placed under the overall direction of the _____ with the advice and such other State, regional, and local public agencies as may be concerned. Pursuant to this authorization, the _____ shall establish and promulgate a timetable for the designation of coastal erosion areas within the State, to be completed no later than _____19__; for which areas the following special provisions shall immediately apply:

1. All agencies of the State and its political subdivisions shall work cooperatively in seeking and applying the most suitable structural and nonstructural methods of coastal erosion abatement and impact mitigation within critically affected shoreline reaches. The _____ shall be authorized to coordinate this cooperative effort.

2. Financial assitance by the Commonwealth for the provision of public services or facilities within such areas shall be restricted to those areas for which an erosion abatement plan and financing element has been prepared and submitted to the _____ for certification, according to the provisions of Title 15.1, Chap. 11, Art. 4, Code of 1950 as amended.[1] The _____ shall also have authority to establish such other guidelines and criteria as may be needed to accomplish the objectives set forth in this article. It is the desire of the General Assembly to assure that considertion be given to the following factors in the provision of State financial assistance. The degree to which:

   (a) a project is intended to serve intensely developed coastal areas experiencing severe erosion impacts;
   (b) a project is intended to serve areas offering superior suitability for public access to water.
   (c) Anticipated public benefits of State assistance have been demonstrated to be greatest in relation to anticipated costs for a particular project;
   (d) a project is intended to serve areas for which proven erosion abatement structures applied by shoreline reach exist, or are planned;

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[1] Refers to a proposed new section added to title 15.1 providing for erosion abatement plans. See Section 8.5.A.

Appendix IV-C1

SAMPLE SUBDIVISION ORDINANCE AMENDMENTS

For addition to Section _____ (Requirements for Improvements, Reservations, and Design:)

1. .1 GENERAL IMPROVEMENTS

Characteristics of the Land. Land which the Planning Commission finds to be unsuitable for subdivision or development due to (list of factors, to which should be added:) erosion which will be reasonably harmful to the safety, health, and general welfare of the present or future inhabitants of and subdivision and/or its surrounding areas, shall not be subdivided or developed unless adequate methods are formulated by the developer and approved by the Planning Commission in consultation with appropriate advisory authorities. Such land shall be set aside for uses as shall not involve such a danger.

2. .2 LOT IMPROVEMENTS

Shoreline Erosion Abatement. For subdivided properties within or abutting designated coastal erosion hazard areas, no plat shall receive approval until the property's existing and projected natural erosion rates have been recorded on the plat and until provision suitable to the adminstration of this Ordinance for posting of signs upon the site to indicate these erosion rates has been set forth by the property's subdivider.

In addition, prior to approval of the preliminary plat by the Planning Commission the subdivider shall also submit for review and approval of the Commission an erosion abatement plan, which shall contain the following:

1. Identification of structural and nonstructural erosion abatement measures available to mitigate any anticipated increases in the property's erosion rate or in hazards to property resulting from the proposed project.

2. An assessment of anticipated environmental effects of the proposed project and of available erosion abatement measures.

3. An assessment of the comparative cost effectiveness of available erosion abatement measures.

4. Identification of a single erosion abatement measure of combination of measures most suitable for application to mitigate any anticipated increases in the property's erosion rate or in hazards to property resulting from the proposed project.

The administration of this Ordinance shall determine a suitable amount to be required of the project applicant in the form of a performance bond or other security for performance, which shall be sufficient to accomplish the proposed erosion abatement plan.

SAMPLE ZONING ORDINANCE AMENDMENTS

(For addition to ordinance text:)

.1 Purpose of District. The purpose of this district is to provide for protection against property damages, hazards to safety, and accelerated loss of shoreland resulting from alteration of physical features within highly erodible coastal shoreline areas. It is the purpose of the district to minimize development within such areas, except insofar as proposed uses can be demonstrated to be compatible with the standards set forth in this section.

.2 Application of District. The EH Erosion Hazard District is created as a special district to be superimposed upon other districts contained in these regulations, following a determination of the existence of severe erosion rates and/or hazard potentials in specific locations by the local governing body and the (State's lead agency). EH Erosion Hazard District boundaries are delineated on the official zoning Districts Map and the District will be described by a special symbol. Permisible uses, housing types, minimum height, and accessory uses and accessory signs within the EH District shall be determined according to regulations established for the districts upon which the EH district is superimposed, except as those regulations may be modified by application of special regulations for EH Districts set forth herein.

.3 Permitted Uses. Sructures shall be used only for the following purposes, and except as provided herein, in each case subject to approval by the local planning commission in accordance with the standards set forth in this section and the standards set forth in Article 1.

1. Any existing use, accessory use, or sign permitted in the zoning district in which the premises are situated and upon which the EH Erosion Hazard District is superimposed; except that any use requiring new construction or alteration of shoreline structures or land shall be subject to special review and approval by the local planning commission in consultation with the (State's lead agency).

2. Any conditional use permitted in the zoning district in which the premises are situated, subject to the standards and procedures of this Ordinance for approval of conditional uses and subject to report by the local zoning administrator in accordance with the purposes and standards of the EH Erosion Hazard District.

3. Any special exception or variance permitted in the zoning district in which the premises are situated, subject to the standards and procedures of this Ordinance for approval of special exceptions and variances and subject to report by the local zoning administrator and specific findings of the Board of zoning Appeals regarding the purposes and standards of the EH Erosion Hazard District.

.4 Approval By the Local Planning Commission. Within an EH Erosion Hazard District no building shall be constructed or altered and no land be disturbed until after a request for approval by the local planning commission has been

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[1] Refers to that section dealing with site plan approval.

made and until action by the local planning commission to approve or deny approval of the proposed action has been taken. Approval shall not be granted until after a written report has been prepared by the local zoning administrator with the advice and assistance of _____ and submitted to the local planning commission. The report shall set forth the following details:

1. Existing projected natural erosion rates of the area within which the proposed action would be taken.
2. Projected effects upon these erosion rates resulting from the action proposed.
3. Projected effects of local erosion upon the physical structure or alteration planned.
4. A description of measures planned to mitigate the effects of the action upon erosion rates, and/or effects of local erosion upon the project, projected to result from the action proposed.

The local planning commission's decision to approve or deny approval of the proposed action shall be based upon consideration of the report, and also upon consideration of the following:

1. The public necessity of the proposed action.
2. The public purpose or interest in land or buildings to be protected or served.
3. The characteristics or significance of the shoreline reach within which the action would be taken.
4. The nature and extent of physical alteration proposed and its potential beneficial or adverse effects upon natural erosion rates.
5. The general compatibility of the site plan; and, in the case of installation or expansion of shoreline erosion defense structures, the quality of design, arrangement, and materials proposed to be used.
6. Any other factors which the local planning commission deems to be pertinent.

In all cases the decision by the local planning commission shall be made within ____ days of the filing of a notification of intent by the applicant with the local zoning administrator.

.5 Conditions Imposed by the Local Planning Commission. In approval of any proposal under this section, the local planning commission may limit such approval by such reasonable conditions as the case may require, including, but not limited to, the specifications enumerated in Articles ___ for conditional uses and in Article ___ for the Board of Zoning Appeals. Favor shall be given to uses for which measures designed to abate severe erosion or to mitigate its adverse effects are proposed by the applicant, or may be negotiated by the applicant and the local planning commission or Board of Zoning Appeals in consultation with the (State's lead agency).

(Also for addition to Ordinance text:)

Requirements for Site Plans, Content and Form. (To the listing of factors required to be shown in preliminary and final site plans, add:)

For projects on properties within or abutting coastal erosion hazard areas, notation of the existing and projected natural erosion rates of the site(s),

and the location, size, and projected change in natural erosion rates expected to be produced by any existing or planned erosion abatement structures.

CHAPTER V

SHOREFRONT PUBLIC ACCESS

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CHAPTER V

SHOREFRONT PUBLIC ACCESS

INTRODUCTION

Virginia's coastal lands and waters have long been considered a valuable recreational, as well as commercial resource.* Throughout the Commonwealth's history, citizens have used Virginia's coast for fishing, boating, sunbathing and simply enjoying the atmosphere provided by the land-water-sky interface. Few people, however, have been fortunate enough to own waterfront property. Consequently, most people have to rely on the government, in the case of public beaches, or private industry in the case of marinas, for access to the shoreline.

Recreational activities in coastal areas are dependent upon two types of access: access to the shoreline and also access to the water. The shoreline in Virginia is utilized for surf fishing, sunbathing, picnicking, camping, hunting, and beach walking and jogging. Other recreational activities extend into the waters beyond the shoreline, such as fishing, surfing, hunting waterfowl, swimming, and sailing and boating. Shoreline access is a common requirement of all coastal recreation activities. However, the features which comprise most of the shoreline, e.g. marshes and bluffs, are generally not as suitable for recreation activities as are beaches.** Beaches are undoubtedly

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*Access for commercial uses, and to historic sites, is addressed in Chapter VII.

**The Virginia CRM program defines beaches as "zones of unvegetated and unconsolidated soil that extends landward from mean low water to where there is a marked change in soil or physiographic form, or to the line of permanent vegetation. In the absence of vegetation, the inland limit of a sandy beach shall be identified by an increase in elevation or by existing structure.

the shoreland feature most in demand for the types of recreation mentioned above. Public access, especially to beaches, is the critical link in providing optimal use of the shorelands of the Commonwealth. Although the waters and shores of the coastal area collectively represent one of the State's most important recreational resources, their use is greatly restricted by the predominance of private and federal (restricted military areas) shoreland ownership and Virginia law which extends owner rights to the mean low water line, subsequently prohibiting access to the shoreline.

Accessibility is the major factor determining the magnitude of public use of Virginia's environmental, recreational, aesthetic, cultural, and historical resources within the coastal zone. Recently population concentrations within coastal areas have grown, and with them increasing demands for quality marine recreation, according to the findings of the Virginia Outdoor Recreation Demand Indicator Survey (May 1973).

ACCESSIBLE COASTAL AREAS: A RARE RECREATIONAL RESOURCE

In Virginia, access to the shoreline is provided primarily through public and private facilities, including national parks, national wildlife refuges and military installations at the federal level; and state parks, wildlife management areas, public boat landings, natural areas and trails at the state level. Commercial campgrounds, shoreside amusement parks and marinas, having a total capacity for 4,100 boats, also provide opportunities for access to Virginia's shoreline waters. Some local governments have provided for marine recreation through the establishment of public beaches, however, these beaches are few and far between and consequently represent only limited opportunities for access to the coastline.

Of the 5,000 total miles of Virginia shorefront, 7% is publicly owned, yet only 1% is considered presently usable for public recreation. Sandy beaches and dunes border 196 miles of the shoreland on the western shore of Tidewater. Sixty miles of beaches on the Eastern Shore are a component of Virginia's barrier island chain. The Nature Conservancy, a national conservation group, owns a total of 33,371 acres, or approximately thirteen of the eighteen barrier islands. Of the five islands not owned by the Conservancy, three are federally owned, one is State owned, and private interests hold title to the remainder. The islands owned by the Nature Conservancy presently offer opportunities for limited access. Access to these islands may be further enhanced if the islands are accepted by the Commonwealth and designated by OCZM as an estuarine sanctuary, an action now being considered.

There are seven State Parks within Tidewater Virginia and one-third of this acreage lies adjacent to coastal waters. Other shoreline recreational facilities include:

9 major fishing piers

24 public beaches on the Atlantic, Bay or major river

70 public and private campgrounds

170 boat launching ramps

68 public landings

Several nature trails and bike paths are located in flood plain regions or urban areas. Additional nature preserves and trails for wildlife observation, as well as other passive recreational activity sites, such as shell collecting and photography, are distributed throughout Tidewater in regional parks and National Seashore areas. Unique underwater archaeological sites and historic ports have yet to be thoroughly inventoried and developed.

As indicated by the booming tourist business of Virginia Beach, enjoyment of the waterfront constitutes over 20% of the total in-state recreational demand, or 87 million annual recreational activity days. Use-days at state parks reflected a 300% increase from 1966 to 1976. Turnaways at campgrounds and seashore areas are not uncommon, a sure sign that existing facilities which provide access to the shoreline are inadequate.

Camping, walking, and picnicking in seashore areas are other popular means of relaxation by Virginians. Special events, such as East Coast surfing championships, numerous oyster festivals, and the Wild Pony Penning at Chincoteague draw national attention. Consequently, large crowds of visitors are common during the spring, summer and fall, filling existing recreational areas to capacity and competing for space with local beachgoers.

SHORELINE (BEACH) ACCESS

The majority of the beaches are not publicly-owned, consequently, access opportunities are quite limited. Of the 18 beaches that are completely accessible (Table V-1) to the public, only those in Virginia Beach and Chincoteague are located on the Atlantic Ocean and the remainder front the Chesapeake Bay or the major rivers. The miles of beach which are completely accessible to the public totals approximately 25 miles or only about .4% of all the shoreline in Virginia. The paucity of accessible public shorefront land suitable for marine recreation is further aggravated by several conditions common in or unique to Virginia. First, the largest and most popular beaches, Virginia Beach and Ocean View, are concentrated in one corner of the state and have extremely limited parking capacity. While many people reside in the immediate vicinity of Virginia Beach and Norfolk, the majority of Virginia beachgoers live in other parts of these cities and the State. Consequently, if large numbers of people from outside the Virginia

TABLE V-I: PUBLIC BEACHES IN TIDEWATER VIRGINIA

Area	Ownership	Shore Type	Adjacent Water Body	Mileage
Virginia Beach				
Resort Beach	City	Beach	Atlantic Ocean	6.1 mi.
Seashore State Park	State	Beach	Atlantic Ocean	1.0 mi.
*Fort Story	Federal	Beach	Atlantic Ocean	3.7 mi.
*Little Creek Amphibious Base	Federal	Beach	Atlantic Ocean	2.3 mi.
†Camp Pendleton	State	Beach	Atlantic Ocean	0.2 mi.
Little Island Recreational Area	City	Beach	Atlantic Ocean	0.6 mi.
Back Bay National Wildlife Ref.	Federal	Beach	Atlantic Ocean	4.4 mi.
†False Cape State Park	State	Beach	Atlantic Ocean	5.8 mi.
Accomack County				
National Seashore (Chincoteague National Wildlife Refuge)	Federal	Beach	Atlantic Ocean	9.6 mi.
Surry County				
[1]Hog Island State Waterfowl Refuge	State	Extensive Marsh and Beach	James River	10.2 mi.
Newport News				
Huntington Park	City	Beach	James River	0.5 mi.
Christopher Newport Park	City	Beach	James River	0.1 mi.
Gloucester County				
Gloucester Point Beach	County	Beach	York River	0.1 mi.
Norfolk				
[2]Ocean View Amusement Park Area	City	Beach	Atlantic Ocean	1.1 mi.
Northampton County				
Cape Charles Beach	City	Beach	Chesapeake Bay	0.5 mi.
Hamptom				
Buckroe Beach	City	Beach	Chesapeake Bay	0.3 mi.
Salt Ponds	City	Beach	Chesapeake Bay	0.2 mi.
Factory Point Preserved Area (North Point)	City	Beach	Chesapeake Bay	3.2 mi.
York County				
Yorktown Beach	City	Beach	York River	0.9 mi.
National Park (Yorktown)	Federal	Beach	York River	3.5 mi.
Colonial National Parkway	Federal	Beach	York River	4.5 mi.
Stafford County				
Youbedamn Landing	County	Beach	Potomac River	0.2 mi.
James City County				
Jamestown Island	Federal	Beach, Marsh	James River	4.2 mi.

*Very limited use; †Very limited access at present; [1]Used for Bird Watching mostly - no real beach-related use; [2]Includes the amusement park also.

Beach-Norfolk area want to use those beaches, they, and all others who don't live within walking distance, must drive often an hour or more to reach their destination and then search for a parking place in the high density residential or hotel areas adjacent to the beach.

There are only two public restrooms, a few drinking fountains, and no showers at Virginia's public beaches. Although these facilities are certainly not pre-requisite to developing a beach, there is no doubt that the lack of these conveniences causes a great deal of discomfort and inconvenience to beach users, especially those who travel long distances to the beach, as many seem to do in Virginia. In addition, it may be assumed that the lack of these facilities has an adverse effect on the quality of waters adjacent to beaches during the summer season. Visitors who stay at oceanfront hotels don't have to worry about restroom or parking facilities and consequently they seem to have a distinct advantage over residents for access to and use of public beaches.

Only oceanfront and freshwater beaches are really suitable for water contact activities, such as swimming, surfing, and water skiing, because all the saline Bay and river beaches are plagued by stinging nettles during the height of the summer season. Beginning in late June and extending through the remainder of the summer stinging nettles proliferate. The annoying presence of these animals throughout the tidal waters of the Bay severely restricts opportunities for water contact activities. Although people do enter Bay and river waters during this time, it is usually only for a brief period, e.g., to cool off.

Beaches on the Eastern Shore are for all practical purposes inaccessible to Western Shore residents due to the prohibitive travel time and distance and cost of tunnel tickets. Consequently, the number of oceanfront beaches

available to the public is, in effect, reduced in half.

Erosion, flooding, pollution, and general damage to existing public beaches, e.g. Virginia Beach, threatens the dunes and barrier island beaches potential for optimal use of these recreational resources. Construction and development has already accelerated erosion and contributed to the measureable loss of accessible shorefront (see Shoreline Erosion chapter), the result of inadequate consideration of cumulative impacts of use.

A myriad of management problems plagues planning for recreation access in Virginia. Most of the shoreline is not available for public use because, historically, Virginia divested public lands held for common use by citizens above mean low water. Present lack of sufficient records inhibits the extension of the public "commons" areas which were set aside for public use by colonial charters. A lackluster funding record exists for shoreline acquisition by the General Assembly; short-term financing periods (2 years) cannot allow for far-reaching comprehensive planning. Access maintenance and enhancement has been slight due to the former absence of sufficient State and federal guidelines to local governments regarding comprehensive planning. Priorities for using already severely restricted or developed shorefront areas are subjects of local controversy. Metropolitan areas have the highest number of demands, as well as overloaded access routes.

Urban shorefronts are particularly vulnerable to any form of environmental overloading, having a history of unrestricted development and insensitive resource planning.

The Commonwealth's historic urban waterfronts represent potential opportunities for recreational, aesthetic and cultural activities evidenced by the cultural and recreational amenities of the city of Alexandria. Yet

Virginia's urban waterfront areas are subject to concentrated and highly competetive types of shoreline use, resulting in the degradation of their visual attractiveness, historic characteristics, and quality of harbor waters.

Present access problems are related to transportation capabilities, e.g. inadequate parking, intense development, and rising operating costs of public works. Several Virginia urban areas possess public beaches, in addition to the bulkheaded shoreline of piers, ramps, terminals, commercial fisheries, marinas, and shipyards which are common to urban waterfronts. Recreational needs of urban dwellers for use and consequently access to the shoreline, including visual enhancement of the water's edge, is considered a priority element in Virginia's CRM program.

Despite the extreme diversity of its resources, Virginia must address the problem of meeting the skyrocketing recreation demands of its residents and out-of-state visitors. The City of Virginia Beach alone recorded an average 2.5 million visitor days spent in 1977 on its public beaches. Conservative estimates predict a thirty per cent population increase by 1990, especially in coastal urban areas, producing a projected 65% demand increase which existing areas simply cannot accomodate.

In summary, considering the amount of shoreline possessed by Virginia, there are very few points of access available to the public in the Commonwealth's coastal area. However, given the apparent lack of statistical information which specifically addresses public demand for marine recreation and the actual use of existing shoreline facilities, it is not well known exactly to what degree the public suffers from inadequate public access. Still, certain general statements may be drawn from existing information and the preceding discussion:

well?

1. The majority of public access to coastal waters is provided by commercial boat ramps and marinas and to a lesser degree, public landings.

2. Beaches appear to be the most desirable form of shoreline for marine recreation because they may be used for a variety of popular activities, including surf fishing, sunbathing, picnicking, swimming, camping, shell collecting, jogging, and walking.

3. Access opportunities to the shoreline and especially beaches, are severely limited because:

a. very little completely accessible shoreline exists (.4%)

b. the condition of existing public beaches, although highly used, is poor due to the lack of parking facilities and comfort stations,

c. pressures on existing beaches are intense due to the availability of only one oceanfront beach (Virginia Beach) suitable for swimming (because of stinging nettles at the others), the competition for use of that beach between Virginia residents and out-of-state visitors, and the persistant forces of erosion which continued to threaten those beaches.

4. Public demand for access to Virginia's coastal areas will continue to increase.

5. There is a lack of up-to-date suitable information upon which future planning for public access to marine recreation areas may be based.

a scheme forgetting data needed.

ACCESS TO COASTAL WATERS

Access to Virginia's waters is provided by commercial marinas and boat ramps, public landings and private piers. An increase in boating and fishing activities is indicated by the proliferation of commercial marina permits, associated wetlands permits, and boat registrations. In 1977, 73% of all in-state registrations were motorboats, 97,000 of which were registered in Tidewater. Close to five million dollars are spend annually on overall fishing expenditures (equipment, charters, etc.) within Virginia, representing close to 9% of total statewide expenditure on recreation activity.

SUMMARY OF EXISTING LEGAL AUTHORITY AND PROGRAMS

The Commission of Outdoor Recreation (COR) is the state agency with primary responsibility for planning and managing the outdoor recreation opportunities of the Commonwealth, including access to and use of Virginia's coastal lands and waters. In this role, the COR is responsible for the preparation of the State Outdoor Plan, the coordination of matters which relate to recreation and the implementation of the Plan through a grant-in-aid program.

The Commission is composed of four ex-officio members who represent four State agencies concerned with outdoor recreation, and five members appointed from the State at-large by the Governor. This representation provides a formal policy-level coordination mechanism. The agencies represented are the Department of Conservation and Economic Development (including the Division of Parks, Forestry, Mined Land Reclamation, and Mineral Resources, and the State Travel Service), the Commission of Game and Inland Fisheries, the Department of Highways and the Division of State Planning and Community Affairs.

The first plan entitled VIRGINIA'S COMMONWEALTH was launched in 1966 by

direction of the General Assembly. Plans are reviewed and updated every five years and published as the official State Comprehensive Outdoor Management Plan (SCORP 1970, 1974, 1979). These plans must conform with the National Outdoor Recreation Plan of the U. S. Department of Interior's Heritage Conservation and Recreational Services. The Plan establishes the broad policies of the State in outdoor recreation which includes all activities traditionally enjoyed in shoreland areas. Its goals focus on significant needs, trends, problems, and policies; its comprehensive planning direction is long-ranged (to the year 2020). It identifies financing recommendations, and demands action by all levels of government, especially local governments, and by private enterprise.

A means of coordination between the State, district and local park planning efforts is available through the Division of State Planning and Community Affairs which provides substantial matching money for operation of the planning district commissions and also administers the Planning Assistance (701) Program of the Federal Department of Housing and Urban Development. Much of the local and district planning is done through this program. The Commission of Outdoor Recreation provides advisory assistance to the localities and districts in the preparation of their plans and reviews their plans in draft form. The 1974 Virginia Outdoors Plan was designed in part to provide useful information for the local and regional agencies and to stimulate increased coordination.

RECREATIONAL LAND ACQUISITION

The Virginia Outdoors Fund is a major source of money for the acquisition and development of recreational lands at the state and local levels. It consists of state funds appropriated by the General Assembly, and federal funds allocated to the State from the Land and Water Conservation Fund. It is

administered by the COR in accordance with the Virginia Outdoors Plan. Money is authorized by the Commission, subject to the Bureau of Outdoor Recreation, for specific qualifying projects of certain state agencies and of the cities, towns, counties and regional park authorities throughout the State. The Division of Parks and the Commission of Game and Inland Fisheries both receive funds through this program.

The Open Space Land Act (§ 10-151 through 158 of the Code of Virginia) grants authority to public bodies to acquire or designate property for use as open space land and to make necessary expenditures pursuant to the goals of the Act. Power to acquire recreational lands rests with the Division of Parks as administered by the Commission of Outdoor Recreation. (§10.21) The management of access roads to shorefront resources through the Recreational Access Road Fund (§33.1-223) has resulted in improved access roads to 35 parks and recreation areas.

The "Commons" concept is presently under consideration by the courts as a possible means of acquiring land and open space which was historically set aside for public use by colonial charters. (§62.1-1)

LOCAL RECREATIONAL PLANNING AND COORDINATION

The Division of State Planning and Community Affairs provides guidance and assistance to State institutions and localities in organizing and operating recreational programs.

The political subdivisions of the State (the cities, towns and counties) have the legal powers to provide a comprehensive system of public outdoor recreation areas and open spaces. They can acquire sites by various methods, develop them, operate them, secure other hazardous lands against intensive development, and can encourage the preservation of open spaces by private

property owners through preferential taxation. They can do these things individually, or they can do them cooperatively through the medium of a regional park authority (Chapter 27, Title 15.1, Code of Virginia).

Local governments finance their park and recreation activities out of local general funds, supplemented by grants-in-aid, by special revenues and by borrowings.

ADDITIONAL LEGAL AUTHORITY AND PROGRAMS

The necessary authority to manage shoreland recreational lands and the access to them is being incorporated into the CRM program by referencing the existing authorities and programs of the Commission on Outdoor Recreation. While this authority is adequate for statewide recreational needs, the CRM program will assist the Commission and the General Assembly, in assessing specifically marine recreation problems and needs and, where necessary, developing solutions to meet identified needs.

Participation in the Urban Waterfront Grants program has benefited five localities (Alexandria, Newport News, Norfolk, Portsmouth, and Virginia Beach) in their planning for various types of public access to the shoreline in already developed areas.

The CRM program has recognized the urgency in designating urban waterfronts as a unique geographic area of particular concern (GAPC) in order to satisfy critical needs of recreation and open space for urban residents and visitors. Virginia's review of the need for expansion and enhancement of access to recreational areas, as described in Chapter VII, is consistent with the federal concerns expressed in under Section 305(b)(3) and (b)(7) of the CZM Act of 1972, §923.21 Areas of Particular Concern:

(vi) Areas of urban concentration where shoreline utilization and water uses are highly competetive.

Subheadings (i), (iii), (iv), and (v) also indirectly relate to urban waterfronts.

Comprehensive CRM planning in Virginia, under the auspices of the Virginia CRM plan and SCORP (1979) can be intensified by local metropolitan initiative in the form of city council resolution, local zoning ordinances, A-95 process, dedication, subdivision, bond issues, urban redevelopment programs, and Comprehensive Plans (as supported by issue papers submitted to the Program by localities).

local voluntary

Funding for urban waterfront access programs is available from federal grants-in-aid, especially the Urban Waterfronts Shoreline Access and Recreational Demonstration Grants, OCZM 306 funding, credit assistance from 18 different federal programs, private enterprise, and through the Commission of Outdoor Recreation's formal grant application process.

Under the Federal Legacy of Parks program, surplus federal property including military holdings may be granted to the state and localities at no charge, as they become available.

POLICIES

It is the policy of the State:

1) To preserve much of the natural unspoiled coastal complex of barrier islands, bays and marshes for its priceless ecological and recreational values to all people, now and in the future. (Virginia Outdoors Plan)

2) To develop or retain for public enjoyment a reasonable part of the

recreational, potential, and scenic values in all new lakes and existing rivers and bays, in connection with developments for other purposes. how? (Virginia Outdoors Plan)

Recreational Land Acquisition

1) To protect the natural ecological characteristics of the wetlands adjoining our bays and rivers, through regulation or acquisition as necessary. (Virginia Outdoors Plan)

2) To give priority to the acquisition of new shorefront property, as well as to improve in order to enhance recreation, existing public shorelands, opportunities in coordination with Federal, State and local programs, and private enterprise.

3) To negotiate for public access rights to suitable but underutilized federal and private shoreline.

Recreational Facilities

1) To protect and preserve underwater historic property as exclusive State property by all State agencies. (Code of Virginia §10-145.9 (b))

2) To assist the Commission of Game and Inland Fisheries for the Development of projects that will increase the number of public fishing areas, boat launch areas, and game managing lands. Federal funds are matched by the Game Commission. (Virginia Outdoors Plan)

3) To develop each State Park existing or proposed, to its optimum capacity without destructive over-use. (Virginia Outdoors Plan)

4) To protect against loss of existing public holdings or environmental resources from development. how?

1) To continue to assess and review public coastal areas which need special management attention.

2) To identify the types of marine recreation areas and activities desired for use by Virginia's citizens and to develop the means to make available suitable, improved shorefront areas.

*Note to the reader:

This chapter is incomplete. Additional pertinent sections are being prepared for the final document.

CHAPTER VI

THE ENERGY FACILITY PLANNING PROCESS

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CHAPTER VI

THE ENERGY FACILITY PLANNING PROCESS

OVERVIEW OF THE PROCESS

FEDERAL REQUIREMENTS

The Coastal Zone Management Act of 1972 requires that a state's coastal management program

> ...provide for adequate consideration of the national interest involved in planning for, and in the siting of facilities (including energy facilities...)...which are other than local in nature. (§306 (c)(8))

The regulations (15 CFR 923.52) elaborate by requiring a state's program to

> ...indicate when and where national interests in identified facilities may compete or conflict with other national interests in coastal resource conservation...(and)
>
> describe a process for continued consideration of identified national interests...during program implementation, including a clear and detailed description of the administrative procedures and decision points where such interests can be considered.

The 1976 amendments added the requirement that a state's management program include

> ...a planning process for energy facilities likely to be located in, or which may significantly affect, the coastal zone, including, but not limited to, a process for anticipating and managing the impacts from such

facilities. (§805(b)(8))

The regulations (15 CFR 923.14) cite the points which this planning process must cover:

- Identification of energy facilities which are likely to locate in, or which may, significantly affect, a state's coastal zone;
- Procedures for assessing the suitability of sites for such facilities;
- Articulation of state policies for managing energy facilities and their impacts, including a clear articulation of policies regarding conditions that may be imposed on site location and facility development;
- Identification of how interested and affected public and private parties may be involved in the planning process, and a discussion of the means for continued consideration of the national interest, in the planning for and siting of energy facilities that are necessary to meet more than local requirements, after program approval; and
- Identification of legal authorities and management techniques that will be used to implement state policies and procedures.

STATE POLICIES — good policies

The Commonwealth's energy facility planning process is based on a comprehensive objective which is that of ensuring that full consideration is given to the needs for the location of energy related facilities in the coastal zone and to their potential economic, social and environmental impacts. Flowing from that objective are a series of related policies which provide direction for State agencies involved in that process:

- To ensure that the process of locating energy facilities is in accord

with the Coastal Resources Management Program goals, objectives, policies and guidelines.

- To assure that adequate consideration is given to energy facilities which are water access dependent.

- To promote the continuation of adequate energy supplies and services for the coastal region.

- To locate energy facilities where they are least likely to damage the marine environment.

- To minimize duplication of effort by state and federal agencies in assessing the social, economic and environmental effects of proposed projects.

- To increase the coordination between state and federal permitting processes.

- To more fully utilize federally-required environmental impact assessments in the state decision making process.

- To provide for consideration of the national interest in the planning, environmental review and permitting of coastal energy facilities.

- To encourage the participation of affected local governments and federal agencies in the various phases of the energy facility planning process.

- To ensure that the planning and siting of energy facilities is as consistent as possible with adopted local comprehensive, land use, or facility plans.

- To inform potential developers of all relevant requirement and

considerations and to minimize applicant difficulties in obtaining information, making contacts, preparing and submitting information, and preparing and submitting applications for coastal energy facilities.

- To ensure that energy facilities are adequately evaluated for their social, economic and environmental effects prior to final plan approval and site development.

MANAGEMENT OF THE PROCESS

The Commonwealth's energy facility planning process takes the approach to utilizing existing laws, agencies, etc., drawn together into a workable and comprehensive entity by the necessary administrative linkages. In the larger perspective of state history the energy facility planning process must be viewed more as a stage in the ongoing evolution of state involvement in the development of key facilities rather than as an element in a coastal resource management program. To date that evolutionary process has resulted in a state position which relies upon the areas of planning, technical assistance, environmental review, and permitting. In adapting this basic approach to the federal requirements for an energy facility planning process (EFP Process) the state is attempting to achieve efficient management of coastal energy facility development while still providing all interested parties with an open, responsible, and predictable process.

The existing line agencies bear the greatest day to day responsibility for the EFP Process since coastal energy facilities constitute a minor subset of the range of facilities these state agencies must deal with in the areas of planning, technical assistance, environmental review and permitting. The specifics of these line agency responsibilities are detailed in the "COMPONENTS OF THE PROCESS" section. The formal relationship between the //

various state agencies and the EFP Process will be set out in Executive Orders and Memoranda of Agreement which will be modified and/or developed as is necessary.

The overall administrative responsibility for the EFP Program lies with the Governor and the Secretary, who depend upon the program's monitoring and evaluation procedures to carry out the required oversight function. While the CRM lead agency will perform many of the tasks necessary to this function the major evaluation and management decisions will clearly remain with the Governor and the Secretary. As an element of the larger CRM program the EFP Process will be subject to this comprehensive and cyclical review process.

While the CRM lead agency does not have the type of involvement characteristic of the line agencies, it is the only state agency specifically charged with the responsibility of dealing with the coastal resources management program as a single interacting entity. The lead agency will carry out a number of specific tasks which will bind marginally related state agency activities into an effective if skeletal energy facility planning process. To the extent practical the lead agency will coordinate these tasks with the activities of relevant state agencies, but where necessary, it will operate independently to ensure that the four components or phases of the process function as a single process. The lead agency EFP tasks are as follows:

- Maintain an inventory of energy facilities which are being considered for development in the coastal zone or which may significantly offset that area.

- Inform all potentially interested public and private parties of a proposed project at the earliest possible time.

- Monitor all coastal energy facility proposals to determine degree of

conformity with relevant CRM goals, objectives, policies and guidelines.

- Identify energy facility proposals which may be of regional benefit.

- Request relevant federal agencies to specify their general interpretations of the "national interest" and "federal consistency" requirements as well as obtain their views on these requirements as they relate to proposed coastal energy facilities.

- Determine if local or state government policies may hinder the siting of a specific energy facility which has been determined to be of regional benefit.

- Conduct public informational meetings in the area(s) of probable project sites throughout the planning process.

- When necessary convene joint meetings of interested local governments and federal and state agencies to assist in resolution of potential conflicts.

The overall administrative responsibility for the CRM Program will lie with the Governor and the Secretary who will depend upon the program's monitoring and evaluation procedures to carry out the required oversight function. While the lead agency will perform many of the tasks necessary to this function the major evaluation and management decision will clearly remain with the Governor and the Secretary. As an element of the larger CRM Program the EFP Process will be subject to this comprehensive and cyclical review process.

ENERGY FACILITIES DEFINED

"For the purposes of the Commonwealth's energy facility planning process,

the definition of "energy facility" shall stand as defined in the FEDERAL REGISTER (Monday, January 15, 1979, Part IV), Sections 931.17, and 931.19."

THE COMPONENTS OF THE PROCESS

The greater portion of Virginia's CRMP energy facility planning process consists of existing activities carried out by various state agencies. As none of those agencies are charged with creating and maintaining anything similar to the EFP Process, it is not surprising that the simple combination of these activities appears to not meet the federal requirements for such a process. The descriptive organization which has been followed in this part of the document allows each component of the EFP Process to be examined on its own merits with the understanding that the arrangements and procedures outlined above transform that set of components into an effective process.

FORECASTING PHASE

In recent years the state has begun to take a more active role in forecasting and anticipating the nature and effects of a steadily worsening energy situation. That type of concern is evidenced by the 1976 publication by the Virginia Energy Resource Advisory Commission entitled Energy and Virginia's Future. As the question of energy supply and demand has become more important to the state and its citizens there has been a corresponding increase in obtaining, generating, and interpreting information so as to allow adequate public and private responses to that changing situation. The state is a participant on the Energy Supply and Demand Committee of the Southern States Energy Board. The Coal and Energy Study Center at VPI provides support for the Coal and Energy Study Commission as well as conducting research into various aspects of the energy question. The Office of Emergency and Energy Services is developing a state energy plan which will include a section on

forecasting to be done in conjuncton with other state agencies and the private sector. In the more narrowly defined area of electric power the State Corporation Commission in 1976 sponsored the publication of an independent report entitled Electric Sales and Load Forecasting in Virginia. The state agency generally relies on the utility companies for electric power forecasting and requires the annual submission of an updated ten year forecast. The State Corporation Commission has found those forecasts to be consistent with its analysis of the same factors.

What is occurring in Virginia is similar to what is happening in other states in that there is a growing informal network of agencies, organizations, and individuals actively engaged in improving the collective capability to anticipate the energy situation and its implications and options. The needs of the CRMP for that kind of information and analysis are met in a variety of ways which result in a continuing process of filtering and incorporating information as it is made available by sources outside the Program. In its implementation phase the CRMP will pursue a course of supplementing projects conducted by others which can be modified so as to meet the specific need for more and better information regarding possible coastal energy facility development.

PRELIMINARY SITE ANALYSIS PHASE

This stage in the EFP Process is the point at which the state becomes involved in looking at the coastal zone both for general characteristics relative to the location of energy facilities as well as for the suitability

of specific sites for specific facilities. The CRMP has already begun providing the kind of information and analysis necessary to the successful pursuit of those responsibilities, and it will continue to fund projects which provide the same kind of necessary background material. The Virginia Institute of Marine Science has recently completed a report entitled Offshore Pipeline Corridors and Landfalls in Coastal Virginia and is working toward the completion of a companion report on the transportation, handling and storage of hazardous materials in the coastal zone which includes energy materials among those examined. The CRMP has also partially funded an Eastern Shore mapping project conducted by Old Dominion University for the Accomack-Northampton Regional Planning District Commission. This project has utilized high altitude NASA imagery as well as selected information made available by NASA satellites. The state is well into the early stages of the development of the Virginia Resource Use Information System (VARIS) and is drawing on the assistance of a full-time NASA representative in Richmond to aid in the vital area of technology transfer. Since the CRMP is a participant in the design and development of VARIS the particular needs of coastal resource management will be a basic factor in the design and development of that system.

The Division of Industrial Development offers a range of services which encourage industry and other economic activities to locate in Virginia and has established a reputation by professional and confidential assistance. In terms of the EFP Process requirements the Division provides two specific services which would act to encourage the location of energy facilities in the coastal zone. On the one hand it has an Industrial Location Services Program which actively seeks out potential developers and attempts to match their particular needs with specific sites known to be available for such purposes. Toward this end the Division maintains extensive and up to date files on all

such properties. In assisting a developer to locate a suitable site(s), the Division also outlines the relevant state and Federal environmental requirements and provides the client with agency contacts. Through this assistance, the CRMP is establishing a procedure for providing environmental data which may be pertinent in the site selection process. On the other hand it conducts the Industrial Community Development Program which assists communities to make their areas more attractive to selected industrial development. Part of this ongoing effort is to encourage local governments to establish specific industrial areas that will meet the needs of the kinds of industry they hope to attract.

The Council on the Environment has recently begun to act as an intermediary in the process of bringing developers, government agencies, and other interested parties together in such a way as to encourage early and open discussion of environmental regulations and procedures as well as potential problems. This service ensures that important questions are raised and often resolved before a project reaches the permit stage.

ENVIRONMENTAL REVIEW PHASE

State Environmental Impact Reports

Though its particpation in the Federal Environmental Impact State process the state has an opportunity to comment on "major Federal actions significantly affecting the quality of the human environment." The primary importance of this federal process is that it allows the state and other interested parties to participate in the chain of events leading up to federal actions related to the siting construction, and operation of energy facilities in the coastal zone. In this phase of the EFP Process the lead agency will

take an active role in reviewing significant actions under consideration by various federal agencies and will attempt to shape the EIS process so that it leads to decisions which are consistent with the state's CRM policies. More specifically, the lead agency will promote early state involvement in the federal process so that envrionmental impact assessments and statements are designed and carried out in such a way as to obtain necessary information in a timely and effective manner. This will lead to a more comprehensive examination of environmental issues associated with coastal energy facilities and, consequently, to better decisions regarding such facilities. The Council on the Environment coordinates the state's participation in the federal EIS process, and the details of that process provided in Appendix VI-1.

PERMIT PHASE

Environmental regulatory functions are lodged separately in independent agencies in the environmental protection and natural resources management area (the State Water Control Board, State Air Pollution Control Board, Virginia Marine Resources Commission, Department of Conservation and Economic Development, and the Department of Health). Decisions are made based on a quasi-judicial process generally with strict parameters prescribed by federal and state law. Various environmental, social, and economic considerations such as conservation of prime forested and agricultural lands, fish and wildlife, open space, historic landmarks, population density, transportation, energy, aesthetics, or economic development enter the permitting process at the individual agency level.

The formal adoption of a state CRMP and the modification and/or development of related executive orders and memorandums of agreement will broad that regulatory base in such a way as to take into consideration the special problems and opportunities associated with coastal energy facilities in a comprehensive manner. In terms of the EFP Process itself the primary management relationships in this phase will be those that exist between the Governor/Secretary and the various regulatory agencies. The annual CRMP monitoring and evaluation cycle will determine the extent to which the state's environmental regulatory processes are reflective of the goals, objectives, and policies of that program. The interaction between the Governor/Secretary and those agencies will be the fundamental element ensuring an EFP Process that is pragmatic, evolutionary, and functional. The lead agency will have no significant role in this phase of the process except to serve as staff to the Governor/Secretary in the monitoring and evaluation cycle. The basic regulatory processes of each of the environmental regulatory agencies is described in Chapter IX.

State Participation in the Federal EIS Process

The Constitution of the United States does not address environmental protection per se. Federal legislation relating to environmental protection has a constitutional basis in such powers as the commerce power, the treaty power, the admiralty power, the taxing power, the power over Federal property, and others.

The National Environmental Policy Act of 1969 (NEPA) is the key piece of Federal legislation relating to the Federal Government's concern over environmental values. NEPA (Public Law 91-190) set forth a declaration of national environmental policy and created in the Office of the President a Council on Environmental Quality (CEQ). NEPA also created an environmental impact statement requirement.

Pursuant to NEPA, all federal actions must be consistent with the policy of the Federal government to encourage productive and enjoyable harmony between man and his environment. In order to foster this harmony, an environmental impact statement is required along with recommendations or reports on "major Federal actions significantly affecting the quality of the human environment." An EIS is not required if a Federal action is not major and significant.

Executive Order 11514 (1970) directed CEQ to issue guidelines to all Federal agencies concerning their implementation of the NEPA, EIS requirement. Federal agencies have developed individual procedures in accordance with the CEQ Guidelines. Each Federal agency has its own procedures tailored to its own particular operations, yet the general process is the same for all agencies.

Each Federal agency has identified types of projects which normally do not have significant environmental impacts due to their nature or size. When an agency initiates a project of this type, it may simply proceed with the project.

The initiating agency may wish to prepare an Environmental Assessment if a project is not obviously major and significant, but is significant enough to deserve further study. The Assessment can serve as a study to determine project significance or as a closer look at environmental considerations simply for the sake of better planning. CEQ encourages agencies to prepare Environmental Assessments for all projects.

Upon completion of an Environmental Assessment the initiating agency makes a determination of a project's significance. An EIS must be filed if a project is found to be "major and significant". If not, the initiating agency may proceed. (In certain instances CEQ Guidelines do require that the initiating agency give public notice of a finding of no significant environmental impact and wait at least thirty days before proceeding).

An initiating agency must give public notice of its intent to file an EIS as soon as practicable after the decision to prepare the statement is made.

When the Draft EIS has been prepared, the initiating agency must file it with the Environmental Protection Agency, make it available to Federal, State and local agencies and to the public, and wait at least 45 days to receive comments on the document. All comments received during that period must be substantively addressed in the Final EIS and reproduced along with specific responses in an appendix to the Final EIS.

Federal agencies should provide copies of EIS's that address projects that will impact on Virginia's environment to all those Virginia State

agencies having interests and expertise in pertinent areas. The Council on the Environment coordinates the State's review of Federal Environmental Impact Statements and provides the initiating agencies with the fully consolidated comments of the State. The Council's comments represent the State's review of the proposed action from the perspective of the total environment and are not limited to any specific aspect of environmental concern.

After the review period for the Draft EIS, the initiating agency must file a Final EIS with EPA before proceeding. The Final EIS must be given the same sort of public notice as the Draft, and copies must be provided to any persons, organizations, or agencies which submitted comments on the Draft. The Council coordinates the State's review of the Final EIS and provides consolidated State comments to the initiating Federal agency.

Thirty days after the Final EIS is filed with EPA, the initiating agency may proceed with the project. The decision to proceed is made by the initiating agency. When Federal agencies reviewing the EIS have major objections, they may refer such objections to CEQ. The thirty-day period may then be extended while CEQ works to resolve the issues. In very special instances, CEQ may give advice to the President of the United States, who has the ultimate authority in the Executive Branch with respect to proposed actions of Federal agencies.

The National Environmental Policy Act and the Federal EIS Process have been the basis of a great deal of litigation. While the intent of the legislation was not to restrict the functional ability of agencies of the Executive Branch, litigation centered around various aspects of the process, particularly the question of what constitutes a valid EIS, has caused delays to many proposals and has stopped many Federal projects. As a result, Federal agencies have tended to overreact to NEPA by making EIS's encyclopedic rather

than substantive.

A basic difference between the Federal EIS Process and the State EIS Process is the much larger amount of resources devoted to the Federal Process. The State has made up for this to some extent by its emphasis on substance rather than form. The average State EIS is much shorter and less expensive to produce and to review than the average Federal EIS.

Federal Executive Order 11991 (1977) directed the CEQ to "issue regulations to Federal agencies for the implementation of the procedural provisions of the Act (NEPA)". The President directed in part that the regulations be "designed to make the environmental impact statement process more useful to decisionmakers and the public; and to reduce paperwork and the accumulation of extraneous background data, in order to emphasize the need to focus on real environmental issues and alternatives". The CEQ is working on procedures that are expected to take effect in 1979.

CHAPTER VII

PLANNING AND MANAGEMENT OF AREAS OF PARTICULAR CONCERN

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CHAPTER VII

PLANNING AND MANAGEMENT OF AREAS OF PARTICULAR CONCERN

DEVELOPMENT AT THE EDGES

INTRODUCTION: THE ISSUE

Population growth in Tidewater has placed great demands on the Commonwealth's valuable coastal and marine resources. Projected increases in growth and development clearly dictate that management and especially planning functions, both at local and state levels, be improved. While the impacts of this phenomenal population increase may be felt throughout the coastal area, they are particularly intense in the coastal edges where land and tidal waters meet to form extremely dynamic, productive, fragile yet highly desirable environments. It is toward the end of accommodating necessary growth while preserving this environment that the Coastal Resources Management Program has designated some areas as worthy of special consideration in any planning or management process; that is, as Geographic Areas of Particular Concern.

The Impacts of Development at the Edges

United States Army Corps of Engineers and Virginia Marine Resources Commission data indicate that approximately 2400 specific shoreland and/or subaqueous use activities were permitted during the period January 1973-April 1977. These activities have resulted in the construction (both new and maintenance) of 22 miles of bulkheads, 13.2 miles of piers, and the dredging of 16.3 million cubic yards, filling of 1.5 million cubic yards, disposing of 3 million cubic yards and numerous other activities.

The impacts of past projects, which have only recently become evident, and anticipated increased pressure to develop the shoreline have combined to produce three major concerns relative to the use of coastal edges.

1. Projects which were designed, located and constructed without a sufficient data base from which to plan, or without knowledge or consideration of long range implications, have caused undesirable, and in some cases unnecessary effects.

Impoundments and fills have altered important migratory pathways and eliminated essential spawning and nursery grounds. The erection of Walkers Dam in the Chickahominy River has prevented American shad, blueback herring and alewife from reaching valuable spawning and nursery grounds. Dredge and disposal operations have destroyed productive nearshore shallow habitat and submerged grassbeds (such as those off Saddler's Point in the Severn River), and associated bottom-dwelling organisms important to the aquatic food web. Ineffective shoreline protection structures have aggravated erosion problems and/or transferred them to adjacent or downstream property owners. This is very evident in the Norfolk area where jetties at the Little Creek entrance have stopped the downdrift movement of sand to the Ocean View areas.

See I-13

Existing regulations and guidelines pertaining to vegetated tidal wetlands, subaqueous lands, water quality and land use have served to minimize adverse development impacts on some edge resources. However, unless proper planning procedures which address as many aspects of the complex marine-terrestrial interaction as possible are implemented, greater and more far-reaching impacts may be expected.

2. There is increasing potential for loss of life and property due to the growing concentration of residents and structures along the shore where the vulnerability to coastal natural hazards is the greatest. Recurring storm-induced flooding and shoreline erosion at Tangier Island, Ocean View and Virginia Beach serve to illustrate this problem. It has also been suggested that the entirety of Willoughby spit was created during a storm. If so, it is

likely to assume that a storm could also destroy it. But while protection of the public health, safety and welfare is a constitutionally mandated function of the Commonwealth, present programs designed to deal with these hazards are incomplete. Because coastal Virginia has not experienced a severe storm event for some time, programs to protect future development and associated residents are likely to be controversial.

3. The products and benefits of coastal developments such as power plants, marinas, ports and harbors, commercial fishing operations, and shorefront recreation facilities are enjoyed daily by coastal residents. These activities and other industrial, commercial, and recreational developments require access to coastal waters. However, in some Tidewater areas, especially in and around rapidly urbanizing sections, it is becoming increasingly difficult to locate suitable sites for water access dependent development. Increasing population in Tidewater connotes a continuing need for these and future activities at the shoreline, and a coordinated approach to siting procedures.

PROGRAM REQUIREMENTS

The Coastal Zone Management Act of 1972, as amended, requires that: "The management programs for each state shall include...an inventory and designation of areas of particular concern within the coastal zone...(and)...Broad guidelines on priorities of uses in particular areas..."

The federal regulations pursuant to the Act (Section 923.21) elaborate further that states must:

- o Designate areas of particular concern on a generic or site specific basis, or both;
- o Describe the nature of the concern;

- o Describe how the management program addresses the concerns;
- o Provide guidelines regarding priorities of use in these areas, including uses of lowest priority.

In designating such areas, coastal states are to consider whether certain types of areas require special management because of the resource value, hazards present in the area, or uses that the area may offer. (Designation in itself need not require specific legislative action). Areas of Particular Concern may be:

1. Areas of unique, scarce, fragile, or vulnerable natural habitat, physical feature, historical significance, cultural value, and scenic importance;

2. Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, and the various trophic levels in the food web critical to their well-being;

3. Areas of substantial recreational value and/or opportunity;

4. Areas where developments and facilities are dependent upon the utilization of, or access to, coastal waters;

5. Areas of unique geologic or topographic significance to industrial or commercial development;

6. Areas of urban concentration where shoreline utilization and water uses are highly competitive;

7. Areas of significant hazard if developed, due to storms, slides, floods, erosion, settlement, etc,; and

8. Areas needed to protect, maintain or replenish coastal lands or resources such as areas including coastal flood plains, aquifer recharge areas, sand dunes, coral and other reefs, beaches, offshore sand deposits, and mangrove stands.

VIRGINIA'S APPROACH TO GAPC's

Certain naturally occurring resources, such as wetlands, along the coastal edges are vital to the health and productivity of Virginia's estuarine and marine ecosystems. Other resources, such as dunes, are integral to the stability of the shoreline and may protect inland areas from flooding and high winds. To prepare recommendatins for identifying these and other resources as Geographic Areas of Particular Concern, three steps were necessary:

- o The environmental functions that are vital to estuarine and marine ecosystems or are protective in nature had to be determined;
- o The edge resources that perform one or more of these vital functions had to be identifed; and
- o Existing management programs had to be identifed and evaluated.

The scientific community generally considers five broad environmental functions to be either vital to estuarine and marine ecosystems or of great importance to areas immediately inland of the shoreline. These are:

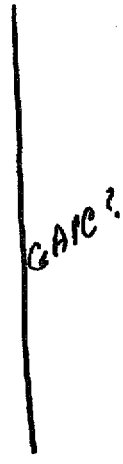
- o Storage of energy, nutrients and essential materials;
- o Primary production of plant matter needed to support estuarine and marine organisms;
- o Provision of essential habitat for estuarine and marine

organisms (spawning, nursery, and feeding grounds);

- o Maintenance of water quality; and
- o Stabilization and protection of shorelands against adverse effects of wind and wave action (erosion and flooding).

A review of scientific data pertaining to the environmental functions and values of various coastal edge resources indicates that the following resource types perform one or more of the vital functions outlined above:

- o Vegetated tidal wetlands
- o Non-vegetated tidal wetlands
- o Nearshore shallows, particularly submerged grass beds
- o Spawning and nursery areas
- o Coastal sand dunes
- o Barrier islands



There are also naturally occurring processes on the shoreline of tidal waters which may present a hazard to life or property in developed areas, or in areas where future development may aggravate the hazard or become vulnerable due to oversights in the location or construction phase. As was the case with the determination or resource areas of particular concern, certain steps were necessary for the identification of hazardous processes and the areas vulnerable to them. These were:

- o The processes and phenomena which may present a hazard to life and/or property had to be determined;
- o Geographic areas subject to these hazards had to be identified; and

o Existing protective or mitigatory programs had to be identified and evaluated.

It is generally considered that the two greatest coastal hazards most amenable to planning and management of a continuing nature are:

o Continuing and severe erosion; and

o Coastal damage from wind, tidal and storm related events.

Federal and State authorities have in the past, and are continuing with studies designed to identify areas subject to the above hazards. As a result of the Virginia Institute of Marine Science series of Shoreline Situation Reports and the Federal Flood Insurance program these areas have largely been determined and are deemed:

o Highly erodible areas; and

o Flood plains, notably high hazard areas.

GAPC 1.

In addition to resource and hazard areas, there are areas which are to be considered "of particular concern" to society simply because of their proximity to tidal waters. Close access to water may be important to some citizens of a locality primarily for recreational purposes, while waterfront locations are also essential for the development of necessary commercial and industrial activities.

Preliminary steps to be taken to identify areas where potential conflict of use problems could arise are:

o The physical characteristics which make an area desirable from a recreational, commercial or industrial viewpoint must be determined.

- o Geographic areas which posess suitable combinations of attributes supportive of either point of view must be identified; and

- o Existing mechanisms for resolving conflict of use questions must be identified and evaluated in concert with consideration of cumulative and side-effects, economic benefits and the will of the locality.

The characteristics which would make an area attractive from a recreational standpoint are many, varied and generally determined by the activity being considered. However some qualities generally accepted as desirable are:

- o Aesthetically pleasing, i.e. wide, sandy beach, presence of shading devices (preferably close upland trees), seclusion from adjacent property which may be industrial;

- o Close to service facilities, eating establishments, and easily accessible from major highway arteries;

- o Safe nearshore conditions, i.e. lack of "riptides" and sudden dropoffs, presence of lifeguards; and

- o High water quality, both for swimming and fishing.

Attractiveness from a commercial or industrial viewpoint may include consideration of such factors as:

- o Proximity to major transportation routes, (highways, railways and navigable channels) both for shipping of products and convenience of patrons;

o Ease of acquisition, from legal and monetary aspects;

o Lack of public opposition to the proposed project; and

o Minimum preliminary preparation of the site, such as clearing, grading, filling, etc.

To a great degree, localities have considered many of these and other factors in their zoning ordinances or comprehensive plans. However, it is possible that when shorefront zones and plans were conceived, the importance of some shoreline ecosystems was not realized. It is the intent of Virginia's coastal GAPC process to indicate these ecosystems and their values.

IMPORTANCE OF THE GAPC PROCESS

The process of identifying and designating geographic areas of particular concern should be viewed as a planning process. Once the reasons for concern are identified and the impacts from any particular use are determined, local decision-makers will be in a much better position to realize the ramifications of their various alternatives. In that the GAPC process has been initiated by the State through federal legislation, it is expected that the State would provide as much assistance as possible to localities desiring to take full advantage of the process.

In most cases of resource and hazard areas of particular concern, the definitions also connote their boundaries. The only exceptions to this are fish spawning, nursery and feeding areas.

However, in reference to use areas of particular concern, these are strictly local decisions. The Commonwealth desires only to give localities the advantage of expertise in research in making decisions which may have more far-reaching impacts than are evident upon first analysis. This can be done

URBs? Facility siting?

most efficiently in a planning mode, rather than from a reactive position.

Although the state recognizes the desirability and necessity of local autonomy in regards to coastal land use decisions, it is the impact of these decisions, both site-specific and cumulative, on the common property and well-being of all citizens of the Commonwealth which is being addressed. This is a central reason for the development of the GAPC process.

GEOGRAPHIC AREAS OF PARTICULAR CONCERN AND PRIORITY OF USES

The following is a discussion of individual GAPC's, the natures of concern, existing programs, and also as required by the federal legislation, "Broad guidelines on priorities of uses...". The definition of each GAPC is what may be termed its generic basis, but where an area physically meets the requirements of the definition it is to be considered site specific.

COASTAL NATURAL RESOURCE AREAS OF PARTICULAR CONCERN

Vegetated Tidal Wetlands

Vegetated tidal wetlands, commonly called tidal marshes, are defined by Virginia's Wetlands Act (Va. Code 62.1-13.2) as:

> ...all that land lying between and contiguous to mean low water and an elevation above mean low water equal to the county, city or town in question; and upon which is growing on July one, nineteen hundred seventy-two or grows thereon subsequent thereto, any one or more of the following saltmarsh cordgrass (Spartina alterniflora), saltmeadow hay (Spartina patens), saltgrass (Distichlis spicata), black needlerush (Juncus roemerianus), saltwort (Salicornia spp.), sea lavender (Limonium spp.), marsh elder (Iva frutescens), groundsel bush (Baccharis halimifolia), wax myrtle (Myrica sp.), sea oxeye (Borrichia frutescens), arrow arum (Peltandra virginica), pickerelweed (Pontederia cordata), big cordgrass (Spartina cynosuroides), rice cutgrass (Leersia oryzoides), wildrice (Zizania aquatica), bulrush (Scirpus validus), spikerush (Eleocharis sp.), sea rocket (Cakile ecentula), southern wildrice (Zizaniopsis miliacea), cattails (Typha spp.), three-squares (Scirpus spp.),

button bush (Cephalanthus occidentalis), bald cypress (Taxodium distichum), black gum (Nyssa sylvatica), tupelo (Nyssa aquatica), dock (Rumex spp.), yellow pond lily (Nuphar spp.), marsh fleabane (Pluchea purpurascens), royal fern (Osmunda regalis), marsh hibiscus (Hibiscus moscheutos), beggar's ticks (Bidens sp.), smartweeds (Polygonum sp.), arrowhead (Sagittaria spp.), sweet flag (Acorus calamus), water hemp (Amaranthus cannabinus), reed grass (Phragmites communis) and switch grass (Panicum virgatum). (See Figure II-1).

The values and functions of these tidal marshes are well documented in Virginia. A majority of the plant matter produced by tidal marshes is utilized as a food source either directly by marsh animal communities or indirectly by estuarine and marine aquatic organisms. Many species of commercially and recreationally important finfish, shellfish and crabs feed upon decayed marsh vegetation (detritus). Marsh vegetation and associated soils help maintain water quality by removing or chemically altering pollutants, sediments, and nutrients from waters which pass over and through them. Many of these substances are stored in marsh plants and soils and transformed into organic substances utilized in the aquatic food web. Tidal marshes also provide essential habitat for terrestrial wildlife, waterfowl, shellfish, finfish, and crustaceans and act as a protective buffer against the flooding and erosion of valuable shorelands.

Through the passage of the Virginia Wetlands Act of 1972, the State formally recognized the importance of tidal marshes and the need for their protection. The Act establishes State policy and standards for the protection and use of tidal marshes, and authorizes localities to guide development in wetlands through the adoption of local wetlands zoning ordinances, the creation of wetlands boards, and the institution of wetlands permit programs.

In the absence of local action, the Act authorizes the Virginia Marine Resources Commission to directly manage and permit wetland activities. The Marine Resources Commission is required to review all local decisions and is empowered to hear or make appeals of the local decisions and to modify or reverse local decisions where necessary to enforce the purposes of the Act. Lastly, the Act establishes a process whereby local or State wetlands permit decisions may be appealed to the courts.

In addition to Virginia's wetlands permit requirements, any person proposing a project that will involve alteration of vegetated or non-vegetated wetlands must also obtain a permit from the U. S. Army Corps of Engineers. The Corps' permit authority emanates from Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the 1972 amendments to the Federal Water Pollution Control Act.

Virginia localities have played a key role in the implementation of the Virginia Wetlands Act, and to date the program has been quite successful in conserving the State's valuable tidal marshes.

Priority of Use in Vegetated Wetlands

Title 62.1-13.5,3 of the Code permits several categories of activity (if otherwise permitted by law). This exemption from permit requirements places them in a privileged or highest priority status. The categories are:

(a) The construction and maintenance of noncommercial catwalks, piers, boathouses, boat shelters, fences, duckblinds, wildlife management shelters, footbridges, observation decks and shelters and other similar structures; provided that such structures are so constructed on pilings as to permit the reasonably unobstructed flow of the tide and preserve the natural contour of

the marsh;

(b) The cultivation and harvesting of shellfish, and worms for bait;

(c) Noncommercial outdoor recreational activities, including hiking, boating, trapping, hunting, fishing, shellfishing, horseback riding, swimming, skeet and trap shooting, and shooting preserves; provided that no structure shall be constructed except as permitted in subsection (a) of this section;

(d) The cultivation and harvesting of agricultural or horticultural products; grazing and haying;

(e) Conservation, repletion and research activities of the Virginia Marine Resources Commission, the Virginia Institute of Marine Science, Commission of Game and Inland Fisheries and other related conservation agencies;

(f) The construction or maintenance of aids to navigation which are authorized by governmental authority;

(g) Emergency decrees of any duly appointed health officer of a governmental subdivision acting to protect the public health;

(h) The normal maintenance, repair or addition to presently existing roads, highways, railroad beds, or the facilities of any person, firm, corporation, utility, federal, State, county, city or town abutting on or crossing wetlands, provided that no waterway is altered and no additional wetlands are covered;

(i) Governmental activity on wetlands owned or leased by the Commonwealth of Virginia, or a political subdivision thereof. ?

Activities which must be subject to the permitting process because of potential impacts which may result, thus those of secondary priority are alterations of vegetated wetlands or construction of structures in order to:

(a) Gain access to navigable waters by: (i) commercial and industrial

activities for which it has been clearly demonstrated that waterfront facilities are required; (ii) marinas, camps, boat yards, yacht clubs and other activities which provide broad recreational access to the water; or (iii) owners of land adjacent to waters of navigable depth or waters which can be made navigable with only negligible adverse impact on the environment.

(b) Protect property from significant damage or loss from erosion or other natural causes.

Activities for which alterations of vegetated wetlands are ordinarily not justified, those of lowest priority, are:

(a) For purposes or activities which could just as well be conducted on existing fastlands and which have no inherent requirement for direct access to water resources.

(b) For purposes of creating waterfront property from lots and subdivisions which are not naturally contiguous to navigable waters.

(c) When damage to property of others is a likely result of a proposed activity.

(d) When the alteration will result in a discharge of effluents which impair wetlands, water quality or other marine resources.

(e) When there are viable alternatives which can achieve a given purpose without adversely affecting marine resources.

Non-vegetated Tidal Wetlands

Non-vegetated Tidal Wetlands are defined as all that non-vegetated land lying between and contiguous to mean low water and an elevation above mean low water equal to the factor 1.5 times the mean tide range at the site of the proposed project.

As the definition indicates, non-vegetated wetlands differ from tidal marshes in that they do not support vascular marsh vegetation. Non-vegetated wetlands may exist either as mudflats, sandflats, beaches, or intermittently exposed sand bars.

Non-vegetated intertidal areas have extensive distribution in Virginia. Mud and sandflats are most predominant along shorelines that are protected against erosive wave action and that have greater tidal ranges. Along the seaside bays of the Eastern Shore, non-vegetated wetlands are at least as extensive as vegetated wetlands, if not the predominant foreshore habitat. Along the shoreline exposed to high energy wave conditions, both seaside and bayside, sand beaches are the predominant undeveloped shoreline type.

Despite the absence of vascular vegetation, many intertidal flats support algal growth which may have the potential to exceed the primary production rates of the most productive marsh plants. Algae is an important food source for estuarine and marine organisms because it may be utilized more directly than marsh vegetation which must be broken down to usable components by bacterial action (decay). In addition to primary production of plant material, intertidal flats, especially mudflats, are extremely important in the storage and cycling of nutrients. Beaches and sandbars support fewer species, but those present are in great numbers. In addition, beaches are of value to recreation and Virginia's tourist industry.

Non-vegetated wetlands provide an essential habitat for many organisms important to estuarine and marine food webs. Intertidal flats may also support heavy populations of worms, molluscs, and crustaceans in addition to the algae, (collectively considered as biomass). Recent evidence indicates that the indigenous biomass associated with sandflats could exceed that of mudflats if not for the effective "grazing" of organisms dependent on these

areas for food. At high tide, these areas thus become feeding grounds for adult and juvenile fish and crabs. At low tide, they are subject to "grazing" by many species of birds.

The federal government, through the authority vested in the U. S. Army Corps of Engineers through Section 10 of the Rivers and Harbors Act and Section 404 of the 1972 amendments to the Federal Water Pollution Control Act, (FWPCA), regulates the use of intertidal flats through a permit program.

? state involvement

The State Water Control Board, through Section 401 of the FWPCA, is given the authority to issue or deny issuance of a "Certificate of Water Quality" on any non-exempted project in non-vegetated wetlands to the Corps of Engineers.

?

Priority of Use in Non-vegetated Wetlands

In that activities which may damage vegetated wetlands are also those harmful to non-vegetated wetlands, those uses which do not require a permit, that is, uses of highest priority, are generally the same.

As was the case with vegetated wetlands, activities of secondary priority in non-vegetated wetlands are those which must be subject to the permitting process. They are again, the same as in vegetated wetlands.

Activities for which alterations of non-vegetated wetlands are ordinarily not justified, those of lowest priority, are:

(a) For purposes or activities which could just as well be conducted on existing fastlands and which have no inherent requirement for direct access to water resources.

(b) For purposes of creating waterfront property from lots and subdivisions which are not naturally contiguous to navigable waters.

(c) When damage to property of others is a likely result of a proposed activity.

(d) When the alteration will result in a discharge of effluents which impair wetlands, water quality or other marine resources.

(e) When there are viable alternatives which can achieve a given purpose without adversely affecting marine resources.

Submerged Grass Beds

Submerged grass beds may be defined as those areas between mean low water and a depth corresponding to the limit of light penetration through the water column (approximately the 10-foot isobath) upon which now grow, or has grown one or both of the following species: eelgrass (Zostera marina) or widgeon grass (Ruppia maritima).

Because of the protection from predators afforded by submerged grass beds, they serve as important nursery grounds for finfish and in particular, blue crabs. Submerged aquatic vegetation also helps buffer shorelines against erosive wave action through the dissipation of wave energy and trapping of sediments. In addition, grass beds are important in the storage and cycling of nutrients and the maintenance of water quality.

Eelgrass is a particularly important factor of the nearshore shallows environment not only for the functions it performs, but because it may be in danger of disappearing in the Chesapeake Bay. This resource has been undergoing major fluctuations in abundance during the last eight years. Between 1971 and 1974 two rivers in the system, the York and the Rappahannock, showed an eelgrass decrease from 493 to 141 hectares and 700 to 4 hectares, respectively. The overall reduction of eelgrass in the lower Chesapeake Bay

was 36 percent during this three-year period.

Fluctuations in eelgrass beds, however, are not new. In the 1930's eelgrass disappeared, then returned during the next thirty years. Research aimed at understanding the recent decrease indicates that mean water temperature during winter increased steadily in the area since 1970. Because eelgrass in Virginia is close to its southern limit, the increase in water temperature could be sufficient to cause the reduction of the beds. The activities of Cownose Rays in feeding on organisms using the grassbeds as habitat may also be a prime factor in grassbed disappearance. Grassbeds are also sensitive to pollution of all types (sedimentation, toxics, residual pesticides and herbicides from runoff) and to direct physical disturbances of vegetation and bottom sediments. Increased shoreline development in tidal areas, coupled with the importance and sensitivities of nearshore shallows, underscore the need for their protection.

Currently, all lands lying beneath State waters and seaward of the mean low water line are subject to the direct management and regulatory jurisdiction of the Virginia Marine Resources Commission and the U. S. Army Corps of Engineers. State management authority emanates from Titles 62.1-1 and 62.1-3 of the Code of Virginia, whereby the Marine Resources Commission may grant permits for the use of subaqueous bottoms. Federal management authority is derived from Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the 1972 amendments to the Federal Water Pollution Control Act.

Priority of Use in Submerged Grass Beds

Title 62.1-3 of the Code of Virginia exempts from permit requirements five categories of use, thus making them uses of highest priority. Submerged

aquatic vegetation is not specifically considered, however, subaqueous beds may, in fact, also encompass submerged grass beds. The five categories are:

(1) The erection of dams, the construction of which has been authorized by proper authority;

(2) Uses of subaqueous beds authorized under the provisions of Title 28-1 of the Code;

(3) Construction and maintenance of congressionally approved navigation and flood control projects undertaken by the United States Army Corps of Engineers, United States Coast Guard, or other federal agency authorized by Congress to regulate navigation, navigable waters, or flood control;

(4) Piers, docks, marine terminals and port facilities owned or leased by or to the Commonwealth or a political subdivision thereof;

(5) Placement of private piers for noncommercial purposes by owners of riparian lands in the waters opposite such riparian lands; provided, however, such private piers shall not extend beyond the navigation line or lawful private pier lines established by proper authority; and

Title 62.1-3 of the Code also gives the Marine Resources Commission the authority to issue permits for all other reasonable uses of State-owned bottom lands, that is, those of secondary priority. These uses include but are not limited to:

> ...the taking and use of material, the placement of wharves, bulkheads, dredging and fill, by owners of riparian lands, in the waters opposite such riparian lands...

The Title goes on to say...

In granting or denying any permit for the use of State-owned bottom lands, the Commission shall be guided in its deliberations by the provisions of § 1 of Article XI of the Constitution of Virginia, and shall consider, among other things, the effect of the proposed project upon other reasonable and permissible uses of state waters and state owned bottom lands, its effect upon the marine and fisheries resources of the Commonwealth, its effect upon the wetlands of the Commonwealth, except when its effect upon said wetlands had been or will be determined under the provisions of chapter 2.1 (§ 62.1-13.1 et seq.) of this title, and its effect upon adjacent or nearby properties, its anticipated public and private benefits, and, in addition thereto, the Commission shall give due consideration to standards of water quality as established by the State Water Control Board.

Activities which may detrimentally affect submerged grass beds are those of lowest priority. These are:

(a) For purposes or activities which could just as well be conducted on existing fastlands and which have no inherent requirement for direct access to water resources.

(b) When damage to property of others is a likely result of a proposed activity.

(c) When the activity will result in a discharge of effluents which impairs submerged aquatic vegetation or other marine resources.

(d) When there are viable alternatives which can achieve a given purpose without adversely affecting marine resources.

Spawning, Nursery and Feeding Grounds

As the name implies, spawning, nursery and feeding grounds can be defined as those areas in which fish, shellfish or crabs concentrate for one of those purposes. Within the set of spawning, nursery and feeding grounds there is a subset of areas described on a generic basis such as nearshore shallows, submerged grass beds, (which have been described) and others.

Nearshore shallows are important for a variety of reasons, the most significant of which is their function as spawning, nursery and feeding grounds for many species of finfish, shellfish and crustaceans. Shallows may support the growth of rooted vascular plants (eelgrass and widgeon grass) and benthic algae which are utilized as food by estuarine and marine organisms. Non-vegetated shallow areas support large populations of animals that live in or on the sediments and serve as principal food sources for finfish and crabs. In addition to these vital functions, nearshore shallows are important in the cycling and storage of nutrients, the trapping of sediments and maintenance of water quality.

Maintenance of the biological productivity and integrity of Virginia's valuable fisheries requires the protection of those areas within coastal waters that serve as spawning nursery, and feeding areas for finfish, shellfish and crustaceans. These areas are difficult to identify and delineate because they vary among the major classes of organisms and by species. Proper management of these areas not only requires protection of the physical habitat (tidal flats, wetlands, shallows, and grassbeds), but also maintenance of water quality conditions such that species survival rates will be optimized and public health hazards that may occur due to consumption of fishery resources will be minimized.

Location of spawning, nursery and feeding areas is especially difficult in the case of finfish because of their mobility and because different species require different water conditions, varying with their life-stages.

Because of their relative immobility, the shellfish spawning, nursery and feeding areas are easier to define than those of finfish. Areas of oyster and clam concentration and seed areas can and have been delineated.

Crustaceans, especially the blue crab, have a relatively well documented life history. As a result, one area in particular in the mouth of the Chesapeake Bay has been set aside by Virginia (Title 28.1-170) as a blue crab sanctuary. This law seasonally restricts the taking of crabs in this area because of its environmental conditions which are extremely conducive to the spawning and nursing of young crabs. Other areas of importance can be identified as critical habitat for spawning blue crabs and as a nursery area.

It is important to consider that impacts of activities on the water or subaqueous bottom may, in some cases, be overshadowed by land based activities which take place in the drainage basin proximate to the delineated area.

Currently, several State agencies are actively involved in fisheries research, management of fishery stocks, regulation of fishing activity, and protection of important fishery habitats. The most active of these include the Virginia Institute of Marine Science, the Virginia Marine Resouces Commission, Bureau of Shellfish Sanitation (State Health Department), Commission of Game and Inland Fisheries, State Water Control Board, and the State Soil and Water Conservation Commission. Authority existing in the Code of Virginia relating to the research and management jurisdictions and responsibilities of these agencies (especially Titles 28.1 and 62.1) in combination with proposed coastal management actions should provide sufficient

State authority to protect essential fishery areas as they are identified. The program does not propose any new specific management program for spawning, nursery, and feeding areas. There is, however, a need to more precisely locate and define finfish spawning areas.

what are powers? how do they work?

Priorities of Use in Spawning, Nursery and Feeding Areas

The reason that these as yet unidentified areas are being included as GAPC's is that when they are determined in the future, special management techniques must be applied. The GAPC process, if already in effect, is the ideal mechanism for applying these techniques in that no additional legislative action nor changes in existing legislation would be necessary. The area would be designated a GAPC, bounded, and managed within the context of priorities of use as listed for vegetated wetlands, non-vegetated wetlands and submerged grass beds.

same priorities work

Coastal Sand Dunes

A sand dune may be defined as a mound of unconsolidated (sandy) soil whose landward and lateral limits are marked by a change in grade from ten percent or greater to less than ten per centum and upon any part of which is growing any one or more of the following: american beach grass (Ammophilla breviligulata); beach heather (Hudsonia tomentosa); dune bean (Strophostylis umbellata var. paludigena); dusty miller (Artemisia stelleriana); saltmeadow hay (Spartina patens); seabeach sandwort (Arenaria peploides); sea oats (Uniola paniculata); sea rocket (Cakile edentula); seaside goldenroad (Solidago sempervirens) and short dune grass (Panicum ararum).

Dunes are formed by interactions among sand, wind, vegetation or other

materials which may serve to trap sand. In Virginia, the primary distribution of coastal sand dunes is along the Atlantic shores of Virginia Beach and the Eastern Shore. Isolated dunes can also be found along the shore of the City of Hampton.

Sand dunes serve several vital functions, the most important of which are stabilization of the shoreline and protection of the beach and backshore areas from erosion and the effects of storm surge flooding. Further, dunes help promote the growth of vegetation and subsequent stabilization of backshore areas, provide important habitat and reservoirs of sand for beach replenishment and assist in the accumulation and storage of groundwater.

Currently, there is no comprehensive coastal sand dune management program in Virginia. However, dune systems such as those on the barrier islands and in Back Bay National Wildlife Refuge and False Cape State Park are receiving a measure of protection through either ownership by The Nature Conservancy or by Federal and State authority. what?

The City of Virginia Beach currently has two methods of control over dunes generally. One is an ordinance dealing with the removal of sand from the beach and associated dunes, while the other is an administrative policy not to approve site plans which extend below the 6-foot contour.

Also proposed for Virginia Beach is a Coastline Management Ordinance of the Comprehensive Zoning Ordinance. This ordinance would establish a "Dune Protection Area," subject to special regulations and including "all land area between the hardwood vegetation line and the mean low water line, or 500 feet landward from mean low water, whichever is greater." Within the Use Regulations of the Ordinance, "The following standard shall apply to any dune-disturbing activities related to the use or development of coastal sand

Virginia Beach - good control!

dunes: Development on or adjacent to coastal sand dunes shall not be located and constructed so as to necessitate the physical alteration of any dune or vegetation thereon, or otherwise impair the natural function of the dune."

Dunes on the coastline of the City of Hampton are generally owned by that city and therefore are subject to all rules, regulations and pertinent management techniques.

Priority of Use in Coastal Sand Dunes

The vast majority of coastal sand dunes in Virginia are located on the barrier islands or in the City of Virginia Beach. On the barrier islands, priorities of use of sand dunes are the same as listed for the barrier islands as an entity. However, in Virginia Beach, in that dune management will be through special ordinance, priorities of use are as follows:

Activities which are of highest priority and therefore exempted from the Ordinance are:

(a) The construction and maintenance of noncommercial walkways which do not alter the contour of the dune;

(b) The construction and maintenance of observation platforms which are not an integral part of any dwelling and which do not alter the contour of the dune;

(c) The planting of beach grasses or other dune vegetation for the purpose of stabilizing dunes;

(d) The placement of sand fences or loose material on or adjacent to dunes for the purpose of stabilizing such features except that this provision shall not be interpreted to authorize the placement of any material which presents a public health or safety hazard or which is otherwise prohibited by

law;

(e) Sand replenishment activities of any private or public concern;

(f) The normal maintenance of any groin, jetty, riprap, bulkhead, or other structure designed to control beach erosion which may abut a dune;

(g) The normal maintenance or repair of presently existing roads, highways, or the facilities of any person, firm, corporation, utility;

(h) Non-commercial outdoor recreational activities provided that such activities do not alter the natural dune contour or destroy dune vegetation;

(i) The research activities of the Virginia Institute of Marine Science or the regulatory activities of the Virginia Marine Resources Commission;

(j) The construction and maintenance of aids to navigation which are authorized by government action;

(k) Activities pursuant to any emergency declaration by the governing body of the City of Virginia Beach, the Governor of the Commonwealth or any public health officer for the purposes of protecting the public health or safety;

(l) Governmental activity on dunes owned or leased by the Commonwealth of Virginia or the United States Government.

Activities of lowest priority, that is, those projects for which disruption and alteration of dunes is ordinarily not warranted are: any (other) activity which may result in the alteration of the natural dune contour or the vegetation thereon in such a manner as to diminish its erosion control and flood protection value, including but not limited to construction on or seaward of dune crests; excavation of dune material for whatever purpose; and, transportation across dunes.

Virginia's Barrier Islands

Virginia's barrier island complex includes the only intact and least altered chain of barrier islands on the east coast of North American. As such, this 60 mile island chain constitutes a unique and priceless asset to the Commonwealth. For purposes of the GAPC element, Virginia's barrier island complex is defined as the group of nineteen islands located along the Atlantic Ocean side of the Eastern Shore which includes Assateague (Virginia portion), Wallops, Assawoman, Metomkin, Cedar, Paramore, Revel, Sandy, Hog, Rogue, Cobb, Wreck, Godwin, Ship Shoal, Myrtle, Mink, Smith, Mockhorn, and Fisherman Islands.

Many vital functions are performed by Virginia's barrier island complex. First and foremost, the islands act as a buffer against coastal storms and protect the extensive wetland areas and mainland lying behind the islands from erosion, flooding, and destruction. Secondly, these islands, and the dune systems found on them, serve as storage units for sand and other sedimentary materials utilized in coastal processes along the island chain. Lastly, the islands and the important resources found on or around the island (salt marshes, tidal flats, submerged grassbeds, shallows, dunes) provide food and/or habitat for numerous species of fish, birds, waterfowl, and other organisms.

Existing management programs affecting use of the barrier islands are numerous and relate primarily to ownership. Three of the islands, Assateague, Wallops, and 60 percent of Fisherman, (the remaining 40 percent is a privately owned hunting lodge) are federally owned and managed. Wreck and Mockhorn Islands are owned and protected by the Commonwealth of Virginia. Assawoman and part of Cedar Island are privately owned, in the first case by an individual, and in the case of Cedar, possibly by as many as 660 individuals.

Hog Island also has privately owned individual lots. The remaining portion of Hog and Cedar Islands and the other eleven islands are owned and managed collectively by The Nature Conservancy as the Virginia Coast Reserve.

In addition to protection afforded by their respective owners, the barrier islands are also subject to existing state and federal resource management programs affecting shorelands (wetlands), state waters, and state bottoms (subaqueous lands).

Priorities of Use of Virginia's Barrier Islands

As can be seen, barrier islands contain many areas which have already been determined as GAPC's, and the priorities of use in each distinct area remains in effect. However, it is each island as an entity which is also being considered a GAPC. In that each island is an ecosystem unto itself, activity in one portion may well affect the entire island. Therefore the highest priority of use of the barrier islands is:

(a) Preservation

Uses of secondary priority, those which may be allowed, but only with careful supervision and moderation are:

(a) Hunting, fishing and fowling;

(b) Recreation, including but not limited to boating, camping and picnicing; and

(c) Research of coastal processes, including testing of erosion abatement techniques.

Uses of lowest priority, those which should not be allowed fall generally under one category:

(a) Any use which would destroy or disrupt the natural conditions or contribute to increased erosion of the island.

COASTAL NATURAL HAZARD AREAS OF PARTICULAR CONCERN

Numerous parts of Virginia's coastal area are subject to high shoreline erosion rates and flooding, including coastal storm surge flooding. This discussion focuses on these two types of hazards in terms of their severity and extent and on existing means of dealing with them. Historical records and the extent of the flood plain provide the information needed for the designation of GAPCs as natural hazard areas.

Highly Erodible Areas

Highly erodible areas are defined as those shoreline segments exhibiting an erosion rate equal to or greater than 2 feet per year. Based upon information generated by the nearly completed Shoreline Situation Report series being conducted by VIMS, it has been determined that there are currently 330 miles of highly eroding shorelines in Virginia. Table VII-1 identifies the extent of these areas by locality.

Tidal shoreline erosion is primarily a natural phenomenon produced by the effects of changes in sea level and waves (wind, tide, and storm driven) on coastal shorelands. The nature and extent of shoreline erosion in Tidewater Virginia have been well documented through research efforts of the Virginia Institute of Marine Science (VIMS). Historical studies conducted by the Institute indicate that during the period 1850-1950 over 30,000 acres of shoreland were lost due to shoreline erosion. This represents an average loss of 300 acres per year. Recent estimates made by Institute staff indicate that current average annual losses exceed 300 acres per year. Severe problems arise in areas where erosion is consistently prevalent with no seasonal accretion to mitigate the total effect.

TABLE VII-1 - LOCATION OF HIGHLY ERODING SHORELINES* IN VIRGINIA BY CITY/COUNTY AND WATER BODY

CITY/COUNTY	NO. MILES OF ERODING SHORELINE
Accomack (Bay)	26.83
Accomack (Ocean)	36.40
Charles City	1.06
Chesterfield	3.10
Essex	23.47
Gloucester	12.06
Hampton	7.69
Henrico	.53
Isle of Wight	8.41
James City	.36
King George	1.70
Lancaster	16.36
Mathews	24.99
Middlesex	12.45
Newport News	2.22
Norfolk	0.70
Northampton (Bay)	16.95
Northampton (Ocean)	23.16
Northumberland	35.85
Prince George	2.88
Richmond	13.26
Suffolk City	1.33
Surry	6.33
Virginia Beach (Bay)	6.0
Virginia Beach (Ocean)	14.6
Westmoreland	19.83
York	11.82
TOTAL	330.34

WATER BODY	NO. MILES OF ERODING SHORELINE
Bay/East	43.78
Bay/West	67.37
Bay/South	6.70
Rappahannock	59.21
James	24.53
York	6.57
Potomac	39.79
Piankitank	6.90
Nansemond	1.33
Atlantic Ocean	74.16
TOTAL	330.34

*Highly eroding shorelines are defined as those shoreline segments exhibiting an erosion rate equal to or greater than 2 feet per year. Rates are established by VIMS Shoreline Situation Reports.

While shoreline erosion contributes to direct physical destruction of ecologically important shoreland resources and often impairs aquatic habitat and organisms through sedimentation, it has been and will probably continue to be considered a major coastal problem mainly because of its impacts on our man-made environment. Shoreline erosion poses a significant threat to coastal property owners because it often results in the loss and/or impairment of land and structures representing significant public and private investments. Because the potential for and severity of impacts to both natural and man-made environments may increase dramatically with the extent and rate of erosion, it is essential to identify shoreline segments that are exhibiting high rates of erosion and to develop effective means to minimize the effects of erosion in these areas.

The Commonwealth of Virginia, through Section 21-11.16 of the Code of Virginia, has recognized the significance of the erosion problem. The General Assembly has declared that:

> The shores of the Commonwealth of Virginia are a most valuable resource that should be protected from erosion which reduces the tax base, decreases recreational opportunities, decreases the amount of open space and agricultural lands, damages, or destroys roads and produces sediment that damages marine resources, fills navigational channels, degrades water quality and, in general, adversely affects the environmental quality; therefore, the General Assembly hereby recognizes shore erosion as a problem which directly or indirectly affects all of the citizens of this State and declares it the policy of the State to bring to bear the State's resources in effectuating effective practical solutions thereto. (1972, c, 855)

Section 21-11.18 of the same article vests the Soil and Water Conservation

Commission with the duty and responsibility to identify and evaluate solutions to erosion problems, to coordinate and evaluate all State erosion abatement programs, and to secure assistance from the federal government in the protection of waterfront property. While the Commission has these responsibilities, it has not had the funds to hire the personnel to carry them out.

Four other related State and local programs should be mentioned for their applicability to shoreline erosion problems. First, the Virginia Beach Erosion Commission, chartered by the State, has been actively involved in the identification of management and funding alternatives for use in resolution of shoreline erosion problems in Virginia Beach.

Secondly, the State Erosion and Sediment Control Law was enacted in 1972 to deal with the statewide problem of soil erosion and sedimentation of state waters. This program has been implemented and is achieving some success, but its focus is on upland soil erosion, not shoreline erosion.

Third, localities can use their land use control authority to ameliorate the effects of shoreline erosion and to protect the public from the erosion hazard. To date, however, localities have made little use of this power.

The fourth, and most recent development, is the establishment of the State Erosion Abatement Commission by Senate Joint Resolution 22 in the 1978 session of the General Assembly. The Commission is composed of seven members and has been studying and will make management recommendations for abatement of the Commonwealth's shoreline erosion problems.

The advantage of declaring highly erodible areas as GAPC's is that a decision process for dealing with shoreline erosion on the basis of the economic, scientific, engineering, legal, and institutional factors may be

implemented. The intent is to allow both public bodies and private citizens to consider all the facets of the problem before deciding to attempt to abate erosion or to let the natural process occur. Under this process, shoreline erosion would be dealt with not on a parcel-by-parcel basis, but on a shoreline segment basis. The approach to the problem could be based on both regulatory (such as setback requirments) and nonregulatory methods, depending on the choices and needs of the parties directly affected.

A central problem in dealing with the management of highly erodible areas is that the degree of development varies from area to area, thus we are faced with two issues:

(1) The protection of existing shoreline development (structural or non-structural); and

(2) The protection of undeveloped shoreline, and recommendations for management of that area immediately behind the erodible shoreline.

Virginia is preparing a format and guide to making shoreline erosion decisions in meeting the requirement of the Coastal Zone Management Act to establish a shoreline planning and decision process, however, priorities of use may be stated.

Priority of Use in Highly Erodible Areas

Uses of highest priority in highly erodible areas are:

(a) All agricultural, horticultural or silvicultural activities including but not limited to planting, growing, harvesting, grazing, haying, or feeding, and feed lots; provided however, that these activities are otherwise permitted in accordance with provisions of the State Water Control Law as stated in

Chapter 3.1 of Title 62.1 of the Code of Virginia and applicable federal laws, and providing further that the hazard potential of the area will not be increased by the proposed activity.

(b) Emergency work to protect life, limb or property, and emergency repairs;

(c) Noncommercial outdoor recreational activities including hiking, trapping, hunting, horseback riding, skeet and trapshooting and shooting preserves;

(d) Coastal hazard-related research, experiments or conservation activities of the Virginia Marine Resources Commission, the Virginia Institute of Marine Science, and other related agencies;

(e) The normal maintenance of any groin, jetty, riprap, bulkhead or other structure designed to control beach erosion provided such activity does not increase the hazard potential of the area or transfer the hazard to another area;

(f) The normal maintenance or repair of presently existing roads, highways, or the facilities of any person, firm, corporation, utility, state, county, city or town, provided that such activities do not increase the hazard potential of the area or transfer the hazard to another area; and,

(g) Activities pursuant to any emergency declaration by the governing body of any local government of the Governor of the Commonwealth or any public health officer for the purposes of protecting the public health or safety.

Uses of secondary priority in highly erodible areas are those designed to:

(a) Gain access to navigable waters by (i) commercial and industrial activities for which it has been clearly demonstrated that waterfront facilities are required; (ii) marinas, camps, boat yards, yacht clubs and

other activities which provide broad recreational access to the water; or (iii) owners of land adjacent to waters of navigable depth or which can be made navigable with only negligible adverse impact on the environment, provided that such uses do not increase the hazard potential of the area or transfer the hazard to another area.

Uses of lowest priority in highly erodible areas are:

(a) For purposes or activities which could just as well be conducted in areas other than hazardous and which have no inherent requirement for direct access to water resources.

(b) For purposes of creating waterfront property from lots and subdivisions which are not naturally contiguous to navigable waters.

(c) When damage to property of others is a likely result of a proposed activity;

(d) When there are viable alternatives which can achieve a given purpose without increasing the hazard potential of an area or transferring the hazard to another area.

Coastal High Hazard Areas

There is a significant State concern over the vulnerability of coastal residents to the harmful effects of flooding. The destructive effect of coastal flooding are most frequently felt in low lying land, bordering the Atlantic Ocean, Chesapeake Bay and associated tributaries, that are periodically inundated by tide, wind and storm driven waters. The area of particular concern in this case is the coastal high hazard area, defined as those portions of the 100 year flood plain that may be subjected to high velocity waters including hurricane wave wash and tsunamis. At present, historical records are being used to delineate coastal flood plains until

studies being conducted by the Federal Flood Insurance Administration (FIA) are completed. Upon their completion, both the 100 year flood plain and coastal high hazard areas will be delineated accurately.

The hazards of development within coastal flood plains have become well known to many coastal residents as a result of flood losses incurred during Hurricane Camille in 1969 and Hurricane Agnes in 1972. The combined statewide losses resulting from these two storms exceeded 152 deaths and 281 million dollars in property damage. The "northeaster" which battered Tidewater and other parts of the state in late April, 1978, also produced severe damages. Preliminary estimates by the Virginia Office of Emergency Services indicate that storm-related damages in Northumberland, Lancaster, Gloucester, York, and Isle of Wight counties and the cities of Poquoson, Hampton, Norfolk and Virginia Beach exceeded 15 million dollars.

Currently, several programs exist which attempt to prevent or minimize damages that may result from coastal flooding. Direct federal involvement in flood damage abatement has occurred through passage and implementation of the National Flood Insurance Act of 1968 and the Federal Flood Disaster Protection Act of 1973. These acts authorize the sale of federally subsidized flood insurance to local citizens living in designated flood plains under the provisions of the emergency or regular National Flood Insurance Program. However, insurance availability within a particular locality is contingent upon adoption and enforcement of flood plain use controls by the locality. Entrance of a locality into the regular program, which provides a greater degree of insurance coverage, requires adoption of more stringent flood plain zoning ordinances by the locality from the program. As of January 1, 1978, 68 Tidewater localities (towns, cities and counties) were participating in the flood insurance program, eleven of which were enrolled in the regular program.

The Virginia Flood Damage Reduction Act of 1977 is intended to guide development in flood plains by assisting and encouraging localities to adopt, administer and enforce sound flood plain ordinances to qualify them for participation in the regular National Flood Insurance Program. The State Water Control Board is charged with carrying out the purposes of the Act and will periodically inspect local flood plain management programs to ensure their effectiveness, and establish guidelines for action that will assure local citizens of the opportunity to purchase insurance under the regular program.

Several actions have been taken to implement this Act. First, on November 21, 1977, the State Board of Housing amended the Statewide Building Code to set forth special mandatory flood proofing requirements for all new construction within designated flood plains. The amendments also include more stringent requirements for construction within coastal high hazard areas. While all general flood proofing requirements were effective December 21, 1977, the special coastal high hazard area requriements will not be effective until high hazard areas are delineated by the FIA.

The State Water Control Board is now providing localities with a model Flood Plain Zoning Ordinance. Because localities must adopt and enforce a similar ordinance in order to qualify for participation in the regular National Flood Insurance Program, the Board's model ordinance can help localities in meeting the requriement. While local adoption is not mandated by the State at present, it is required by the Federal Flood Insurance Administration.

Priority of Use in Coastal High Hazard Areas

As was the case with highly erodible areas, the States' prime interest in treating high hazard areas as an inclusive GAPC is the protection of life and property. In view of the requirements of the federal government for insured development in flood plains, including the high hazard areas, the priorities of use in these areas are to be considered the same as in highly erodible areas.

WATER ACCESS AREAS OF PARTICULAR CONCERN

The recreational opportunities and the economic base provided by Virginia's coastline require adequate means of planning for and siting of recreational, commercial, and industrial facilities which are dependent on access to coastal waters. The siting of major energy related facilities are encompassed within the recommendations for key facilities, but the siting of other types of industry must also be addressed.

There is no definition which applies to this generic class of GAPCs, as characteristics differ from area to area and thus the use to which each area would be most suited. But it is in the local determination of these uses that the GAPC process as a planning function is especially useful and important.

Shorefront Recreation Areas

Concurrent increases in population and recreational demand are producing conflicting demands for shorefront use. Shoreland areas are being subjected to increasing commercial, industrial, and residential use and development pressures. At the same time, public demands for shorefront or water-based

recreational opportunities are also rising steadily at a rate which in some recreational categories (boating, sailing, and beach use) far exceeds population growth. The 1974 Virginia Outdoors Plan describes the conflict as follows:

> The trend toward more urbanization and industrialization, while probably desirable from a social and economic standpoint, is creating problems and conflicts in the preservation and enjoyment of limited natural resources. The priceless seashores and vital marshes are threatened by private exploitation for heavy industrial sites and real estate promotions, or for public waste disposal, highway or navigation projects. --There needs to be an awakening to the growing necessity of providing parks, play areas, nature preserves and riverways while the best sites are still available. With rapidly rising land costs in most localities, it is simply a good investment and good business to acquire these lands today.

The Plan further concludes that there are many miles of rivers in access-deficient areas of Tidewater that would be used to meet the growing demands for swimmng, fishing and boating if legal and physical access to those waters could be provided.

In view of this situation, the Virginia Commission of Outdoor Recreation recommended in the Outdoors Plan that top priority be given to the identification, acquisition, and development of areas with frontage on the ocean, rivers, lakes, estuaries, and reservoirs that will provide water-based recreational opportunities. Coastal residents have frequently cited the need for additional shorefront recreational opportunities as a major issue which should be addressed by the program.

Commercial and Industrial Sites

The economy of Tidewater Virginia depends heavily upon commercial and industrial activity which requires access to tidal waters. This activity includes such facilities as power plants, ports and harbors, marine terminals, shipbuilding and repair yards, commercial fishery operations and marinas. Again, the essential issue is the increasing demand for such facilities or operations and the resulting conflicts with other desirable uses for the shorefront.

In an increasing number of cases, local citizens, often property owners adjacent to the proposed facility, have sought denial or modification of a facility through existing state permitting systems for the use of subaqueous lands. This is particularly so in recent proposals for location or expansion of marinas. Property owners have sought to secure through a water-oriented State permitting authority what should be sought through a land based local zoning decision. The absence of adequate zoning provisions or the total lack of zoning in some coastal localities leaves them unprepared to guide development along their waterfronts.

Major shorefront developments will ordinarily require lengthy consideration and therefore provide adequate time for all siting considerations to be aired. However, minor developments along the lesser tidal streams can have cumulative impacts on these waters. The danger is that inadequate consideration of these cumulative impacts and improper location of necessary facilities can result in the degradation of marine resources. The issue here which must be faced by local governments is whether or not to identify certain areas into which commercial and industrial development can be directed, leaving other areas clear of such development and less susceptible

to damage to the marine environment.

Priority of Uses in Water Access Areas

There is no way to determine priorities of use in these areas in that their designation as a GAPC would be directed toward one of the broad classifications of use: recreational, commercial or industrial. Localities may choose to go further in this directed effort and designate areas for specific uses through their comprehensive plans or local zoning. It is hoped that the GAPC process would be used to address those uses which have traditionally been very controversial, such as marina location. For those localities which attack problems such as this by site investigation, consultation with the Virginia Institute of Marine Science and ultimately, designation of areas for specific use, certain portions of state CRM funds may be allocated with preference given to those localities. In this manner the locality will gain state support in the form of scientific expertise in order to make the best decisions relative to shorefront usage; and the funding required to implement these decisions based on their own initiatives.

NATURAL RESOURCE AREAS OF PARTICULAR CONCERN

With the exception of spawning, nursery and feeding grounds, these resource areas may be identified by reference to the definition as given.

Where these resources appear in the series of Shoreline Situation Reports and Wetlands Inventories as published by the Virginia Institute of Marine Science (VIMS), so constitutes their designation. Submerged grass beds, being strictly aquatic, do not appear in the above mentioned reports. However, their location may be determined and are so designated by reference in two VIMS technical reports - Remote Sensing of Submerged Aquatic Vegetation in Lower Chesapeake Bay and Offshore Pipeline Corridors and Landfalls in Coastal Virginia. Spawning, nursery and feeding areas have been included as GAPCs for future designations. As of this time, only broad areas of importance have been identified, mostly relating to seasonal environmental conditions. More intensive research may reveal discrete areas of great importance besides those areas of shellfish concentration and the crab sanctuary. At that time the areas will be subject to all planning and management practices as are deemed appropriate.

Planning of those resource GAPCs located above Mean Low Water will be accomplished through local comprehensive plans and zoning ordinances, with consideration give to priorities of use as contained in this document and any guidelines which may appear in enabling legislation.

For submerged grass beds and critical fishery areas (spawning, nursery, or feeding), planning will also be done at the local level by consideration of potential impacts that certain categories of shorefront use may have on water

quality and these resources if located nearby. This will again be done through appropriate zoning and/or comprehensive plans.

Planning for subaquatic areas, as designated, will also be done by the Commonwealth through existing public and private leasing shellfish ground programs, shellfish replenishment activity, the crab sanctuary and other applicable programs where necessary.

The management of vegetated wetlands will continue as it has since the implementation of the 1972 Virginia Wetlands Act, through local decisions by Wetlands Boards and oversight by the Virginia Marine Resources Commission.

Non-vegetated wetlands will continue to be managed by the U. S. Army Corps of Engineers through their ongoing permit program, and the State through the 401 Water Quality Certificate process.

Coastal sand dunes, being limited by location to a very few localities, through ownership, comprehensive planning and zoning, or special regulations as in Virginia Beach.

Management of aquatic GAPCs will continue through existant State authority over State owned subaqueous bottom-lands with strict attention being paid to their importance, sensitivity to impact and priorities of use as listed.

NATURAL HAZARD AREAS OF PARTICULAR CONCERN

Highly erodible areas and coastal high hazard areas may also be identified by reference to definitions as previously given.

Designation of highly erodible areas is constituted by their appearance on maps contained in the series of Shoreline Situation Reports as published by

VIMS. In the case of coastal high hazard areas, their identification as well as designation has been a continuing federal concern. Aside from narrative descriptions of flood plains and high hazard areas which appear in the Federal Register, all localities either have or will have maps designating these areas given to them for purposes of the Federal Flood Insurance Act.

Planning of highly erodible areas and high hazard areas will be accomplished through local comprehensive plans and zoning, with considerations given to the inherent danger to certain types of development, notably residential and industrial/commercial, upon locating in these areas. The priorities of use as listed were developed with the central view being toward the protection of life and property and therefore should also be considered heavily in planning efforts for these areas.

The management function for highly erodible areas may likely fall within the purview of local wetlands boards in that these areas may be vegetated wetlands. For those localities which have chosen or choose not to create a wetlands board, management responsiblities would then lie with the Virginia Marine Resources Commission. For those highly erodible areas which are not vegetated wetlands, management will be the responsibility of the land-owner and the localities which are mandated to protect the health, safety, and welfare of their constituents.

Management of coastal high hazard areas rests with the locality through decisions made on development in these areas and with the State through strict adherance to building codes. The federal government has provided considerable disincentives for improper development and specific guidelines for acceptable development in its Federal Flood Insurance Act provisions. Therefore, it is in the locality's best interest to pay close attention to federal guidelines and the closely allied State priorities of use when managing these GAPCs.

WATER ACCESS SUPPLYING AREAS OF PARTICULAR CONCERN

As stated previously, there is no specific state definition of these areas, thus also, their designation is a matter of strictly local concern. However, the Commonwealth is offering an incentive in the form of preferential fund allocation methods to those localities which agree to take upon themselves the responsibility of designating shoreline areas for specific development purposes after consultation with state agencies.

This investigation and designation process will constitute the planning function in this case. Management will be encompassed within efforts to secure balanced development of the shoreline between recreational, commercial and industrial uses.

For convenience, the following tables summarize the identification, designation, planning and management functions relative to all GAPCs.

Table VII-2

RESOURCE AREAS OF PARTICULAR CONCERN	Vegetated Wetlands	Non-vegetated Wetlands	Submerged Grass-Beds	Spawning, Nursery and Feeding	Coastal Sand-dunes	Barrier Islands
Identification	Elevation & species by definition	Elevation by definition	Species by definition	Species utilization (to be determined)	Composition, elevation (grade) & species by definition	Location & Name by definition
Designation	Appearance in VIMS Tidal Marsh Inventory	Appearance in VIMS Shoreline Situation Reports	Appearance in VIMS Technical Reports (p.)	Appearance as shell-fish ground, or crab sanctuary in VMRC Records, or in future VIMS Technical Reports	Appearance in VIMS Shoreline Situation Reports or Technical Reports	Appearance on any official Virginia or USGS Map
Planning	Local compre-hensive plans & zoning	Local compre-hensive plans & zoning	Local compre-hensive plans & zoning, State authority (VMRC)	Local comprehensive plans & zoning, State authority (VMRC)	Local compre-hensive plans & zoning	Land-owners & local comprehensive plans
Management	Local wetlands boards and/or VMRC	U.S. Army Corps of Engineers and Virginia Water Control Board	VMRC	VMRC	Locality owner-ship, or special regulations; or landowner	Local wetlands boards and/or VMRC, with land-owners

Table VII-2 (continued)

NATURAL HAZARDS OF PARTICULAR CONCERN	Highly erodible areas	High Hazard Areas	WATER ACCESS-SUPPLYING AREAS of PARTICULAR CONCERN	Recreational	Commercial & Industrial
Identification	Erosion Rate by definition	Vulnerability by federal definition	Identification	Local investigation of sites	Local investigation of sites
Designation	Appearance in VIMS Shoreline Situation Reports	Appearance in Federal Register or on Federal Flood Insurance Rate map	Designation	Local designation of sites	Local designation of sites
Planning	Local comprehensive plans & zoning, & consultation with State agencies	Local comprehensive plans & zoning, & consultation with federal agencies	Planning	Local decisions on future shorefront use	Local decisions on future shorefront use
Management	Local wetlands boards and/or VMRC, landowners & consultation with State agencies	Local land-use decisions & consultation with federal agencies	Management	Local reaction to development proposals	Local reaction to development proposals

APPENDIX VII-1

FIELD INVESTIGATION, EXPLORATION OR RECOVERY OF OBJECTS OF ANTIQUITY ON A STATE ARCHAEOLOGICAL SITE OR ZONE

Definition. "Field investigation" means the study of the traces of human culture at any site by means of surveying, sampling, excavating, or removing surface or subsurface material, or going on a site with that intent.

"Object of antiquity" means any relic, artifact, remain, specimen, or other archaeological article that may be found on, in or below the surface of the earth which has historic, scientific, archaeologic or educational value.

"Person" means any natural individual, partnership, association, corporation or other legal entity.

"Site" means a geographical area on dry land that contains any evidence of human activity which is or may be the source of important historic, scientific, archaeologic or educational data or objects.

"State archaeological site" means an area designated by the Commission from which it is reasonable to expect to find objects of antiquity.

"State archaeological zone" means an interrelated grouping of State archaeological sites. (Section 10.1-150.3 of the Code of Va.)

Policies (Va. Antiquities Act, §10-150.1 through 10-150.10 of the Code of Va.. It is the policy of the State:

1) To identify, evaluate, preserve and protect sites and objects of antiquity which have historic, scientific, archaeologic or educational

value when these sites and objects are located on state controlled land, or on designated state archaeological sites or zone.

2) To protect these archaeological sites and objects from neglect, desecration, damage, and destruction.

3) To insure that these sites and objects are identified, evaluated and properly explored so that adequate records may be made.

PRODUCTIVE AGRICULTURAL AND FORESTAL LANDS

Definition. Productive agricultural and forestal lands shall mean land that has historically produced agricultural and forestal products, or land that is considered good agricultural and forestal land by an advisory committee (appointed by a local governing body) based upon factors other than soil quality such as topography, climate, markets, farm improvements, agricultural economics and technology, and other relevant factors (Section 15.1-1509 of the Code of Virginia).

Policies. It is the policy of the State to:

1) Conserve and protect agricultural and forestal lands as valued natural and ecological resources which provide essential open spaces for clean air sheds, as well as for aesthetic purposes.

2) Encourage the development and improvement of its agricultural and forestal lands for the production of food and other agricultural and forestal products.

3) Empower local governments to enact ordinances for the creation of agricultural and forestal districts.

4) Insure that local zoning or other ordinances shall not restrict or regulate farm structures or forestry and farming practices in designated agricultural and forestal districts except for public health or safety purposes.

5) Insure that state agencies shall encourage farming and forestry in designated agricultural and forestal districts by modifying

administrative regulations and procedures insofar as is consistent with public health and safety and with federal agency requirements including those for federal grants, loans or other funding. (Sections 15.1-1507, 15.1-1509 and 15.1512 of the Code of Virginia.)

Identification and Designation Processes.

1) Any owner or owners of land may submit an application to the local governing body for the creation of an agricultural, forestal, or an agricultural and forestal district within such locality, provided that the owner or owners own at least five hundred acres or more than fifty per centum of the land proposed to be included in the district, whichever is greater. Provided, however, that no owner, whether he be a person, partnership, association, corporation or other legal entity, shall own in any form more than three thousand five hundred acres of all districts in the State. No owner of land shall be included in any agricultural, forestal, or agricultural and forestal district without such owner's written approval or signature on such application. The proposed district may be located in more than one local jursidiction, provided that (i) separate application is made to each city and county involved, (ii) each local governing body approves such district, and (iii) the total size of such district meets the minimum requirements set out above. The proposal shall be submitted to the local governing body in such manner and form as prescribed by this chapter.

2) Upon receipt of such proposal, it may be referred by the local governing body to the planning commission which shall:

a) Provide notice of such proposal by publishing a notice in a newspaper having general circulation within the proposed district

and by posting such notice in five conspicuous places within the proposed district. The notice shall contain the following information: (i) a statement that a proposal for an agricultural district has been filed with the local governing body and referred to the local planning commission pursuant to this chapter; (ii) a statement that the proposal will be on file open to public inspection in the office of the clerk; (iii) a statement that any municipality whose territory encompasses or is part of the proposed district or any landowner who owns land to be included within the district may propose a modification in such form and manner as may be prescribed by the local governing body; (iv) a statement that the proposed modification must be filed with the local planning commission within thirty days of the filing of the original proposal; and (v) a statement that at the termination of the thirty-day period, the proposal and proposed modifications will be submitted to the local governing body and the advisory committee, and that thereafter a public hearing will be held on the proposal, and any proposed modifications;

b) Receive any proposals for modifications of such proposal which may be submitted by such landowners within thirty days after the publication of such notice;

c) Simultaneously, upon the termination of the initial thirty-day period, refer such proposal and proposed modificaions to the advisory committee, which shall, within the next succeeding thirty days report to the local planning commission its recommendations concerning the proposal and proposed modifications;

d) Upon the termination of the initial sixty-day period, and within

the next succeeding thirty days, report the planning commission's recommendations to the local governing body including but not limited to the potential effect of the district and proposed modfications upon the locality's planning policies and objectives; and

e) Hold a public hearing in the following manner:

1. The hearing as prescribed by law shall be held where the local governing body usually meets or at a place otherwise readily accessible to the proposed district;

2. The notice of the public hearing as prescribed by law shall contain a description of the proposed district, any proposed modifications and any recommendations of the local planning commission or the advisory committee; and

3. The notice shall be published in a newspaper having a general circulation within the proposed district and shall be given in writing complete with proposed modifications to those municipalities whose territory encompasses or are part of the proposed district.

3) The following factors should be considered by the local planning commission and the advisory committee, and at a public hearing when an application that has been filed pursuant to §15.1-1509 is being considered:

a) The agricultural and forestal significance within the proposed district and in areas adjacent thereto;

b) The presence of any significant agricultural lands or significant forestal lands within the proposed district and adjacent

thereto that are not now in active farming or production;

c) The nature and extent of land uses other than active farming or forestry within the proposed district and adjacent thereto;

d) Local development patterns and needs; and

e) Any other matter which may be relevant. In judging significance, any relevant agricultural maps may be considered, as well as soil, climate, topography, other natural factors, markets for farm and forest products, the extent and nature of farm improvements, the present status of farming and forestry, anticipated trends in agricultural economic conditions and technology, and such other factors as may be relevant.

4) The local governing body, after receiving the report of the local planning commission and the advisory committee shall hold a public hearing as provided by law, and after such public hearing, may adopt as an ordinance proposal or any modification of the proposal it deems appropriate, including the inclusion, to the extent feasible, of adjacent significant farm and forest lands, and, the exclusion, to the extent feasible, of non-significant forestal land and nonfarm and nonforest land. The local governing body shall act to adopt or reject the proposal, or any modification of it, no later than one hundred eighty days from the date the proposal was submitted to this body. Upon the adoption of a plan, the local governing body shall report it to the State Commissioner of Agriculture and Commerce for his information.

5) The local governing body shall review any district created under this section no less than four years but no more than eight years after the date of its creation and every four to eight years thereafter. In conducting such review, the local governing body shall ask for the

recommendations of the local planning commission and the advisory committe in order to determine whether to terminate, modify or continue such district. If the local governing body does not act, or if a modification of a district is rejected, the district shall continue as originally constituted. (Section 15.1-1511 of the Code of Virginia.)

Priorities of Uses Guidelines

1. Uses of Highest Priority
    a. Farm structures or forestry and farming operations and practices, including the growing or raising of field crops, fruits, horticultural specialties, livestock, trees, and vegetables.

2. Uses of Lowest Priority
    a. Commercial or industrial facilities.
    b. Water or sewer facilities to serve non-farm structures.

(Section 15.1-1512 of the Code of Virginia.)

APPENDIX VII-3

AREAS OF HISTORIC SIGNIFICANCE OR CULTURAL VALUE

Definition. "Areas of historic significance or cultural value" mean buildings, structures and sites which constitute the principal historical, architectural and archaeological sites which are of state-wide or national significance. Pursuant to the Virginia Historic Landmarks Commission Act of 1966 (Section 10-135 through 10-145.8 of the Code of Virginia), no structure or site shall be deemed to be an historic one unless it has been prominently identified with, or best represents, some major aspect of the cultural, political, economic, military, or social history or the State of nation, or has had a major relationship with the life of an historic personage or event representing some major aspect of, or ideals related to, the history of the State or nation. In the case of structures which are to be so designated, they shall embody the principal or unique features of an architectural type or demonstrate the style of a period of our history or method of construction, or serve as an illustration of the work of a master builder, designer or architect whose genius influenced the period in which he worked or has significance in current times. In order for a site to qualify as an archaeological site, it shall be an area from which it is reasonable to expect that artifacts, materials and other specimens may be found which give insight to an understanding of aboriginal man or the Colonial and early history and architecture of the State or nation.

Policies. It is the policy of the State to create the Virginia Historic Landmarks Commission which shall:

1) Make a survey of, and designate as an historic landmark, the buildings, structures and sites which constitute the principal

historical, architectural and archaeological sites which are of statewide or national significance.

2) Prepare a register of buildings and sites which meet the definition contained in the preceding paragraph, publish lists of such properties and inspect such properties from time to time; publish a register thereof from time to time setting forth appropriate information concerning the registered buildings and sites.

3) With the consent of the landowners, certify and mark, with appropriately designed markers, buildings and sites which it has registered.

4) Establish standards for the care and management of certified landmarks and withdraw such certification for failure to maintain the standards so prescribed.

5) Acquire by purchase, gift, or lease and administer registered landmarkes, sites and easements and interests therein; such acquisition may be made from funds provided by law or otherwise.

6) Lease or sell property so acquired under terms and conditions designed to ensure the proper preservation of the landmark or site in question.

7) Establish historic districts for registered landmarks and designate the area thereof by appropriate markers provided the county or city in which the district or registered landmark is located fails or refuses to take such action as is necessary to establish and maintain such districts.

8) Identify historical districts for registered landmarks and aid and

encourage the county or city in which the district or landmark is located to adopt such rules and regulations as the Commission may develop and recommend for the preservation of historical, architectural, or archaeological values.

9) Prepare and place, from funds provided by law, State historical markers along the highway or street closest to the location which is intended to be identified upon such marker.

10) Seek the advice and assistance of individuals, groups and governments who or which are conducting historical preservation programs and coordinate the same insofar as possible.

11) Seek and accept gifts, bequests, endowments and funds from any and all sources for the accomplishment of the function of the Commission. (Section 10-138 of the Code of Virginia.)

Identification and Designation Process. Anyone interested in having a property registered as an official historic landmark may submit a documented history of the property, not to exceed four typewritten pages. The history should justify why the property should be regarded as possessing state historical or architectural significance; it should also mention any significant events, personages or families associated with it. If it is thought that the property's interest is mainly architectural the date of the structure should be documented as closely as possible and there should be an explanation of the distinct architectural merits of the structure relative to similar structures in the area.

Other information required includes the precise location of the property and the owner's name, address, and telephone number, as well as that of a tenant or custodian. If the person making the request is not the owner, the

Commission will require a clear indication that the owner is aware that the request has been made. Also needed are exterior and interior photographs (black-and-white or color prints, or slides) that do not require returning.

Once sufficient information is received the property will be placed on the agenda of the Register Committee of the Virginia Historic Landmarks Commission which meets monthly to screen requests. If, based on the submitted information, the Committee is of the opinion that the property has merit and may meet the criteria for registration it will authorize the staff to investigate further and to visit the property. If the Committee does not feel that the propety meets the criteria, a letter will be sent notifying the applicant of its decision. When the staff has made its necessary investigations it will report to the Committee with a recommendation that the property either not be registered or that it meets the criteria and should be formally considered. Formal consideration consists of the preparation of nomination forms by the staff based on submitted material as well as on its own research and architectural analysis. The forms are mailed to the committee members for review in advance of an upcoming meeting.

After the nomination forms are reviewed and discussed in a meeting, the Committee decides whether or not to recommend to the Commission that the property be registered. Upon a favorable vote the Committee's recommendation is submitted to the Commission (usually the same day), and acceptance by the Commission of a positive recommendation in a formal motion constitutes official listing on the Virginia Landmarks Register and nomination to the National Register of Historic Places. A copy of the form is then submitted to the office of the National Register in the Department of the Interior where it usually is accepted for the National Register in several months time.

Priorities of Uses Guidelines

1. Uses of Highest Priorities

   a. Erection and/or maintenance of historical marker or sign,

   b. Repair and/or rennovation of the buildings and/or sites to their original character.

   c. Display of artifacts and/or conducting tours for educational purposes.

2. Uses of Lowest Priorities

   a. Commercial and/or industrial uses that will demolish and/or significantly alter the original character or appearance of the historic buildings and/or sites.

CHAPTER VIII

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CHAPTER VIII

SHORELINE PERMITTING

SUMMARY OF EXISTING STATE LEGAL AUTHORITY AND PROGRAMS

WETLANDS MANAGEMENT

The Virginia General Assembly placed certain coastal wetlands of the Commonwealth under protective management in 1972. The Wetlands Law directs that no person may conduct any regulated activity in wetlands without a proper permit. Wetlands are defined as those lands lying between and contiguous to mean low water and 1.5 times the mean tidal range and upon which certain specified vegetation grows. The jurisdiction of this law is limited to those localities comprising "Tidewater Virginia" as well as the Back Bay, the Northlanding River and their tributaries.

The authority to implement the law may be exercised by local governments through the adoption of a specified zoning ordinance, which provides for appointment of a wetlands board to administer the permit program. To insure that local decisions adequately achieve the policies and standards of the Act and follow reasonable procedures, the Commissioner of the Marine Resources Commission reviews all decisions and to notify the Commission of any decision which, in his opinion, it should review. The Commission may modify, remand, or reverse any decision upon specified grounds.

Certain uses are exempted from the need for a wetlands permit, if otherwise authorized by law. Among these are: the construction and maintenance of noncommercial catwalks, piers, boathouses, boat shelters, fences, duckblinds, wildlife management shelters, footbridges, observation

decks and shelters and other similar structures; the cultivation and harvesting of shellfish and worms for bait; noncommercial outdoor recreational activities; the cultivation and harvesting of agricultural or horticultural products; grazing and haying; emergency decrees of any duly appointed health officer of a governmental subdivision acting to protect the public health; the normal maintenance, repair or addition to presently existing roads, highways, railroad beds, or the facilities of any person, firm, corporation, utility, federal, State, county, city or town abutting on or crossing wetlands; provided that no waterway is altered and no additional wetlands are covered; and the normal maintenance of man-made drainage ditches, provided that no additional wetlands are covered.

In those localities where the ordinance has not been adopted, and, therefore, no wetlands board has been formed, the Commission regulates wetlands uses directly through a state permit program. The law provides for appeals procedures through both the Commission and the Courts.

SUBAQUEOUS MANAGEMENT

Chapter 1 of Title 62.1 limits the extent of private property rights on Virginia's bays, rivers, creeks, and shores of the sea to mean low water and declares all other subaqueous land not granted according to compact or special grant to be the property of the Commonwealth. Section 62.1-3 directs that proper authority is necessary for any trespass or encroachment upon state bottoms and assigns the Marine Resources Commission the duty to issue permits for all reasonable activities on state bottoms not otherwise exempted. Such uses include many activities for which federal authorization is required, such as the taking and use of material (dredging, mining), the placement of wharves, bulkheads, and dredging and fill by owners of riparian lands in the waters opposite such riparian lands.

Among the activities exempted from the necessity for authorization are: the erection of properly authorized dams; uses of subaqueous beds for commerical fishing purposes; uses incident to the construction and maintenance of approved navigation and flood control projects; fills by riparian owners opposite their property for which a water quality assurance certificate has been issued prior to July 1, 1972; and, the placement of certain private piers for non-commerical purposes by owners of riparian lands.

In granting or denying a permit, the Commission considers a number of factors including the environmental quality goals contained in Article XI of the Constitution; the effects of the proposed project on reasonable and permissible uses of state waters and state-owned bottom lands; the effects upon marine and fisheries resources; the effects upon wetlands; the effects upon adjacent or nearby properties; water quality standards established by the State Water Control Board; and anticipated public and private benefits.

Before the Commission can grant or deny a permit for a commercial boatyard or marina, must have obtained approval of sanitary facilities from the State Health Department.

WATER QUALITY ASSURANCE

Section 401 of the Federal Water Pollution Control Act Amendments of 1972 requires any applicant for a federal license or permit (including the construction or operation of facilities which may result in any discharge into navigable waters) to provide the licensing or permitting agency a certification from the state in which the discharge originates that such discharge complies with water quality provisions of the Act. Accordingly, the Corps of Engineers requires such certification prior to the final consideration of a permit. In Virginia, the State Water Control Board is the

certifying authority.

The Board's water quality assurance, or "401" certificate, is tantamount to a permit. The Corps of Engineers is statutorily prevented from issuing its permit in the absence of this certification. This 401 certification is required, however, only for those projects which may result in discharges into navigable waters.

ADVISORY OPINIONS

Virginia Institute of Marine Science

Section 62.1-3 governing the use of subaqueous beds directs that the Marine Resources Commission consult with interested state agencies, including the Virginia Institute of Marine Science, whenever the decision of the Commission affects the Institute. Section 62.1-13.5, specifying the model wetlands ordinance to be adopted, directs that the Institute of Marine Science be notified by the local board of all wetlands applications received by the locality. Because the Marine Resources Commission is bound by the same administrative procedures, it, too, must notify VIMS.

In reviewing permit applications, the Institute frequently conducts site visits, advising the applicant on the advisability of the project and suggested modifications. The primary concern of the Institute is the effect of the project on the marine and estuarine environment. The role of the Institute is, however, strictly advisory. It does not issue permits, and the Commission is not legally bound to do any more than consider its advice. While the Commission does give significant weight to the Institute's appraisal of the project, there are no administrative agreements governing the force of VIMS' determination. Both agencies see their functions as separate but complimentary, and the Commission considers the Institute's appraisal as one

of a number of factors to be considered in the overall public interest determination. The Institute encourages persons contemplating shoreline works to consult with it prior to submitting an application.

State Department of Health

The Department's Division of Sanitary Engineering and Bureau of Shellfish Sanitation generally comment on both subaqueous and wetlands projects under the same statutes as cited above for the Institute of Marine Science. Section 62.1-3 specifically states, however, that no permit for a marina or boatyard for commercial use shall be granted unless the owner or other applicant, prior to issue, presents a plan for sewage treatment or disposal facilities which is approved by the State Department of Health. It is the Department's Division of Sanitary Engineering which generally performs this function. The primary concern of the Bureau of Shellfish Sanitation is the effect of the proposed project on private and commercial shellfish grounds, and the Bureau will generally review an application and comment from this point of view.

The role of the State Health Department, like that of VIMS, is strictly advisory; however, as noted above, the Commission is statutorily prohibited from issuing a permit prior to certification of commercial marina or boatyard facilities.

POLICIES

1. To provide advice to prospective applicants for shoreline permits through guidelines and site visits before they file for a permit application.
2. To encourage projects which are designed to have minimal environmental impact on tidal waters and wetlands.
3. To expedite the processing of smaller, non-controversial projects of

minimal cumulative environmental impact.

4. To continue the cooperative federal-state joint monthly project review meetings.

5. To seek the issuance of U. S. Army Corps of Engineers general permits for certain classes of projects.

6. To support the delegation of federal permit administration in tidal waters and adjacent wetlands.

7. To support the standardization of state and federal regulatory authority in tidal water and wetlands.

8. To recommend the placement of primary responsibility for the administration of shoreline permit programs with local government whenever and wherever practicable.

9. To provide all possible state assistance to local governments to enable them to administer the wetlands law.

IMPROVEMENTS IN PLACE

All levels of government have recognized the need to streamline permit processing, especially for minor shoreline projects. Efforts to improve permitting procedures have been underway for nearly two years. These efforts have concentrated on innovative administrative procedures to minimize the difficulties caused by multiple permit requirements, thereby providing better service to the applicant. Activity at the State level has focused on five projects:

* Development of a joint permit application.
* Development of guidelines for activities in State-owned bottom-lands.
* State interagency administrative agreements.
* Joint State-federal permit application review meetings.
* State assistance for local wetlands boards.

Joint Permit Application

One of the most frequent criticisms of the present permit system has been the number of permit applications a project sponsor must complete to secure the necessary local, State and federal authorizations. Comparison of these permit applications revealed a substantial overlap in information requested. Consequently, the development of a single joint permit application was begun during 1977. The new application, issued in September, 1978, consolidates four previously separate forms and is available through local wetlands boards, thereby eliminating the expense of travel and phone calls to State and federal

agencies. New processing procedures developed to complement this application now assign a standard processing number to be used by local, State and federal agencies. This simple procedure eliminates confusion and administrative costs in cross-referencing permit applications.

Guidelines for Permitting Uses of Subaqueous Bottoms

Another frequent criticism of the permitting process has been the lack of guidelines for certain types of subaqueous projects as a means of enabling project sponsors to incorporate environmental considerations into project design, thereby increasing the probability of project approval. During 1978, the State drafted guidelines for the use of State-owned bottomlands. These guidelines illustrate environmentally preferred means of shoreline alterations, such as bulkheading, pier construction, dredging, and the placement of boat moorings. These guidelines incorporate many of the concerns of federal agencies and will be available to the public upon adoption by the Marine Resources Commission.

Interagency Agreements

The State system of processing permits has required substantial improvements. A number of State interagency agreements have been developed during the past two years. A joint site visit agreement between the Marine Resources Commission and the Virginia Institute of Marine Science was reached in 1977 and was subsequently expanded to include project inspectors from the State Water Control Board. Joint site visits have not only reduced inconvenience to project sponsors, but have also improved project assessments by facilitating on-site discussions between permit officers and the applicant. Administrative procedures for determining whether certain projects require Health Department review and approval have been improved through a memorandum

of understanding between that agency and the Marine Resources Commission. These procedures have eliminated some of the delays in local and State Health certifications of marinas and other places where boats are moored. Finally, during 1977, the State Water Control Board and the Marine Resources Commission developed a consolidated permit application which later evolved into the joint local-State-federal permit application recently instituted.

Joint State-Federal Project Review Meetings

Perhaps the single most important improvement in permit processing, however, has been the continuation of joint project review meetings between state and federal regulatory and advisory agencies. As the result of the permit requirement of Section 404 of the Federal Water Pollution Control Act Amendments and the infusion of environmental factors into the decision-making apparatus for older permit programs, principally the River and Harbor Act of 1899, the Army Corps of Engineers and other federal environmental agencies experienced increasing permit workloads. Consequently, at the same time State procedures were being improved, federal regulatory agencies began to coordinate with their advisory agencies by streamlining their own interagency procedures. During 1976, the Norfolk District of the Corps of Engineers began monthly meetings with regional representatives of the Fish and Wildlife Service, National Marine Fisheries Service, and the Environmental Protection Agency to review pending applications. In 1977 this forum was expanded to include State agencies (Marine Resources Commission, Institute of Marine Science, Health Department, and Water Control Board). This has substantially reduced processing time for many projects. In some instances, conflicting project assessments which would have taken weeks or months to resolve through the mail, have been settled at one meeting. Face-to-face interaction among permit administrators has also had the important effect of improving

understanding and appreciation of the mandates, policies, procedures and perspectives of the various regulatory and advisory agencies and has fostered a greater trust between and among State and federal agencies. For example, the Marine Resources Commission has presented project plans for which State approval has been secured, explained the rationale for approval and responded to federal agency concerns over the acceptability of a project on the spot. Finally, joint processing has provided a forum for developing further improvements in permit processing such as the joint permit application discussed above.

State Assistance to Local Wetlands Boards

Local environmental management has been an important part of Virginia's coastal resources management effort since the enactment of the Commonwealth's wetlands program. Since 1972, when this law was passed, the Virginia Institute of Marine Science has conducted a number of wetlands workshops to train local wetlands boards members in the ecological value of wetlands, the types of tidal marshes found in Virginia, and methods of mitigating the effects of development on wetlands. Similarly, the Marine Resources Commission has traditionally maintained a close working relationship with local boards. During 1978, the Commission staff moved to improve cooperation still further. The staff periodically consults with local board members to review permit processing and enforcement problems and to explore additional State support to local wetlands boards. Commission engineers have increased the frequency of contact with these boards and provided advice on numerous occasions regarding provisions of law, technical information and procedural matters. This has fostered greater confidence of some board members and has generally improved project assessments by wetlands boards.

The improvements in permit processing discussed above have all been

instituted within the last two years. The effects of many of these changes are only now being realized. Taken together, these new administrative procedures represent a substantial improvement in the operation of the current shoreline permitting system. As a result, project sponsors are receiving fairer treatment, better service and a decision in less time than in the past. The improvements have moved the entire permitting system closer to the objective of "one-stop" permit processing for the applicant.

POTENTIAL FOR FURTHER IMPROVEMENTS

Despite the considerable progress in alleviating the problems caused by numerous permit requirements, the basic framework of multiple and overlapping permit programs remains. Only procedures have been changed to make the system, as it is currently structured, operate more efficiently. Requirements of local, State and federal agencies are often substantially similar in terms of the type of projects which are considered environmentally acceptable. This is particularly true of smaller projects.

Issuance of "General Permits"

Greater federal reliance should be placed on the project assessments and decisions of local and State permitting agencies for smaller, non-controversial projects. This will help separate those types of projects which do not present individual or cumulative environmental impacts from those of relatively greater environmental, social, or economic controversy in the review process. The lack of a formal procedure for doing so has been a frequent criticism of the permitting system as it has operated in the past. As the degree of concurrence on projects between local and State permit administrators on the one hand, and federal permit administrators on the other, has increased, the foundation of trust upon which such federal reliance

must be constructed has been established. Further efficiencies can be realized if primary responsibility for supervising smaller types of projects is vested with the Marine Resources Commission and local wetlands boards. This will allow greater state and local leadership in the protection of coastal resources, remove some of the administrative redundancy in the permitting system, and enable State and federal agencies to focus greater attention on those projects posing significant hazards and on enforcement problems.

Federal regulatory authority may only be delegated to State governments through Congressional authorization. Generally this is accomplished not through actual delegation, but rather through recognition of federally approved State permit programs designed to enforce federal standards. It is on this basis that the State Water Control Board administers the National Pollution Discharge Elimination System (NPDES) permit program controlling industrial and municipal discharges into Virginia's waters. Upon certification of a State permit program as meeting its standards, the federal government suspends its own permit processing. This concept was applied to the Section 404 permit program in the 1977 Clean Water Act Amendments. These amendments, among other things, established a process whereby federal recognition would be afforded certified State permit programs governing activities in certain non-tidal waters. The concept was not, however, extended to tidal waters apparently because of the paramount navigational interests of the federal government. There may, though, be a future role for coastal states in administering permit programs for activities requiring a federal permit, should the concept be extended to activities in tidal waters.

In the absence of a means for coastal states to obtain legislative recognition of permit programs in tidal waters, there is an alternative way

for the state to assume a greater role in administering shoreline development control programs. A provision in Department of the Army regulations governing permit programs created by the River and Harbor Act of 1899 and the Federal Water Pollution Control Act Amendments allows the Corps to issue "general permits." Designed principally to reduce the federal permit workload, the general permit provision enables the District Engineer of the Corps of Engineers to publicly authorize, subject to certain conditions, those projects which are substantially similar in nature and will cause only minimal adverse individual or cumulative environmental effects. Before the Corps issues a general permit, however, the category of activities under consideration undergoes a thorough environmental review. The activity itself must usually meet several conditions, including design restrictions, project size limitations, and a requirement that appropriate State or local permits be obtained first. In most cases, if a proposed project meets the general permit conditions, the sponsor need only notify the District Engineer prior to beginning the project. Federal advisory agency opinions, such as those of the U. S. Fish and Wildlife Service or the Environmental Protection Agency, are not normally required unless specified as a condition of the permit. The Corps of Engineers may revoke the general permit at any time and a proposed project must meet all conditions in order to qualify for such treatment. Because the general permit is still a permit per se, no authority is actually delegated, nor are any agency mandates changed. The net result, however, is to streamline administrative procedures for those projects the Corps deems to be of only minor interest, and, where State and local governments operate similar permit programs, to move the decision-making process closer to those most affected by it, while leaving all avenues of appeal open.

The Baltimore and Norfolk Districts each have issued a number of general permits during the last several years. These permits have authorized such

activities as the construction or placement of private, non-commercial mooring buoys, pilings and piers, as well as maintenance and replacement of bulkheads and placement of rip-rap for shoreline stabilization. The Baltimore District reports that applications meeting general permit conditions are generally processed in 14 days or less, while individually permitted projects generally require a minimum of 45 days to be approved. Thus the general permit system can also induce project sponsors to design more environmentally acceptable projects as reflected in general permit conditions to save processing time.

In November 1977, Virginia's Secretary of Commerce and Resources convened a meeting of representatives from several state environmental agencies concerned with shoreline construction and the two Corps Districts to discuss the state's permitting proposals and to begin formal discussions on the question of issuing further general permits. Several state-federal meetings were held during 1978. During the spring and early summer of 1978, the Marine Resources Commission and the Institute of Marine Science reviewed all categories of shoreline construction permits and developed recommendations for general permits. Researchers at the Institute developed data for various types of private, non-commerical projects, from which the average size of various types of projects was determined. The Marine Resources Commission, in the meantime, reviewed all general permits issued by Corps Districts from Louisiana to New England. From the information gathered, a draft set of project sizes and conditions was developed and forwarded to the Norfolk and Baltimore Districts in June, 1978. (Appendix VIII-1). The staff of the Commission and the Institute briefed the National Marine Fisheries Service and the U. S. Fish and Wildlife Service on these recommendations in August. Thus far, the initial reaction of both Corps Districts and their advisory agencies has been favorable.

Local Administration of State Subaqueous Permits

The state has reviewed the possibility of allowing local governments to assume limited authority to administer the state permit program for State-owned bottomlands. This proposal will consolidate permit reviews for certain types of smaller projects at the local level. Under current permitting procedures, projects which involve wetlands and encroach upon State bottoms must be reviewed by both a local wetlands board, where such a board exists, and the Marine Resources Commission. By delegating authority to local governments to administer the subaqueous permit program for smaller projects, only one field assessment would be necessary and the entire project could be acted upon at the local level, subject to a continuing State review of each decision.

The nature of the Commonwealth's interest in those lands subject to a subaqueous permit program is fundamentally different from that of wetlands. The interest of the Commonwealth in subaqueous lands is proprietary and in the nature of a trust administered for the benefit of all Virginians. The wetlands permit program, by contrast, is essentially an exercise of the State's police power in protecting the health, safety and general welfare of its citizens. Because the majority of wetlands are privately owned, there is no proprietary interest in such lands, merely the public's concern that the beneficial attributes of wetlands not be needlessly compromised or destroyed. Because the exercise of police power over private property, principally through the delegated power to zone, has traditionally been the purview of local governments, the wetlands permit program was structured as local enabling legislation. Local decisions are subject to State review, override, and where the local authority is not assumed, enforcement. No such authority, however, has ever been delegated regarding lands in which the Commonwealth has

a proprietary interest.

A principal question concerning delegation of subaqueous permit administration is whether a local government, representing only a limited segment of the population, can adequately protect the interests of all Virginians in controlling private uses of State-owned subaqueous lands. Under certain conditions, local governments can be responsive to the State's interest in administering the subaqueous permit process. These conditions would consist of a limitation on the size and condition of the projects eligible for local review. Only those projects which are generally approved by the Commission and which would not normally conflict with the Commonwealth's interest would come under local purview, such as those classes of projects recommended as appropriate for general permits.

Local decisions will be based upon State standards and criteria. The local board administering the permit program would have the same decision-making responsibilities as the Commission. It will be guided in its deliberations by the provisions of Article 1 of the Constitution of Virginia and will consider, among other things, the effect of the proposed project upon the reasonable and permissible uses of State waters and State-owned bottom land and its effect on marine fisheries and wetlands. Operational policy guidance will be provided by the Marine Resources Commission. Finally, the Marine Resources Commission will review each decision and ensure compliance with State standards and criteria and will retain the right to reverse or modify any local subaqueous permit decision.

Two alternative procedures for delegation have been investigated. Under one approach the General Assembly would enable local governments to issue subaqueous permits on behalf of the Commonwealth for certain specifically enumerated and conditioned activities as, for example, mooring pilings and

buoys. The Marine Resources Commission would recommend to the General Assembly those activities and projects which it deems suitable for local review. These recommendations will be based upon those activities for which the Corps of Engineers had issued general permits. Any changes in these general permits will require corresponding changes in State enabling legislation.

An alternate approach would have the General Assembly make a general grant of authority to localities to exercise permit administration and direct the Marine Resources Commission to specify those projects suitable for local review. In selecting such projects, the Commission would be charged with ensuring that their recommendations be in the public interest and that they be projects which cause only minimal individual and cumulative environmental impact. This system would allow greater flexibility in responding to changes in the federal general permit process but would also vest greater discretionary authority in the Commission.

Of crucial importance to the delegation question are the legal issues involved. An informal opinion rendered by an Assistant Attorney General determined that neither the Code of Virginia nor the Constitution mandated a particular administrative entity to protect publicly owned bottoms and that the General Assembly may decide whether administrative control should be exercised by an instrumentality of the State or by a political subdivision of the State. The present authority of the Marine Resources Commission to manage publicly owned bottoms could be delegated to local governments without violating the public trust aspects of managing subaqueous bottoms. Either general method of delegating such authority would be legally acceptable.

Limited local administration of the subaqueous permit program could be carried out without wholesale changes in the operation either of local

wetlands boards or the Marine Resources Commission staff. For some localities which chose to assume jurisdiction over such projects, the additional administrative impact would be significant while for others it would be moderate or negligible. Generally those localities undergoing the most rapid shoreline development would be most significantly affected.

APPENDIX VIII-I

SPECIAL CONDITIONS IN PROPOSED GENERAL PERMITS

A. RIPARIAN ACCESS PROJECTS

1. Mooring Pilings and Piers (Proposed for Norfolk District)

a. The general permit should be available only to private waterfront property owners for non-commercial use.

b. The general permit should authorize only one pier and a maximum of eight mooring pilings.

c. The general permit should authorize only one pier and a maximum of eight mooring pilings.

d. Piers must meet certain design and material specifications (as contained in Baltimore District general permit #2). Piers must be open-pile construction.

e. Neither piers nor mooring pilings may extend more than 100' channelward, (measured from MHW) or more than 25% of the waterway width (measured from MHW on each bank) whichever is least. Piers may not be more than 6' wide. "T" or "L" heads on piers may not exceed 20' in length or 10' in width.

f. Piers and/or mooring piles shall not extend into any navigable channel.

g. For any pier or mooring piling proposed to be constructed within 25' of a property line the applicant must obtain a letter of no objection from the affected adjacent property owner. Such requirement also applies for any boat which is moored to a pier or a mooring piling and which may cross a property line extended.

h. All state and local laws and regulations pertaining to the construction, installation, and maintenance of piers and pilings must be complied with. Where applicable, a permit shall be obtained from the Virginia Marine Resources Commission prior to commencement of projects in Virginia.

i. Project sponsors must notify the appropriate U. S. Army Corps of Engineers District Engineer of his intent in writing not later than 30 days prior to commencement. Such notice shall supply the Corps with appropriate information on the project (as specified in Baltimore District G.P. #2, special condition #8) together with a signed statement pledging the sponsor's compliance with the general permit conditions.

j. No dredging of filling is authorized under this general permit but may be pursued in conjunction with projects authorized herein if specifically authorized by another general permit.

k. Piers may be constructed in or over marsh areas providing the vegetation is not disturbed.

l. No pier and/or piling may be installed under this permit if another pier and/or mooring pile already exists on the same property unless the proposed work is an extension to an existing pier and the total resulting structure does not exceed the limits of this general permit.

m. No pump or petroleum dispensing apparatus should be placed or stored on the pier.

n. No human habitation should be permitted on the pier.

o. Structures should be removed when they no longer serve their designed functions.

p. No public or private shellfish grounds should be infringed upon by the proposed work.

q. Auxilliary structures such as boathouses or boat hoists should not be authorized by this permit.

r. Mooring piles authorized by this general permit should be used only for the purpose of mooring vessels by residential waterfront property owners.

s. Sponsor should contact the Coast Guard to insure compliance with 33 CFR Subpart 67 30-5(c) concerning navigation rights where applicable.

t. This general permit does not authorize work in Scenic Rivers, within 1000' of specified historic, cultural or archaeological sites or within 1000' of a National Wildlife Refuge.

2. Docks and Wharfs (mooring structures contiguous to a bulkhead or artificially stabilized shoreline) (Proposed for the Norfolk and Baltimore Districts)

a. The general permit should be available only to private waterfront property owners for non-commercial use.

b. The general permit should apply to construction, replacement and maintenance of docks.

c. The docks and wharfs must be open-pile construction.

d. A dock or wharf may only be constructed under this permit where a previously authorized bulkhead already exists.

e. Bulkheads may not extend more than 10' channelward of existing bulkhead including appurtenances such as stairways and walkways or be more than 300 ft^2 in area.

f. Docks must meet certain design and material specifications similar to those for piers.

g. No dock may be used for human habitation.

h. Conditions 1(f) through 1(t) of "Mooring Pilings and Piers" above apply to docks.

3. Buildings (principally boathouses) (Proposed for Norfolk and Baltimore Districts)

a. The general permit should be available only to private, waterfront property owners for private non-commercial recreational use.

b. The permit should apply to new construction, replacement and maintenance of boathouses.

c. Boathouses must be of open-pile construction.

d. The general permit should authorize one structure per waterfront property owner.

e. Boathouses (excluding pier) should not have a floor area in excess of 600 ft^2.

f. Boathouses may not extend more than 100' channelward (measured from MHW) or 25% of the waterway width (measured from MHW on each bank) whichever is least.

g. Boathouses must meet certain design and material specifications.

h. Conditions 1(f) through 1(t) of "Mooring Pilings and Piers" above apply.

4. Dredging for Boat Slips or Boat Ramps (Proposed for Norfolk and Baltimore Districts)

a. The general permit should be available only to private, waterfront property owners for non-commercial recreational use.

b. Both new dredging and maintenance dredging should be authorized by the general permit.

c. New dredging shall not exceed 400 yds^3 nor shall it exceed 1' in depth to ambient (average channel) depth adjacent to the project site. Boat slips shall not exceed 50' in any direction. Maintenance dreding to the authorized depth shall not exceed 4000 yds^3.

d. The general permit should allow only upland disposal of material. No dredged material may be placed in adjacent waters or wetlands. All upland disposal sites must be self-contained in a manner so as to prevent spoil from being carried back into adjacent waters and wetlands, except where spoil is to be placed behind an existing bulkhead constructed for shoreline erosion control purposes.

e. Dredged material must be relatively free of pollutants which would pose a water quality hazard. Any dredging which is likely to produce an adverse effect on water quality will not be authorized under this permit. A water quality certification from the State Water Control Board will be required.

f. Conditions 1 h, i, p, and t for "Mooring Pilings and Piers" above will apply.

5. Fill for Boat Ramps (Proposed for Norfolk and Baltimore Districts)

a. The general permit should be available only to private waterfront property owners for non-commercial recreational use.

b. The general permit should cover new construction, replacement, maintenance.

c. Boat ramps may be no wider than 15' nor extend more than 30' channelward of mean high water. Fill material may not exceed 100 cu. yds.

d. All fill material shall be obtained from an upland site and be free of debris and contaminants.

e. A water quality certification from the State must be submitted with the letter of notification.

f. No wetlands vegetation will be altered or destroyed by the project.

g. Conditions 1 g, h. i, o, p, s, and t of "Mooring Pilings and Piers" above apply.

B. SHORELINE STABILIZATION PROJECTS

1. Rip-rap Revetments, Sand Bags, Gabions (Proposed for Norfolk District)

a. The general permit should be available only to private waterfront property owners for the protection of a naturally eroding shoreline or an existing bulkhead or seawall.

b. The general permit should authorize placement and maintenance of rip-rap.

c. Rip-rap and sand bag distance should not exceed 500' in length.

d. Rip-rap, sand bags and gabions must be placed abutting an eroding bank or failing structure, extend channelward not more than 10' from MHW on a slope not steeper than two horizontal units to one vertical unit.

e. This permit should not authorize rip-rap projects in which 10% of the area to be occupied by the project supports rooted aquatic or marsh vegetation.

f. Rip-rap projects should not isolate, occlude, or otherwise interfere with the normal hydraulic processes of any wetland.

g. Suitable material will be used for fill. Certain material/design specifications are required.

h. Project sponsors must obtain a letter of no objection from all adjacent property owners.

i. Conditions (1)h, i, p, s, and t of "Mooring Pilings and Piers" above apply.

2. Bulkheads (both existing General Permits for bulkhead replacement and maintenance in Baltimore and Norfolk Districts should be amended to be consistent with the following special conditions)

a. The general permit should be available to all waterfront property owners.

b. The general permit should authorize the construction, maintenance, and replacement of bulkheads for the purposes of shoreline protection only where erosion exists.

c. The general permit should authorize for timber, steel, aluminum or reinforced concrete bulkheads.

d. Replacement bulkhead may not be more than 2' channelward from existing bulkhead.

e. Replacement bulkhead may not be more than 3/4 cu. yd. per linear foot of fill.

f. New bulkheads may not be below mean low water nor extend laterally more than 200 feet.

g. All projects must meet certain material and design specifications.

h. Project sponsors must obtain a letter of no objection from all adjacent property owners.

i. No bulkhead may be placed channelward of wetlands vegetation.

j. Conditions (1)h, i, p, and t of "Mooring Pilings and Piers" above apply.

CHAPTER IX

STATE ORGANIZATION, AUTHORITY, AND ADMINISTRATION

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CHAPTER IX

STATE ORGANIZATION, AUTHORITY, AND ADMINISTRATION

FACTORS IN DETERMINING THE STATE ORGANIZATION

KEY CHOICES

In deciding how the state should authorize a coastal management program, set the organization for its implementation, and administer the program, Virginia had to make some basic choices. These decisions were focused on the following issues:

I. The type of coastal resources and the uses subject to the management program.

II. The geographic extent of the coastal zone and intermediate boundaries delineating different permitting jurisdictions in the coastal zone.

III. The local role and the local institutions responsible for implementing the program.

IV. The legal authority the state must exercise and the organization by which it will implement the program.

A. As provided in the federal act, the state has three options by which it can exercise its authority:

1. State establishment of criteria and standards for local implementation, subject to administrative review and enforcement of

compliance; or

2. Direct state land and water use planning and regulation; or

3. State administrative review for consistency with the management program of all development plans, projects, and land and water use regulations, including exceptions or variances thereto, proposed by any state or local authority or private developer, with power to approve or disapprove after public notice and an opportunity for hearings.

B. In terms of organization, the state could have:

1. Established a new agency; or

2. Placed all coastal program activities under the auspices of a single existing agency; or

3. Assigned an existing agency the job of coordinating the many related coastal program activities and assigned specific functions to other, appropriate existing agencies.

C. In addition to the authority that the Council on the Environment exercises, the authority of the Secretary of Commerce and Resources is essential to the state level coordination of the program.

THE STATE-LOCAL RELATIONSHIP

The state and local governments will both exercise authority and responsibility for coastal resources management, with the state retaining the ultimate authority to see that the program is carried out. The state-local relationship has been considered in terms of:

how?

The type of coastal resources and uses subject to the management program;

The state authority to be exercised over the decisions on the use of coastal resources; and

The local institutions responsible for implementing the program.

There is a major distinction between the types of uses which are brought under the program. This distinction centers on whether or not the use is to be managed (a) for the sake of preserving a particular resource (such as a wetland) at the site where it occurs or (b) for the protection of a resource upon which it may have secondary effects. Under Virginia's program, geographic areas of particular concern are to be planned and managed because of their particular importance as a resource, their hazardous nature, or their dependence on water access. State standards and criteria are mandated only for the use of certain of these resource areas of particular concern and submerged grass beds.

Other types of uses are to be managed because of the secondary effects they may have on adjacent coastal waters or marine resources. These occur primarily in the fastland area and the chief problem they pose is one of non-point pollution. Many of these uses are now subject to state permitting procedures.

Types of Resources and Uses

The first factor considered in determining the state and local authorities to be exercised is the type of resources and uses subject to the management program. These vary with location in the Coastal Zone. Beyond mean low water, fisheries and all uses of subaqueous bottoms are subject to

management. In the wetlands, all uses other than those which are exempted are subject to the management program. In the fastlands, uses with a direct and significant impact on coastal waters, such as discharges, impoundments, surface mining, solid waste landfills, feed lots, and septic drainfield systems, are subject to the management program.

Type of State Authority Exercised

Exclusive state authority is exercised beyond the mean low water mark for fisheries and the use of subaqueous bottom lands. In the wetlands, state standards and criteria for use can be implemented either directly by the Marine Resources Commission or by localities through their local wetlands boards. The Commission retains the authority to review, modify, reverse, or remand back to a local wetland board any of its decisions.

In the fastlands area, exclusive state authority is exercised over certain uses, such as surface mining, or features of use, such as septic drainfields. While the actual permissibility of the use is determined in a local zoning ordinance, the use itself can be allowed only if those features of the use which are subject to state standards meet state approval.

Local Institutional Arrangement

Uses in the wetland areas can be permitted by local wetland boards where the local governing body has adopted a wetlands ordinance. Because these decisions are to be reviewed by the Marine Resources Commission, and because that agency is responsible for permitting subaqueous uses and fisheries activities, the Commission will have the greatest operational responsibility for implementing the program. Similarly, the Institute of Marine Science will

bear the greatest advisory responsibility, directing its commments to the Commission in particular.

A major thrust of Virginia's program is proper land planning, control, and management in the interest of protecting coastal waters and marine resources from non-point sources of pollution. Thus, a major responsibility will fall to local planning commissions and to local staff dealing with comprehensive planning, public works, or erosion and sediment control. These commissions and staffs in turn need technical advice from the Marine Resources Commission, the Institute of Marine Science, Department of Housing and Community Development, Soil and Water Conservation Commission, and the State Water Control Board. The latter two agencies play especially important roles in advising local governments and private shorefront property owners on the best land management practices to prevent the non-point pollution of state waters.

Thus, the state will play both an advisory and an oversight role with respect to the local institutional arrangement. In the fastland areas for the most part the state will play an advisory role. However, with respect to those uses now under state regulation, the state role will be one of direct control. The state organization for coastal resources management, then, ties the permitting activities of these regulatory agencies directly to the policies of the program. The regulatory agencies must grant such permits in a manner consistent with these policies. It will be the job of the Council on the Environment to see that this is done. how ?

THE STATE LEAD AGENCY

The Coastal Zone Management Act requires that the Governor designate a single state agency to be responsible for program implementation. This requires that the Council on the Environment:

Accept, allocate, administer and account for federal implementation funds;

Monitor and evaluate the program performance of state agencies and local governments; and

Amend and refine the program, with federal approval.

In addition to these basic responsibilities, the Council must:

Prepare the annual work program, budget and grant application;

Oversee the state's implementation of the consistency provision;

Act as the state spokesman on coastal management matters;

Provide public information and make sure the public participates in the implementation and revisions of the program; and

Consult with federal agencies, local governments, planning district commissions, and the General Assembly on program administration, development, and revision.

The management of coastal resources in Virginia is a function of many regulatory, planning, and advisory agencies. Because of this, the Council's main organizational task is to assist these agencies in coordinating their activities in the coastal zone to carry out the policies and purposes of the program.

As the lead agency, the Council will take the state leadership in setting policies and procedures for resource management in the Coastal Zone and will take the initiative in integrating existing policies and programs. The Council is in the best position to do this because its membership consists of most of the agencies involved in coastal management. As a result, its purview is broader than that of any one of the regulatory agencies, which are assigned specific responsibilities for protecting and permitting the use of specific resources.

MAJOR OBJECTIVES AND CORRESPONDING POLICIES

I. TO ESTABLISH THE STATE ORGANIZATION AND AUTHORITY NECESSARY FOR IMPLEMENTING A COASTAL RESOURCES MANAGEMENT PROGRAM, INCLUDING THE DESIGNATION OF A SINGLE STATE AGENCY RESPONSIBLE FOR OVERSIGHT OF THE PROGRAM.

A. To base the coastal resources management program on the State's authority for controlling coastal land and water uses and on the delegation of such authority to local governments.

B. To reserve to the State express authority to carry out the program and to enforce compliance, if need be.

C. To retain the oversight responsibility for the program at the state level with an agency capable of dealing with the general planning and administrative aspects of the program, and to place operating responsibilities with line agencies.

D. To rely on the authorities of the Governor and Secretary of Commerce and Resources for executive direction of the program.

II. TO INTEGRATE THE COASTAL PLANNING, PERMITTING, AND REGULATORY ACTIVITIES OF STATE AGENCIES INTO A COASTAL RESOURCES MANAGEMENT PROGRAM.

A. To use existing statutes, regulations, and permitting activities as a basis for the program, and to amend and clarify such statutes as necessary for implementation of the program.

B. To require State agencies carrying out resource management activities in the coastal area to do so based on the goals, objectives, and policies of the coastal resources management program.

III. TO DELEGATE ADEQUATE AUTHORITY TO LOCAL GOVERNMENTS FOR IMPLEMENTATION OF CERTAIN ELEMENTS OF THE PROGRAM, SUBJECT TO STATE REVIEW AND ENFORCEMENT OF COMPLIANCE.

A. To provide federally-funded financial and technical advice to local governments for carrying out the program.

INSTITUTIONS OF STATE GOVERNMENTS

The Organization of State Government in Virginia has evolved over time as issues have arisen and responses made, through the development of new programs and sometimes through the creation of new agencies or institutions. At this time, all of the basic requirements of a coastal resources management program can be implemented at the state level through the existing structure. Described below are the institutions and their authorities and the activities upon which State implementation of Virginia's coastal program will rely. These are described in three categories which correspond to the functions of (1) overall management authority (Secretary of Commerce and Resources), (2) lead agency (Council on the Environment), and (3) actual time management (other state agencies).

SECRETARY OF COMMERCE AND RESOURCES

The ultimate responsibility for administration of the Coastal Resources Management Program rests with the Governor and will be exercised by the Secretary of Commerce and Resources. In this capacity, the Secretary will:

Issue executive policy statements;

Assign program responsibilities to state agencies and ensure that their activities are coordinated;

Resolve conflicts which may arise among agencies in the administration of the program.

Section 2.1-39.1 of the Code of Virginia authorized the Governor to "designate and empower any secretary...to perform...any function which is vested in the Governor by law...." Executive Order Twelve (June 20, 1978), delegates to the Secretary of Commerce and Resources specific powers which are applicable to coastal resources management:

> To designate policy priorities and guidelines to effect comprehensive, long-range and coordinated planning and policy formulation involving more than a single agency or for the commerce and resources function;
>
> To direct the formulation of a comprehensive program budget encompassing the programs and activities, for the commerce and resources function;
>
> To direct the preparation of alternative policies, plans, and budgets for commerce and resources;
>
> To resolve administrative, jurisdictional, policy, program, or operational conflicts among any of the assigned agencies or officers;
>
> To hold assigned agency head(s) accountable for the administrative, fiscal, and program performance of such agency....

COUNCIL ON THE ENVIRONMENT AS LEAD AGENCY

The Administrator of the Council on the Environment, under the direction of the Secretary, will carry out the day-to-day administration of the Coastal Resources Management Program. The Administrator and the staff of the Council will:

> Act as the central contact point for public and governmental inquiries and comments regarding coastal resources management;

Prepare annual work programs and grant applications in conjunction with the involved agencies;

Accept and manage all federal grants for implementation of the program, including grants provided under the Coastal Energy Impact Program.

In fulfilling these duties, the Council on the Environment will constitute the "lead agency" under requirements of the Coastal Zone Management Act, and will, for the Secretary, monitor and evaluate the performance of the state agencies and local governments in managing coastal resources.

The Council on the Environment will annually review and make recommendations where appropriate for the modification of the overall state Coastal Resources Management Program, its policies and organization. In this capacity, the Council will serve as a forum for discussion among the various agencies directly involved in the management of coastal resources and will advise the Secretary of its findings.

Specific responsibilities of the Council will include:

Acceptance, administration, and accounting of grant funds
Allocation of grant funds
Preparation of annual work program, budget, and grant application
Monitoring and evaluation of state and local performance
Reporting on progress and adherence to the federal government
Requesting program amendments and refinements
Oversight of consistency determinations
State spokesman
Public information and participation

The Council's relationship to the Secretary of Commerce and Resources is

the key to its designation as lead agency for coastal resources management. By virtue of his transfer of several staff members from the Office of the Secretary of Commerce and Resources to the Council staff, the Secretary has made clear his intention that the Council assume much of the staff support role, in the areas of environment and resource management, formerly supplied from within his own office. In this support staff capacity, along with its other mandated roles within state government, the Council staff is most logical to assist the Secretary in the day-to-day aspects of his overall coastal resources management responsibilities.

OTHER STATE AGENCIES: SUMMARY OF PROGRAM AUTHORITIES AND RESPONSIBILITIES RELATED TO COASTAL RESOURCES MANAGEMENT

Commission of Game and Inland Fisheries

Game Propagation and Restoration Program manages all state wildlife resources for recreational use and provides sufficient annual crops for public benefit. This program acquires land for purposes as finances permit;

Fish Propagation and Restoration Program develops and maintains fishing and boating areas, Commission-owned fishing lakes, and pay-as-you-go trout management areas. It also maintains fish hatcheries and conducts research on fisheries;

Public Relations and Education Program publicizes activities through news media and exhibits and releases fishing reports to acquaint the public with the services and responsibilities of the Commission;

Law Enforcement Program enforces all legislation dealing with game, fish

and boating matters;

Administration of Motor Boats Act Program is responsible for the registration and licensing of all motor boats and maintenance of files on the same.

Commission of Outdoor Recreation

The major effort of the Commission is the development and implementation of the Virginia Outdoors Plan. This is through three programs.

Outdoor Recreational Planning Program coordinates the outdoor recreational plans of state, local and federal agencies and regional planning districts. The program offers guidance and technical assistance to these political units to assure provision of adequate outdoor recreational facilities to the state's residents and tourists.

The Virginia Outdoors Fund focuses on three areas:

State Parks, which use funds for the acquisition and development of new state parks and offer grants-in-aid for acquisitions of lands and their development in the park system;

Local and Regional Parks wherein localities and regions receive grants-in-aid for the purpose of acquiring and developing local-regional parks; and

Game and Inland Fisheries Commission which receives funds to promote the use of hunting and fishing lands for recreational purposes.

Virginia Outdoors Plan Coordination and Implementation Program coordinates the official State Plan with appropriate government units and the

private sector to achieve the goals and objectives of the plan. Functions of the program include reviewing and commenting on plans and programs of agencies which might have an effect on existing or proposed outdoor recreational facilities. The Commission is also responsible for developing scenic, natural, historical, and recreational sites through three programs.

Scenic Rivers System Program prepares and coordinates plans to facilitate the preservation of scenic rivers.

Scenic Highway and Byway Program identifies and develops plans in cooperation with the Highway Department and local government units for the protection of roads of scenic or natural beauty.

The Access Roads to Recreational and Historical Sites Program, through coordination of efforts with the Highway Department, designates outdoor recreation areas and recommends construction of access roads to these areas.

Department of Agriculture and Consumer Services

Special Services Program provides promotional services in news media to the agricultural industry and assists the producers in transportation problems and other related problems.

Crop Report Service Program collects and distributes agricultural statistics throughout the state.

Agricultural Opportunities Development Program provides information on career opportunities in agriculture and on the scope, value and opportunities in the agricultural industry with recommendations for promoting its development.

Rural Resources Services Program provides data and assistance to rural residents on areas such as environment, community development, land use and waste disposal programs, as well as grants and loans.

Pesticide, Paint, and Hazardous Substances enforces state law and regulations regarding truthful labeling and adequate precautionary labeling to assure safe use.

Plant Pest Control and Nursery Inspection enforces state law and regulations and quarantines to protect the economic interest of the state from the spread of plant insects and diseases.

Department of Conservation and Economic Development

Forestry

Reforestation of Timberlands Program assists landowners in restoring forest areas to desirable pine forest.

Forestry Service to Landowners Program offers technical assistance to landowners in forest management and reforestation efforts.

Investigation and Control of Forest Pests Program alleviates damage to forest caused by disease and pests.

Protection and Development of Forest Resources Program enforces all laws pertaining to forest fire control and prevention, operates free nurseries and provides public information.

Maintenance of Improvements Constructed by Civilian Conservation Corps Program manages facilities constructed by the Civilian Conservation Corps such

as fire lookout towers and fire roads.

Administration and Protection of State Forests Program directs the operation of the eight State forests on a self-supporting basis. This is done cooperatively with the Commission of Game and Inland Fisheries and VPI Extension Service.

Mined Land Reclamation

Minerals Other Than Coal Program restores lands disturbed by the surface mining of minerals other than coal and reviews the attendant plans for reclamation of the same.

Parks

Natural Areas Acquisition Program obtains natural areas for developmment of unique scenic sites and recreational facilities in the State.

Historical Site Preservation Program supervises the display and protection of state-owned historic and scenic sites.

State Parks Program establishes and operates State parks for recreational and educational use of the Commonwealth's natural resources.

Park Maintenance Program is responsible for the upkeep of State parks in accordance with technical and sociological standards.

Interpretive Program exhibits and interprets native plant and animal life and geological and historical resources in the State park system.

Mineral Resources

Topographic Mapping Program maintains 1:24,000 topographic maps by periodic updating and prepares maps for special purposes.

Geologic Mapping Program identifies and correlates rock types and units throughout the State according to physical and chemical properties and maintains records on same.

Multiple Land Use Mapping Program determines the suitability of land use as it regards geologic conditions.

Research Support Program carries on technical geological investigations on well cuttings, core repositories, and on rocks, minerals and fossils of the State.

Travel Service

Advertising and Promotion Program uses publications and the communication media to promote tourist trade in Virginia for economic advantage.

Travel Information Program distributes publications on attractions in Virginia to potential visitors to encourage and promote tourism to the State.

Highway Travel Information Station Program operates information stations at points of entry into the State to distribute literature on attractions, accommodations, etc. with the hope of encouraging visitors to tour Virginia.

Miscellaneous

Keep Virginia Beautiful Program is directed at eliminating litter in the

State.

Salt Water Fishing Program is designed to promote this sport for benefit of the State's economy.

Department of Health

In general, public health programs are carried out through the network of local health departments, with guidance and supervision by the Local Health Services effort at the State level. Public Health Nursing, Environmental Health, Shellfish Sanitation, as well as special federal programs for migrant labor and Appalachian health services, fall within this area.

Engineering administers regulatory programs in drinking water, sewage disposal, radiation, solid waste disposal, and bedding and upholstery inspections. It is heavily involved in recent environmental and safety legislation.

Department of Highways and Transportation

Construction and Maintenance of Roads and Bridges Program is completing construction of Virginia's portion of the national system of interstate and defense highways now designated as 1,078 miles. The program also supervises contract activities.

Maintenance Interstate System Program maintains the Interstate System, Hampton Roads Tunnel, and the Richmond-Petersburg Turnpike. Activities include traffic-lane painting, snow removal, mowing of roadsides, shoulder repair and resurfacing.

Secondary System-Construction and Maintenance Program is responsible for maintaining approximately 42,000 miles of roads and the secondary system, and for improving the 9,800 miles of secondary roadways and 2,080 secondary bridges included in the Ten Year Program. Arlington and Henrico Counties are paid a proportionate share of revenue from this program to maintain their own secondary road system.

Industrial Sites Access Roads Program constructs, reconstructs, maintains and improves local access roads to industrial sites where establishments involved in manufacturing, processing, etc. have been built or are planned.

Urban Systems Improvement Program improves the transportation systems in urban areas by constructing additional highway projects, upgrading existing urban streets, providing for effective use of mass transit and directing payments to municipalities for maintenance and improvements of their roads.

Toll Facilities Program directs the operation of Hampton Roads Bridge Tunnel, and York, Rappahannock, and James River Bridges. The program is responsible for the debt service and debt retirement of existing bonds.

Toll Facilities/Norfolk-Virgnia Beach Toll Road, Elizabeth River Tunnel, and Richmond-Petersburg Turnpike Program operates these facilities and is responsible for their maintenance payments, debt service and debt retirement of existing bonds.

Regional Transportation Aid Program is a new program which provides aid to mass transportation facilities in all areas of the Commonwealth.

Department of Housing and Community Development

Administration of Building Code Program maintains records of building

inspectors, distributes code books, provides staff to the State Housing Board and the State Building Code Technical Review Board, researches proposed changes to the Building Code, and maintains a reference library.

Local and Regional Planning Program administers the planning district program and state grants. The program channels federal funds to planning projects. Upon request, comprehensive plans, zoning ordinances and subdivision regulations are prepared for local governments.

Division of Industrial Development

Industrial Location Services Program assists domestic and foreign corporations in the selection and acquisition of sites in Virginia for locating industrial or corporate headquarters.

International Trade and Development Program encourages and aids manufacturers in international trade activities through import/export programs, European market analysis, and assistance in joint ventures or licensing. This program promotes the location of foreign manufacturers in Virginia. A joint office in Brussels was established in 1968 to facilitate this program's activities and is also utilized by the Virginia Port Authority and Department of Agriculture and Commerce.

Industrial Community Development Program assists localities in planning and preparing for economic growth through joint efforts with community leaders to develop programs to enhance the area's attractiveness to industry. Continuing contact is also maintained with industries throughout the state to insure awareness of problems and opportunities in the industrial field.

Research Program conducts research and provides statistical data on

industrial development potentialities in the state.

Public Relations and Advertising Program provides promotional services to attract new industries to the Commonwealth. This is done through various media to acquaint industries, domestic and foreign, with the industrial advantages of Virginia such as resources and labor supply.

Marine Resources Commission

Environmental Management Program combines the legislative mandate of the Wetlands Act and the custodianship of the state-owned bottoms to insure that all uses of the state-owned bottom and wetlands are consistent with law, regulations and guidelines. Permits are issued and monitored for the use of such lands. Local wetlands boards are also assisted in the pursuit of their duties.

Law Enforcement Program involves issuance of licenses for all fishing activities; enforcement of all fisheries laws, regulations or rules, patrol of condemned areas and relaying operations as per the National Shellfish Sanitation Program; assisting in enforcement of the Small Boating Safety Act; and general marine patrol and search and rescue.

Survey Engineering Program conducts surveys, prepares plats and maps, and maintains all records of private oyster rocks; maintains all maps of condemned areas.

Conservation and Repletion Program is concerned with the continued productivity of the public oyster rocks. At present there is particular emphasis on returning this resource to its pre-Tropical Storm Agnes level. The program conducts sport fishing enhancement programs (presently the

construction of artificial reefs), and develops and implements a data gathering system to assist in fisheries management decisions.

Soil and Water Conservation Commission

Land and Stream Rehabilitation Program provides resources to assist districts in maintenance of small watershed flood prevention dams.

Soil Survey and Mapping Program conducts soil surveys from which maps are prepared. This is done in cooperation with V.P.I and the Soil Conservation Service of the U. S. Department of Agriculture.

Erosion and Sediment Control Program administers a statewide to minimize erosion and sedimentation. The Highway Department's erosion and sediment control specifications are reviewed and approved as are other agency programs involving land disturbances. Assistance in developing and implementing local control programs is given to soil and water conservation districts. All program plans are reviewed prior to adoption. Local control programs are likewise developed in localities where none exist.

Air Pollution Control Board

Air Quality Monitoring Program operates air quality monitoring instruments to measure air pollution.

Air Quality Data Accumulation, Evaluation and Reporting Program samples air pollution and maintains data on air quality trends.

Transportation Control Program develops strategies to control pollution from mobile sources and transportation related sources.

Control Strategy Program develops strategies to control emissions from sources of air pollution.

Registration Program maintains a state register of emission sources.

Permit Program evaluates and issues permits for new and modified emission sources.

Rules and Regulations Update Program updates rules on air pollution control on a continuing basis.

Enforcement Program sets guidelines for enforcement of regulations through investigation of complaints and field enforcement.

Source Testing and Inspection Program verifies the compliance of pollutant sources;

Air Pollution Episode Program sets forth a plan to prevent and control air pollution during periods of air stagnation.

Environmental Impact Statement Program reviews and evaluates Environmental Impact Statements for certain federally and state funded projects.

Air Quality Maintenance Program develops plans and strategies to insure maintenance and non-degradation of air quality.

Local Air Quality Planning Service provides assistance to localities in incorporating air quality considerations in their comprehensive plan.

Water Control Board

Water Pollution Control, Prevention, and Abatement Program carried out

the provisions for the Federal water pollution control amendments of 1972 and other appropriate water pollution control regulations. This includes:

The processing of grants for wastewater treatment facilities;

The processing and issuance of National Pollution Discharge Elimination Systems permits;

The issuance and processing of 401 certificates for dredging, power projects, highways, and wetlands projects;

Insuring compliance with permits issued under the National Pollution Discharge Elimination System;

Sampling of ambient water quality conditions;

The study of lakes;

Investigation of fish kills, oil spills, and pollution complaints;

Enforcing the abatement, cleanup, and control of oil and hazardous spills;

Conducting training for wastewate treatment plant operators;

Reviewing plans and specifications for wastewater treatment facilities;

Holding public meetings and public hearings for the adoption and promulgation of new rules and regulations, water quality standards, and enforcement actions;

Reviewing and commenting on federal and state environmental impact statements and environmental assessments;

Enforcing water quality standards.

Conservation of Water Resources Program develops, coordinates, and manages the water quality management and water resources plans for the nine river basins of the Commonwealth. Included in this area is the maintenance and updating of Metropolitan/Regional Plans; the Flood Management Program, which includes the implementation of the federal flood insurance program to assist communities, development of flood plain studies, and programs for basin and service water hydrolic analysis; and the Groundwater Management Program which includes the development of the county groundwater studies and implementation of the Groundwater Act of 1973.

Aid to Localities for Construction of Water Quality Control Facilities Program provides for grants to localities for construction of wastewater treatment facilities.

Institute of Marine Science

Organized Research Program conducts hydrographic, oceanographic, engineering and biological studies of tidal waters, beaches, bottoms and the contiguous Atlantic Ocean. Research is carried out in the marine sciences. Technical assistance is provided to the seafood, commercial and sport fishing industries. Advisory assistance is also given to appropriate state agencies, the General Assembly and industry on methods of conserving, utilizing and replenishing natural marine resources.

Virginia Port Authority

Trade Development Program prepares and conducts a program of sales promotion and technical services designed to solicit and attract the routing of increased amounts of cargo and commerce through Virginia ports;

Traffic Program acts as a freight traffic policeman. It also works with the carrier industry to establish equitable rates, and acts as Authority liaison to relevant federal regulatory agencies. Rate quotations and studies are made available to port users, potential users, industrial development agencies and Virginia manufacturers through this program.

Port Development and Planning Program initiates long-range development plans for the ports. The research, planning, and engineering aspects of terminal facilities are handled through this program, as well as research and technical assistance to waterfront-oriented business.

Operations Program reviews terminal operations in Port Authority-owned facilities and makes recommendations for needed changes. The program involves coordination of port personnel and equipment to assure efficient cargo processing, as well as the supervision of port security police.

State Corporation Commission

Aviation Promotion Programs to assist the growth of Virginia's airport system through the provision of airport engineering services, the development of projects, through the review of Federal Grant Requests, and through the certification of navigational aids; to provide a weather recording and reporting network; to provide aerospace education workshop scholarships; to provide matching grants to assist localities in obtaining federal aid for airports.

Public Utility Regulation licensing of electric power generating plants and transmission lines, approval of sites and routes.

COUNCIL AS A FORUM

One of the primary functions of the Council on the Environment is to serve as a forum for discussion of various environmental and resource related issues. Within its "Program Coordination and Development" area of activity, this forum aspect is most important. In its annual report, the Council describes its activities in this area in terms of an objective statement:

> "To assure coherence and coordination among State environmental programs, to see that overall environmental priorities are established and supported with funds and personnel, and to promote efficiency of management among the agencies of the Council."

The Council's primary routine activity in this area is the coordination and presentation of the environmental agencies' budgets to the Governor. This task requires the Council to review specific State environmental programs and provides the State with a formal mechanism through which its many separate environmental activities may be more fully integrated. This biennial task provides the Council with information which puts it in an excellent position to offer long range suggestions on environmental program and budget priorities.

In addition to joint budgeting, the Council engages in other Program Coordination activities. By virtue of its membership, the Council provides an excellent vehicle in which to discuss State environmental programs in general or specific problems as they arise, and to advise the Secretary and Governor of its conclusions and recommendations. Development of new programs, particularly those which involve several environmental agencies and cross traditional lines of agency jurisdiction, fit well into this program

coordination function.

Within this well established set of activities will be added a number specifically related to the Coastal Resources Management lead agency responsibility, all of which rely heavily on the Council serving as a forum for coordination of the activities of a variety of involved state agencies.

In the area of administrative coordination, the Council staff will direct the preparation of each year's work program and will coordinate for the Secretary, the assignment of agency responsibilities and the allocation of grant monies. The Council also coordinates the development of a State position on federal Environmental Impact Statements and advises the Governor of the environmental effects of major State projects. In this capacity, the Council will serve to incorporate coastal resource concerns into decisions on most major projects proposed for the coastal part of Virginia. Further, the Council Administrator is already directed to speak for the State on communication with the federal government on environmental matters, and as such, will act as State spokesman on CRM matters. Also, the Council will add a CRM component to its existing public information efforts.

In the area of CRM program implementation the Council itself (ten members, ex officio or appointed by the Governor) will serve as a regular forum for discussing and recommending to the Secretary program priorities. The Council and its staff will also coordinate the provision of assistance to localities and the dissemination of information on facilities planning and permitting.

Finally, the Council as a collegial body given its composition, will be a most appropriate forum in which to monitor and evaluate the overall State performance in meeting its CRM objectives.

SECRETARY OF COMMERCE AND RESOURCES

In the infrequent case in which coordination among agencies cannot adequately be achieved through the Council on the Environment as a forum for administrative coordination and program implementation, the Secretary of Commerce and Resources may use the traditional vehicle of the inter-agency task force. This vehicle will most often be used on special problems which arise from time to time and which are out of the ordinary scope of any individual agency's purview. In such cases, an inter-agency task force of an ad hoc nature will supplement the Secretary and Council's ability to address the problem.

As indicated above, the actual approval of the annual CRM work program and the allocation grant monies will be made by the Secretary. The Council staff will coordinate their preparation and the Council itself will make policy recommendations, but final authority and responsibility will rest with the Secretary.

INTER-AGENCY WORKING AGREEMENTS AND PROCEDURES

In addition to the degree of coordination among agencies that is achieved through the forum and staff work of the Council on the Environment and the overall responsibility of the Secretary, further coordination results from the variety of formal memoranda of understanding that exist between many of the agencies of state government. Also, and probably of even greater significance in terms of real coordination, is the network of informal procedures and understandings that characterize the relationship among most agencies of state government, as well as with localities, and even agencies in other states.

A list of relevant memoranda of understanding is attached in appendix form. (Optional)

STATE AND LOCAL CITIZENS BOARDS

Discussion

The citizen commission form of government has historically served Virginia well and the number of such boards currently in existence are strong testimony to their value and utility. All regulatory agencies currently making decisions regarding activities in the coastal zone are served by such a commission. Specifically, those agencies currently served by citizen boards who have a primary or peripheral interest in coastal zone matters are:

Air Pollution Control (APCB)

State Corporation Commission (SCC)

Commission of Game and Inland Fisheries (CG&IF)

State Health Commission (SHD)

State Highway Commission (VCH&T)

Historic Landmarks Commission (HLC)

Hampton Roads Sanitation District Commission (HRSD)

Commission of Outdoor Recreation (COR)

Virginia Port Authority (VPA)

Soil and Water Conservation Commission (S&WCC)

Virginia Beach Erosion Commission (VBEC)

State Water Control Board (SWCB)

Virginia Marine Resources Commission (VMRC)

While each regulatory board or commission may function somewhat differently and are each subject to separate statutory provisions, their

function in conflict resolution is quite similar. The members are all appointed by the Office of the Governor with review and approval by the General Assembly. The various members have staggered terms of office, not all of which correspond to the term of office of the Governor. In this way, continuity is assured and partisan concerns minimized. Furthermore, the independence of such a group is markedly contrasted to that of the professional bureaucrat who can be susceptible to numerous and often conflicting pressures.

In addition to these boards and commissions, the Council on the Environment represents a forum for agency chairmen and citizen members to discuss environmental matters. The chairmen of seven state regulatory agencies and three citizen members, as well as the Administrator of the Council, constitute the Council's membership.

In order to assist in a clearer understanding of their function, a detailed examination of the composition and operation of one such commission currently active in Coastal Resources Management may be helpful. While a description of any of the foregoing list might be equally useful, the Virginia Marine Resources Commission (VMRC) is already prominent in living resource and habitat management and that role is certain to increase under an approved Coastal Resources Management.

Composition

The seven members currently comprising VMRC possess a wide divesity in background and experience. The Commissioner, and by statute, the Chairman, is an acknowledged authority in the complexities of regional, State, national and international fisheries management as well as wetlands preservation and the

entire permitting process.

Of the six associate members, one is a major shellfish processor. Another is himself a former Commissioner, a lawyer, a prominent lumber dealer, local zoning administrator and is knowledgeable of all aspects of commercial fisheries of the State. The third is a dealer in petroleum products as well as a prominent crab products processor and entreprenuer. The fourth member is a retired oil industry executive, gentleman farmer and shellfish grower. The fifth is a prominent realtor in a rapidly developing rural community. The sixth is an elected official of an urbanized community in Tidewater. This breadth of expertise, knowledge and maturity brings an unusual degree of stability, predictability, and uniformity into the decision and conflict resolution process. Furthermore, their status as respected residents of various Tidewater political jurisdictions, hence their accessibility to citizens in the community, offers a degree of public participation in the process.

Operation

The Commission meets formally on the fourth Tuesday of each month. Proceedings are quasi-judicial in nature with full staff support. Legal Counsel is provided by the Office of the Attorney General. Each meeting is conducted as a full public hearing and sworn testimony is taken from all interested parties and staff. All proceedings are taped and verbatim transcripts are produced in the event of a request for judicial review. The press is always notified and several members are always present for the full agenda. All projects involving construction or dredge and fill of State-owned bottoms costing in excess of $10,000, and any protested project of any size, are placed on the monthly agenda and considered by the full Commission after

complete briefing by staff utilizing both ground and aerial photography. All projects involving any wetlands modification in jurisdictions where no local wetlands board has been appointed are similarly considered after staff has held a public hearing within the jurisdiction where the project is to take place. Any contested or sensitive aspect of commercial fisheries management is similarly aired in full public view as is the adoption or modification of a rule or regulation. Both parties in a contested issue are often represented by counsel.

Wetlands Habitat Preservation

Operable under VMRC supervision and guidance are twenty-eight local wetlands boards of five members each (seven in the case of the City of Poquoson) appointed by the governing bodies of those political jurisdictions in the Coastal Zone of the Commonwealth. These boards function in much the same manner as VMRC but come together with less regularity; generally, only when there are wetlands applicatons to consider. All decisions of these bodies are reviewed by the Commissioner for VMRC and may be appealed to VMRC. These boards offer the same advantages to localities that State agency Commissions offer to the State as a whole. Furthermore the availability of VMRC as an appeal forum offers those advantages to an appellant noted below. The existence of these boards along with the review and appeal involvement of VMRC means that there are 149 knowledgeable citizens involved in the management of the approximately 250,000 acres of wetlands habitat in the Commonwealth. This offers unique opportunities for citizen involvement in resource management and provides for a method of conflict resolution which both applicants and aggrieved parties can understand and accept.

Decision Process

One of the real strengths of this form of decision process and conflict resolution is the timeliness of the decision. An applicant is spared the inconvenience and expense of protracted negotiation and uncertainty. On infrequent occasions, a matter may be tabled pending additional data or information, but rarely longer than the next regularly scheduled meeting. A majority vote of those present produces a decision. Decisions of local boards may be appealed to the Commission and decisions of the Commission may be appealed to the courts. Because of the thoroughness and impartiality with which decisions are made, this right is rarely exercised. Another real advantage of this system is the availability of a forum before which an aggrieved party can present his case outside a court of law at no cost beyond his expenditure of time and transportation to Commission headquarters.

Examples of use conflicts with which the Commission is routinely confronted are: The siting of marinas in proximity to productive shellfish growing areas or in residential areas in localities where no zoning ordinances exist; dredging operations in proximity to important spawning and nursery areas or shellfish growing areas; the siting of structures which may impede navigation, transgress a private shellfish lease or interfere with other reasonable and appropriate uses of State-owned bottomlands; the most appropriate harvesting seasons and methods in public harvesting areas; the resolution of competing applications for leased growing areas and the appropriateness of granting reciprocal harvesting rights to residents of other states. As developmental pressures increase, the perceived right to the use of these limited resources often becomes distorted or at a minimum influenced by emotions, economics and long-standing social custom and tradition. Decision-makers in Federal agencies with concommitant responsibilities may

have only a vague appreciation for the complexities of these issues. Often the Federal decision-maker, in full appreciation of implications of a decision, will move that decision to a higher echelon of the decision process until it eventually reaches the highest levels of the Federal bureacracy. Not only is this process exceedingly expensive in terms of time and fiscal resources to both sides of an issue, it can result in a completely inappropriate decision, at least from the public's point of view.

It is for all these reasons that the Citizen Board has remained a highly respected and fully utilized vehicle in the State decision-making process. Characterized by maturity, broad expertise, familiarity with the issues, conscientious attention to detail, accessability, minimal cost, timeliness of decisions and a strong measure of accountability, these boards are sure to remain a key element in the resolution of use conflicts in Coastal Resources management and constitute a unique strength in the Virginia program.

A-95 PROCEDURES

Virginia's project notification and review process is an additional means to identify and resolve conflicts with other state, local and areawide programs. Developed pursuant to the requirements of the Office of Management and Budget's Circular A-95, Virginia's review process stipulates that all solicitations for nonstate funds must be reviewed by the designated State and Areawide Clearinghouses. This opportunity for review by interested parties coordinates federally supported programs with state, areawide and local plans and programs as well as resolving any conflicts that might be identified. The process allows thirty to sixty days for interested parties to submit written comment on a project. If necessary, the State Clearinghouse will hold a conference to try to resolve any conflicts mentioned during the comment

period.

During program implementation, the funds solicited annually from the Office of Coastal Zone Management will be reviewed by the relevant State and Areawide Clearinghouses. This will be an opportunity for the interested parties to comment on the implementation of the Coastal Resources Management Program. Any conflicts identified during the A-95 process will be resolved prior to the acceptance of implementation funds from the Office of Coastal Zone Management. In addition, the State Clearinghouse will forward plans for federal or federally assisted activities affecting the coastal zone to the Council on the Environment to determine that the proposed project is consistent with the State's Coastal Zone Management Plan.

The A-95 process will assist in resolving conflicts with other plans and programs and in carrying out the federal consistency provisions of the Coastal Zone Management Act.

CHAPTER X

STATE-FEDERAL RELATIONS

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CHAPTER X

STATE - FEDERAL RELATIONS

The primary goal of the Coastal Zone Management Act (CZMA) pertaining to State-Federal relations is to provide a greater opportunity for State-Federal coordination and involvement in decisions affecting the nation's coastal zone. The means for this opportunity is the development and implementation of states' coastal zone management programs which present single frameworks of goals, objectives and policies for Federal and State decisions in the coastal zone.

The State-Federal Relations chapter includes four major sections which reflect Federal participation in the development of the Virginia Coastal Resources Management (CRM) Program, procedure for implementing State-Federal Coordination, the Federal consistency procedures and consideration of the national interest by CRM.

FEDERAL PARTICIPATION IN THE CRM PROGRAM DEVELOPMENT

The CZMA and its corresponding regulations specifically mandate Federal participation in the development and implementation of a state's CZM program. The Federal role in the management of coastal resources is well recognized in Virginia, and the Virginia CRM program has been designed to offer an opportunity for full Federal participation.

The initial task in the early months of program development to ensure adequate Federal participation was one of mutual education between the Virginia CRM program and Federal agencies. The purpose of these early contacts was to inform Federal agencies of the methods that Virignia uses to

presently manage coastal resources, the issues facing Virgnia's coastal zone and goals and objectives to effectively deal with these pressing issues. Federal agencies provided statements of Federal authority and actions affecting Virginia's coastal zone, outlines of the relationships between Federal agencies and the program, and suggestions on how Virginia might meet the requirements of the CZMA.

Early letters established official Federal contacts and invited comments by Federal agencies on program documents. A Federal/State meeting held in February 1976 discussed means for coordination, Federal consistency procedures and Federal holdings in Virginia. Results from these first contacts indicated that until Virginia produced a substantive draft plan that Federal agencies could formally react to, that there was little need for coordination.

To ensure that the national defense interests were adequately represented by Virginia, a special meeting between representatives of the Air Force, Army and Navy and the Virginia CRM program was held in September of 1976.

In February 1977, "Alternatives for Coastal Resources Management" was produced and distributed for comment to Federal agencies. This was an introductory draft explaining Federal requirements and discussing possible approaches to CRM.

This document was revised and in October of 1977 "Proposals for Coastal Resources Management" was distributed for comment. This document was designed to be more specific and concentrated on policies for uses in the coastal zone. Extensive public hearings were held throughout the coastal zone on this document. The document and an invitation to the public hearings was provided to each Federal agency.

The "Report of the Virginia Coastal Study Commission" was widely

distributed in the spring of 1978 and proposed legislation to be introduced in the 1978 General Assembly session. The legislation was carried over to the 1979 session. Included with this Study Commission report was an invitation to Federal agencies to meet to discuss and specific problems or issues with the Virginia CRM program. Meetings with those agencies which responded affirmatively were held during the summer of 1978.

With the increased emphasis on interaction with Federal agencies directing programs which fund development projects in the coastal zone, a meeting between the Virginia CRM program and the Heritage Conservation and Recreation Service, the Department of Housing and Urban Development, and the Economic Development Administration was conducted in December of 1978. Discussion of the meeting concerned the various funding programs each agency administered, the extent of the funding of each program, specific problems in Virginia's coastal zone such as urban waterfront development, and means for coordination between the programs and CRM.

A summary of Federal participation is listed in Chart X-1.

From the public and Federal comments received during program preparation, the formal "306" document has been prepared. The Federal comments received have aided in setting priorities, revising policies, and formulating the management procedure for Virginia's coastal zone. As the program document is distributed to Federal agencies and comments received, the document will be revised and each formal Federal comment responded to with how the comment was considered. In cases of serious conflicts or misunderstandings, individual meetings will be arranged to mutually resolve the difficulties.

PROCEDURES FOR IMPLEMENTING STATE-FEDERAL COORDINATION

The Virginia CRM program is intended to be an ongoing process which is

CHART X-1

Federal Participation Chart

Federal Agency	2/76 Introductory Meeting	9/76 Defense Meeting	2/77 Alter-natives	9/77 Response	9/77 Proposals	9/77 Response	6/78 Meeting Invitation	6/78 Affirmative Response	306 Program Document	306 Response	306 Meetings
DOT/Coast Guard	*		*	*	*	*	*	*	*		
Navy	*	*	*		*	*	*		*		
Corps of Engineers	*	*	*	*	*	*	*		*		
Air Force	*	*	*	*	*	*	*	*	*		
NASA	*	*	*	*	*		*		*		
NASA Wallops Flight Center			*		*		*		*		
DOI (Regional)			*		(discontinued regional contact)						
BLM			*	*	*	*	*		*		
F&WS	*		*	*	*	*	*	*	*		
Mines			*	*	*	*	*		*		
USGS			*	*	*	*	*		*		
NPS					*	*	*		*		
Atlantic Marine Center (NOS MARAD)	*		*	*	*	*	*	*	*		
NMFS	*		*	*	*	*	*	*	*		
EDA			*	*	*	*	*		*		
GSA	*		*		*				*		
EPA			*	*	*	*	*	*	*		
FEA			*	*	*		*		*		
FPC			*		*	*	*		*		
ERDA			*		*		*		*		
NRC			*	*	*	*	*		*		
DO Energy			*		*	*	*		*		
HUD			*		*		*		*		
SCS Dept. of Agriculture			*		*	*	*		*		
DO Commerce			*		*		*		*		
Council on Environmental Quality			*		*		*		*		

continually defining coastal issues and re-evaluating state policies and management needs. This process requires the participation of and coordination with the public, local governments and the Federal government. Procedures for State-Federal coordination during program implementation include consultation, environmental impact statement and A-95 procedures, joint State and Federal permit processing, relation of CRM to other Federal programs, relation of CRM to federally-assisted community assistance programs, preparation of CRM and annual work programs, amendment to the CRM program and the Federal consistency provision.

CONSULTATION

During program development, a list of Federal agency CZM contacts was compiled. Communication with these individuals ensured that a mutual beneficial exchange of ideas and comments between Federal agencies and the State was developed and continued. It also provided a ready means for resolving misunderstandings. This consultation between Federal agencies and the State will continue both through individual meetings with agencies on an ad hoc basis to resolve specific issues, and joint meetings with all relevant agencies on an annual basis or as needed to discuss matters of concern to all Federal agencies and the State, such as a significant amendment to the Federal consistency procedures.

EIS AND A-95 PROCEDURES

While the advantages of these procedures have been discussed in Chapter IX, E-5 and 6, they are invaluable for day to day coordination since they are established procedures and Federal agencies, the State and localities are already familiar with their use. Both the EIS and A-95 procedures will be used extensively in the State's Federal consistency procedures and for

providing continued coordination on those matters not directly covered by the Federal consistency procedures.

SHORELINE PERMITTING

One of the issues raised during program development was the delay in receiving shoreline permits due to overlapping jurisdiction of the State and Federal governments. While this issue is discussed more fully in Chapter VIII, an improvement in shoreline permit processing and State-Federal relations has been the initiation and continuation of joint project review meetings between State and Federal environmental agencies.

With the development of the permit requirement of Section 404 of the Federal Water Pollution Control Act amendments and the infusion of environmental factors into the decision-making apparatus for older permit programs, principally the River and Harbor Act of 1899, the Army Corps of Engineers and other Federal environmental agencies experienced increasing permit workloads. Consequently in the mid-seventies, at the same time State permit procedures were improving, Federal agencies began to react to their increasing workload and the need to coordinate with Federal advisory agencies by streamlining procedures. During 1976 the Norfolk District of the Corps of Engineers commenced monthly meetings with regional representatives of the Fish and Wildlife Service, National Marine Fisheries Service and the Environmental Protection Agency to review pending applications. Expanded during 1977 to include State agencies, (Marine Resources Commission, Institute of Marine Science, Health Department and Water Control Board), this initiative has substantially reduced processing time for many projects. In some instances, conflicting project assessments which would have taken weeks or months to resolve through the mail, have been settled at one meeting. Face-to-face interaction between permit administrators has also had the important effect of

improving understanding and appreciation of the mandates, policies, procedures and perspectives of the various regulatory agencies and has fostered a greater trust between and among State and Federal agencies. For example, the Marine Resources Commission has presented project plans for which State approval has been secured, explained the rationale for approval and responded to Federal agency concerns over the acceptability of a project. Finally, joint processing has provided a forum for developing further improvements in permit processing such as the joint permit application recently developed and implemented.

RELATION TO KEY FEDERAL MANAGEMENT PROGRAMS AFFECTING VIRGINIA'S COASTAL ZONE

There are many Federal programs currently in operation which relate to the Virginia CRM program. The more significant among these are:

"208" Water Quality Program

The Federal Water Pollution Control Act amendments of 1972 (P.L. 92-500) highlighted the importance of the nonpoint pollution problem. Section 208 of the Act required the development and implementation of areawide waste treatment management plans which must include both point and nonpoint source control programs. In 1974, the Governor of Virginia identified five intrastate and two interstate areas as having critical water quality control problems due to urban-industrial concentrations or other special factors. A single representative organization in each of these areas was designated by the Governor and given the reponsibility of developing the 208 areawide waste management plan for that area. The State Water Control Board, as the State Water Quality Planning Agency, is responsible for Section 208 planning in the remaining undesignated areas of the State.

In addition to other point source controls, Section 208 plans must include assessment of an area's nonpoint source problems, establishment of priorities for nonpoint source categories, determination of best management practices to curb pollution from identified sources, and establishment of institutional mechanism for achieving prevention and abatement requirements. A major part of Virginia's Statewide "208" planning effort focuses on the development of seven "Best Management Practices" (BMP) handbooks which pertain to agriculture, forestry, mining, urban runoff, hydrological modification, residual waste disposal and sources affecting groundwater.

There is a strong working relationship between CRM and "208" since CRM has consistently stated that nonpoint pollution can significantly affect coastal waters and marine resources and has in each CRM draft explained how some land uses in the coastal zone can increase nonpoint pollution and affect marine resources. Coordination between CRM and "208" includes mutual review of draft products, joint membership in advisory committees, assitance in development of certain BMP handbooks, use of each other's products to demonstrate problems, and inclusion of BMP handbooks as a reference source for the review of activities and their effects once the CRM program is operational. The CRM program is also incorporating by reference findings and recommendations of designated "208" programs as one portion of nonpoint pollution control.

The Chesapeake Bay Program

The Environmental Protection Agency's (EPA) Chesapeake Bay Program (CBP) resulted from Congressional initiative and directed the EPA to assess the principal factors having an adverse impact on the environmental quality of the Bay, to analyze all environmental sampling data being collected in the Chesapeake Bay and to determine what units of government have management

responsibility for the environmental quality of the Chesapeake Bay and define how the management responsibility can best be structured. EPA Region III in Philadelphia was given responsibility for administering the program. The goal of the program is to protect and preserve the quality of the Chesapeake Bay by effectively managing its use and resources.

The program is unique in that the states of Maryland, Virginia and where appropriate Pennsylvania, along with citizens, are equal partners with EPA in implementing the program. To date ten problem areas have been defined. They are: toxic accumulation in the food chain, eutrophication, submerged aquatic vegetation, dredging and spoil disposal, shellfish closures, fisheries modification, hydrologic modification, wetlands alterations, and water quality effects of boating and shipping.

The Virginia CRM program has participated fully with the CBP by assisting in defining the serious issues facing the Bay, having CRM staff on CBP subcommittees which have developed work programs for the CBP issues, reviewing draft products and publishing CRM updates with the CBP public participation bulletins. The reason for the close relationship between CRM and the CBP is that many of the same issues have been defined by both as major problems such as the decline in submerged aquatic vegetation, shoreline erosion, fisheries modification and dredge spoil placement and both are concerned with management solutions to these problems. The CBP with its massive funding should play an important role in defining, researching and mitigating these issues.

Fisheries Management

The primary reason for CRM is to preserve, protect and develop marine resources and because of this fisheries managment will always be an integral part of the CRM. The major Federal program which is likely to affect

fisheries management in Virginia is the Fisheries Conservation and Management Act of 1976 which formed the Mid-Atlantic Regional Council to develop management plans for fisheries harvested predominantly in between the three to two hundred mile limit off the Mid-Atlantic Coast.

Virginia is fortunate in that the agency responsible for marine fisheries management, the Marine Resources Commission, also plays a major role in CRM in Virginia. This provides an important link between fisheries management and CRM. Since the Commissioner of the Marine Resources Commission is a member of the Mid-Atlantic Regional Council and the Virginia Council on the Environment which will review the fisheries plans for consistency with CRM, coordination is assured.

The Virginia CRM program also supports the Mid-Atlantic Council's "suggested statement for inclusion in a state coastal zone management program outlining the relationship between the coastal zone management program and fisheries management plans" which states that the Mid-Atlantic Regional Council will submit to the State Coastal Zone Agency (Council on the Environment) a draft copy of each fishery management plan or major amendment along with any required environmental impact statement which the State will have forty-five days to review. The Council will also submit copies of final fisheries management plans and environmental impact statements which the State will have thirty days to review. The Council will also make available to CRM any special studies that it develops and will notify CRM of any hearings that it holds. CRM in return will make available to the Council copies of any studies or reports it publishes that relate to fisheries development and will notify the Council of any projects proposed pursuant to the CRM that relate to fisheries so that the Council will have an opportunity to review and comment on them.

The review of fisheries plans and environmental impact statements developed by the Mid-Atlantic Regional Council while covered by the Federal consistency procedures listed for the Federal activities shall utilize the above timetable for review. This procedure will have the advantage of not adding any more time to the present schedule for approval of fisheries management plans.

RELATION TO FEDERAL COMPREHENSIVE COMMUNITY ASSISTANCE PROGRAMS (OCR)

A number of Federal programs are available to assist localities and available planning agencies. They are as follows:

U. S. Department of Housing and Urban Development

Grant Program Title

701 Comprehensive Planning Assistance Grant

Administering Agency in Virginia

U. S. Department of Housing and Urban Development, Richmond Office

Virginia Department of Housing and Community Development

Grant Program Purpose and Scope

The 701 program is a continuing effort by the Federal government to encourage and financially support general purpose state and local government, and regional combinations of local governments, in upgrading their comprehensive planning and executive management capabilities.

Eligibility Criteria

Eligible localities include: cities under 50,000 in population; counties

under 200,000 in population; all other localities (e.g., towns), states, metropolitan clearinghouses, nonmetropolitan clearinghouses, councils of government and Indian tribal bodies or groups.

Grant Program Title

Community Development Block Grant Program/Discretionary Grants (Small Cities)

Administering Agency in Virginia

U. S. Department of Housing and Urban Development, Richmond Office

Grant Program Purpose and Scope

The Community Development Block Grant Program for Small Cities was developed to assist communities in providing decent housing and a suitable living environment, and expanded economic opportunities, principally for persons of low and moderate income.

Eligibility Criteria

Eligible localities include: states and units of general local government, excluding metro cities (50,000 and over population) and any city designated as a "central city" of an SMSA.

Grant Program Title

Community Development Block Grant Program/Entitled Grants

Administering Agency in Virginia

U. S. Department of Housing and Urban Development, Richmond Office.

Grant Purpose and Scope

The Entitlement Grant Program is aimed at helping low and moderate income people and/or preventing slums and blight.

Eligibility Criteria

Entitlement cities receive a set amount of money each year to spend at their discretion as long as it is on projects which fit the primary focus.

Grant Program Title

Urban Development Action Grant Program (UDAG)

Administering Agency in Virginia

U. S. Department of Housing and Urban Development, Richmond Office.

Grant Purpose and Scope

This special purpose grant program is designed specifically to leverage private investments for residential or commercial developments.

Eligibility Criteria

Distressed cities and distressed urban counties may apply.

U. S. Department of the Interior, Heritage Conservation and Recreation Service

Grant Program Title

Land Water Conservation Fund

Administering Agency in Virginia

Commission of Outdoor Recreation

Grant Program Purpose and Scope

The Land and Water Conservation Funds, through the Virginia Commission of Outdoor Recreation, provides financial assistance on a 50-50 matching basis for acquisition and/or development of outdoor recreation sites and facilities.

Eligibility Criteria

Any town, city, county, park authority or state agency wishing to acquire or develop outdoor recreational areas may apply for funds.

U. S. Department of Agriculture, Farmers Home Administration

Grant Program Title

Area Development Assistance Planning Grants

Administering Agency in Virginia

Farmers Home Administration, Richmond Office

Grant Program Purpose and Scope

This program provides grants for comprehensive planning for rural development especially as such planning affects the unemployed, the underemployed those with low family incomes and minorities.

Eligibility Criteria and Requirements

Applicants must have authority to prepare comprehensive plans for rural development or specific aspects thereof, can be units of local government, substate district organizations, area wide comprehensive planning agencies, regional and local planning commissions, state governments, Indian Tribes and public, quasi-public or private non-profit organizations with authority to

receive and spend federal and other funds and to contract for planning services.

Grant Program Title

Development Grants for Community Domestic Water and Waste Disposal Systems

Administering Agency in Virginia

Farmers Home Administration, Richmond Office

Grant Program Purpose and Scope

This program assists in financing the development cost of domestic water and waste disposal systems in rural communities.

Eligibility Criteria and Requirements

The facility funded must primarily serve rural residents and be located in a rural area. Rural and rural areas does not include any city or town having a population in excess of 10,000 inhabitants, according to last census. Applicant must be an Indian tribe, a public body or corporation operating not for profit with legal capacity to construct, operate, manage facility and incur indebtedness and give security, therefore, grant must be necessary to reduce residential size user cost to a reasonable level.

U. S. Department of Commerce, Economics Development Administration

Grant Program Title

The Economic Development Administration (EDA) provides a variety of grants for planning, technical assistance and public works.

Administering Agency in Virginia

Economic Development Administration, Richmond Office

Grant Program Purpose and Scope

All programs are intended to assist in stimulating economic growth.

Eligibility Criteria

Area must be designated a redevelopment area. Factors of distress (unemployment, low per capita income) are used in determining eligibility. State and local governments, Indian tribes, and private and nonprofit organizations may apply.

Coastal Plains Regional Commission

Grant Program Title

Coastal Plains Regional Commission Grant Programs

Administering Agency in Virginia

Virginia Department of Housing and Community Development, Division of Special Programs.

Grant Program Purpose and Scope

The Coastal Plains Regional Commission is a Federal-State partnership created to assist in closing the "income-gap" between the Region and Nation through the full development of the Region's economic potentials and wise use of its natural resources in order to improve the quality of life for the people living in the Region.

Eligibility Criteria and Requirements

Technical Assistance Grants -- grants must be used for studies, plans, or research relating to economic development;

Demonstration Grants -- 1) no federal program exists to address existing problem;
2) project is innovative in nature and relates to economic development;

Supplemental Grants -- 1) grant is used in the development of facilities and equipment that will enhance economic development;
2) project must have a basic federal grant-in-aid program (HEW, HUD, EDA, etc.) in which to supplement Coastal Plains funds.

PREPARATION OF ANNUAL WORK PROGRAM

The annual CRM work program outlines the work to be funded and accomplished and consequently sets the priorities for the CRM program. Because of the importance of this document, copies will be supplied to the Federal agencies CRM contacts for review. In this way, Federal agencies have the opportunity to assist in setting priorities for Virginia's coastal zone.

AMENDMENTS TO THE VIRGINIA CRM PROGRAM

As the Virginia program develops and issues, policies and management needs are re-evaluated, changes or amendments may be necessary. Any changes or amendments require Federal review and all Federal contacts will be informed of any proposed changes and asked to provide comments. The Virginia CRM program also will consider from Federal agencies any proposed amendments or changes which will further the goals of the CRM program.

FEDERAL CONSISTENCY PROCEDURES

While explained in the next section, the Federal consistency procedures provide an excellent opportunity for increased contact between the State and Federal agencies in the early states of project planning. This should help ensure that potential conflicts between the State and Federal agencies are minimized in Virginia's coastal zone.

FEDERAL CONSISTENCY

INTRODUCTION

One of the major incentives as well as the most unique aspect of the Coastal Zone Management Act of 1972 (CZMA) is the Federal Consistency provision. This provision, when considered with the national interest section, provides a new opportunity for improved coordination between Virginia and the Federal government. This opportunity arises from Federal agencies administering their direct activities, regulatory functions, and assistance programs in a manner consistent, to the maximum extent practicable, with the approved State management program which, in turn, has the responsibility of incorporating the national interest into the program. The incentive in the consistency provision is that once Virginia develops a comprehensive coastal resource management (CRM) program, which must be approved by the U. S. Department of Commerce, Federal actions subject to the consistency determination must conform to the State's CRM program. This helps ensure that the CRM program will provide a single framework for guiding Federal, State, and local decisions concerning coastal resources.

The Federal Consistency provision is Section 307 of the CZMA. This

provision has five major sections which are paraphrased below:

Section 307 (c)(1) - Federal agencies conducting or supporting activities directly affecting the coastal zone must do so in a manner consistent with the State's program to the maximum extent practicable.

Section 307 (c)(2) - any Federal agency undertaking any development project in the coastal zone must ensure that the project is consistent with the State's program to the maximum extent practicable.

Section 307 (c)(3)(A) - any applicant for a Federal license or permit to conduct an activity affecting land or water uses in coastal zone must certify to the State that such activity will be conducted in a manner consistent with the State's program.

Section 307 (c)(3)(B) - any person submitting a plan for exploration, development, or production of an area leased in the outer continental shelf, which will affect any land or water use in the coastal zone, must certify compliance with the State's program.

Section 307 (d) - Federal agencies will not approve State and local applications for Federal assistance under other Federal programs if the applications are inconsistent with the State's program.

DETERMINATION OF CONSISTENCY

The Council on the Environment (COE) is the single agency designated pursuant to 15 CFR 923.53 (a)(1) and 15 CFR 930.18 and will be responsible for reviewing proposed Federal actions to assess their consistency with the Virginia CRMP. In order to prevent confusion and minimize delays, the COE will use existing State-Federal coordination mechanisms to the maximum extent practicable.

For Federal consistency purposes, the coastal zone consists of the seaward limit of the territorial sea and the landward limit is defined as delineated in the boundary chapter. The COE will also monitor Federal actions outside of these boundaries which have the potential for directly affecting the coastal zone.

Four types of Federal actions and the corresponding State consistency review processes are described in this section. These are direct activities including development projects, licensed and permitted activities, OCS plans and related licensed and permitted activities, and assistance to State and local governments.

FEDERAL ACTIVITIES AND DEVELOPMENTS

Federal activities and developments which significantly affect Virginia's coastal zone must be consistent to the maximum extent practicable with the State's Coastal Resources Management Program (CRMP). Federal regulations define activities which significantly affect the coastal zone as those activities that cause significant:

1) changes in the manner by which land and water or other coastal zone natural resources are used;

2) limitations on the range of available uses of coastal zone resources; or

3) changes in the quality of coastal zone natural resources.

The types of activities and developments which, the Commonwealth of Virginia believes, have the potential for directly affecting the coastal zone and which consequently require a consistency determination and notification to the State are listed below (this list is intended as a guide to Federal

agencies and will be refined as the consistency process develops):

a) the construction of an energy facility (defined in energy facilities chapter),

b) development projects, including reclamation projects and channel dredging (dredging of over 10,000 cubic yards),

c) plans for activities or developments having a significant effect on the coastal zone including those which would cause a significant change in population patterns,

d) acquisition or disposition of land,

e) Outer Continental Shelf leases,

f) designation of Marine Sanctuaries,

g) application by a Federal agency for one of the Federal permits listed in Federal permit consistency section, and

h) Fisheries Management Plans.

Federal agencies are encouraged to notify the State at the earliest practicable time. Notification may be accomplished through the State Clearinghouse, environmental impact statements or by directly contacting the COE. The notification containing the determination of consistency can take three forms:

1) The activity or development is not subject to the consistency requirement.

2) The activity or development is consistent with Virginia's coastal resources management program.

3) The activity or development is not consistent with Virginia's program, but this alternative is necessary for national security.

The process for reviewing the Federal notification is as follows:

1) After the State Clearinghouse receives the notification, using established A-95 clearinghouse procedures, State agencies, including the COE, local governments and planning district commissions (PDC's) in the area to be affected will be notified and asked to submit comments on the consistency of the activity within thirty days to the state A-95 clearinghouse.

If COE receives notification directly from the Federal agency, it will be responsible for contacting affected State agencies, localities and PDC's.

2) COE will analyze comments directly pertaining to the activity's consistency received from the clearinghouse or directly from state agencies, localities, planning district commissions and other interested parties and will agree with or object to the Federal determination. Any finding to object will include the reason for the objection and where possible, suggested changes that could allow for Federal activity to be conducted in a manner consistent with the Virginia CRMP.

3) If after ninety days, Virginia has not acted on a notification of consistency, State concurrence may be presumed. The State will attempt to include the notification response with the clearinghouse comments.

4) Mediation procedures will follow those suggested by 15 CFR 930, Subpart G, which include informal discussions and Secretarial mediation. Chart X-2 illustrates the consistency procedure for Federal activities and developments.

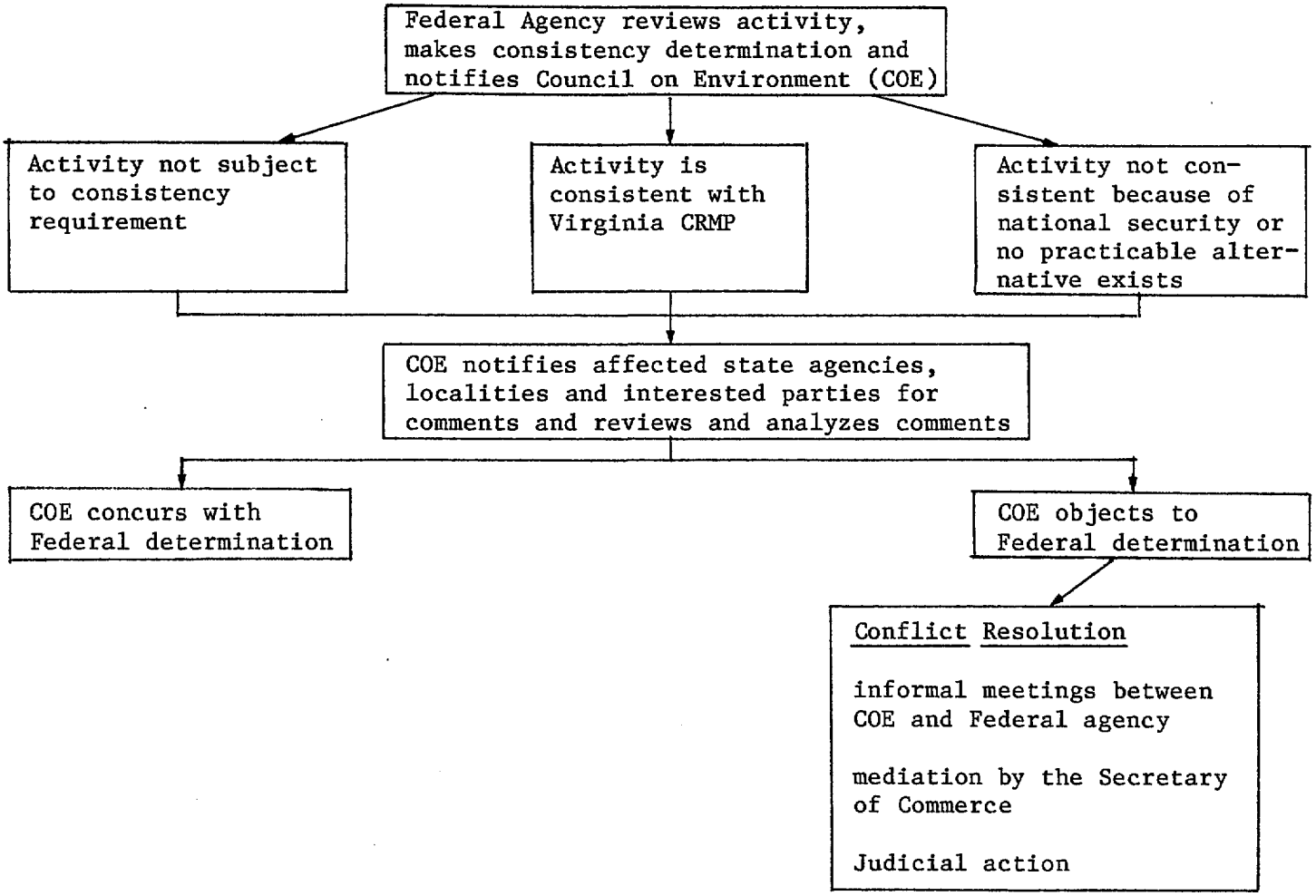
FEDERAL LICENSES AND PERMITS

Federal agencies issuing licenses and permits to applicants for proposed activities in the coastal zone may issue such license and permits only for activities that will be conducted in a manner consistent with the approved state coastal management program.

Federal law requires each applicant for a Federal permit or license

CHART X-2

CONSISTENCY REVIEW FOR FEDERAL
ACTIVITIES AND DEVELOPMENTS



listed in this section to certify that the proposed activity is consistent with Virginia's CRM program. In order to assist applicants in the certification process without causing substantial delays in the permit process, the existing State permit process will be utilized. The consistency certification statement submitted by the applicant to the Federal agency should state that the proposed activity is consistent with the Virginia CRM program since all necessary State permits have been received. In cases where the applicant wishes to apply for a Federal permit at the same time State permits are applied for, a preliminary consistency certification statement may be submitted to the Federal agency stating that necessary State permits have been applied for, and once received, a final consistency certification statement will be forwarded.

The Virginia CRM program is stating that the receipt of all necessary State permits is a positive certification of consistency since State agencies issuing permits will be required to consider the CRM program in their decision-making by both legislation and executive order.

Consultation with Federal agencies issuing licenses and permits in Virginia coastal zone will begin during program review to develop the means to inform applicants of this requirement, such as an additional question to the Federal permit or license inquiring if all necessary State permits have been received.

The Federal licenses and permits which will be required to be consistent with the Virginia CRMP are as follows.

Department of Defense

1) constuction of dams or ditches across navigable waters (River and Harbor Act of 1899: Section 9)

2) alteration of navigable waters (River and Harbor Act of 1899: Section 10)

3) discharge of dredged or fill material in U. S. waters (FWPCA of 1972, Section 404)

Department of Energy

1) permits and licenses for the siting, construction and operation of hydroelectric power developments and transmission lines (Section 4(e) of Federal Power Act and amendments)

2) license and certification for siting, construction and operation of nuclear power plants (Atomic Energy Act)

3) permit and licenses for the construction, operation and maintenance of interstate natural gas pipelines and storage facilities (Natural Gas Act of 1938, Section 717(f)

Department of Transportation

1) permits for construction or modification of bridges or causeways in navigable waters (33 USC 401, 491, 525)

2) permits for airport development project applications (49 USC 1976)

A summary of the procedures that will be used for review of Federal license or permit activities in the Virginia coastal zone is:

1) The applicant is required to secure all necessary State permits and licenses.

2) The current State permit processes including public hearings provide adequate opportunity to ensure consistency of activities

requiring a Federal permit with Virginia's CRM program.

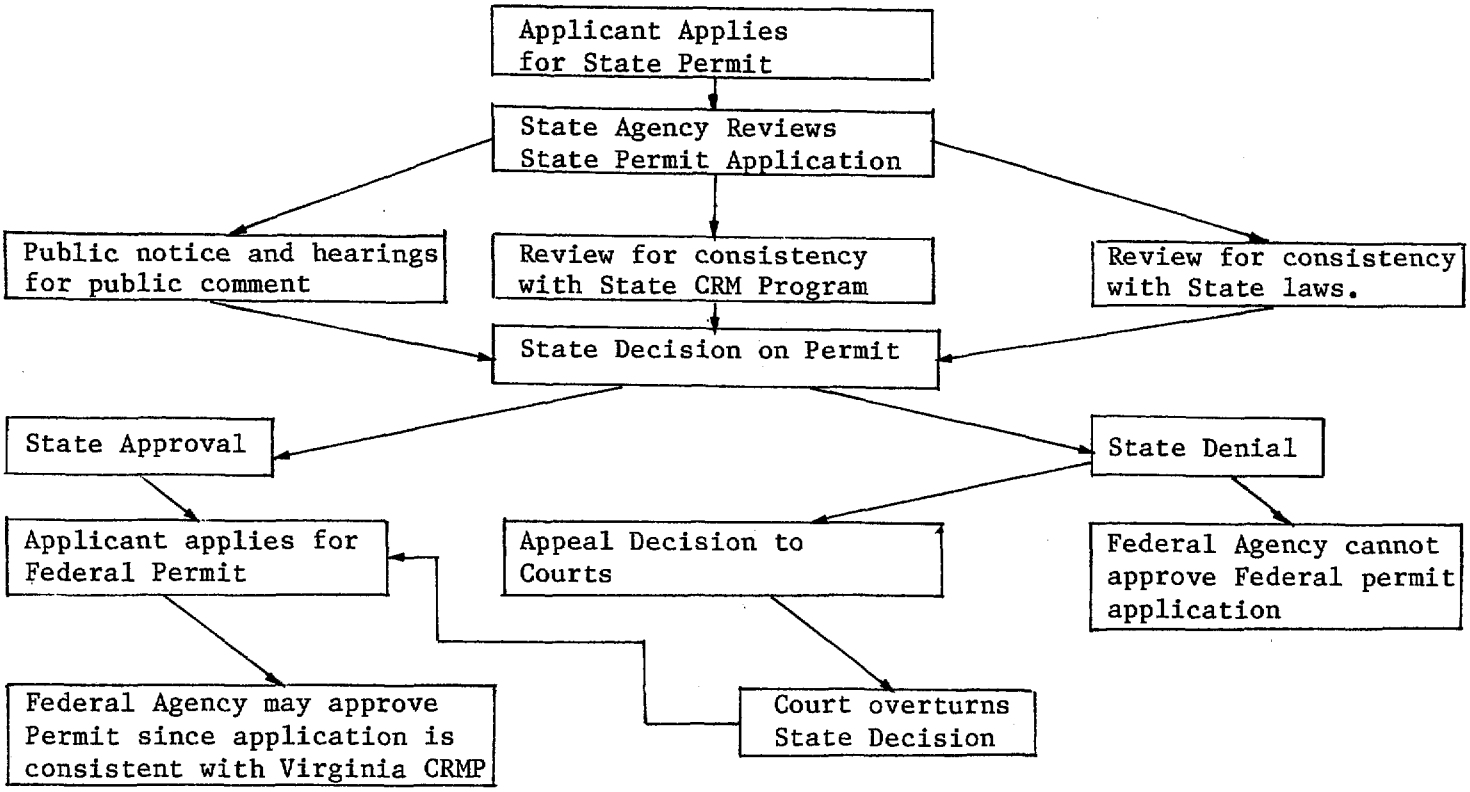
3) Receipt of all State permits and licenses is a positive notification of consistency.

4) The applicant submitting the license or permit application to a Federal agency must include a certification of consistency statement which certifies that all necessary State permits have been received before the Federal agency can approve the application.

Chart X-3 illustrates the consistency procedures for Federal permits and licenses.

CHART X-3

CONSISTENCY REVIEW FOR FEDERAL LICENSES AND PERMITS



OUTER CONTINENTAL SHELF ACTIVITIES

Section 307(c)(3)(B) of the Coastal Zone Management Act states that each activity which is described in detail in a plan for the exploration or development of, or production from, any lands leased under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) will be carried out in a manner consistent with a State's approved management program. No Federal official or agency may issue a license or permit for any activity described in detail in an OCS plan until the State concurs with the consistency certification or until the Secretary of Commerce finds that each activity described in detail is consistent with a State's program or is otherwise necessary in the interest of national security.

The licenses and permits affected by this provision include but are not limited to:

1) permits to drill (U.S. Geological Survey)

2) rights-of-use and easements for construction and maintenance of OCS structures and platforms (U.S. Geological Survey)

3) rights-of-use and easements for gathering and flow lines (U.S. Geological Survey)

4) pipeline corridor rights-of-way (Bureau of Land Managment)

5) permits for artificial islands and fixed structures on OCS (Corps of Engineers)

6) permits for transport of dredged material (Corps of Engineers)

7) permits for waste discharges (Environmental Protection Agency)

A summary of the procedures COE will use for review of OCS plans and related Federal OCS permits and licenses is as follows:

1) Persons submitting any plan for the exploration, development or production from the OCS to the Department of Interior shall submit a copy of this plan together with an evaluation and certification of its consistency with the Virginia Coastal Resources Management Program to the Council on the Environment.

2) Such evaluation and certification shall:

   a) Describe in detail all Federally licensed or permitted activities and/or facilities proposed.

   b) Describe whether or not each of these proposed activities and/or facilities will be sited, conducted and/or operated in a manner consistent with the Coastal Resources Management Program.

   c) Be accompanied by sufficient data and information to support the consistency certification and to allow Virginia to effectively evaluate the certification.

3) The COE will distribute necessary information to relevant State agencies, including the OCS coordinator, localities, PDC's and interested parties and will provide public notice and hold public hearings as necessary to review OCS plans and the consistency certification.

4) The COE will notify the applicant, the Federal license or permitting agencies, the Secretary of Interior and the Secretary of Commerce of its concurrence or objection within a period not to exceed three

months after receipt of the OCS plan, consistency certification and supporting information. Where, however, deliberations have not been completed within three months of receipt by COE of required information, the COE shall notify the applicant and the involved Federal agencies of the reason(s) for a necessary time extension re quest. If COE has not contacted involved parties within three months, concurrence may be presumed. Where the COE objects to one or more of the Federal license or permit activities described in the consistency certification, it shall separately discuss each objection with reference to specific provisions of the Coastal Resources Management Program. Alternatives to or modifications of the proposed activity(s) shall be recommended. The applicant shall further be notified of the right to appeal to the U.S. Secretary of Commerce.

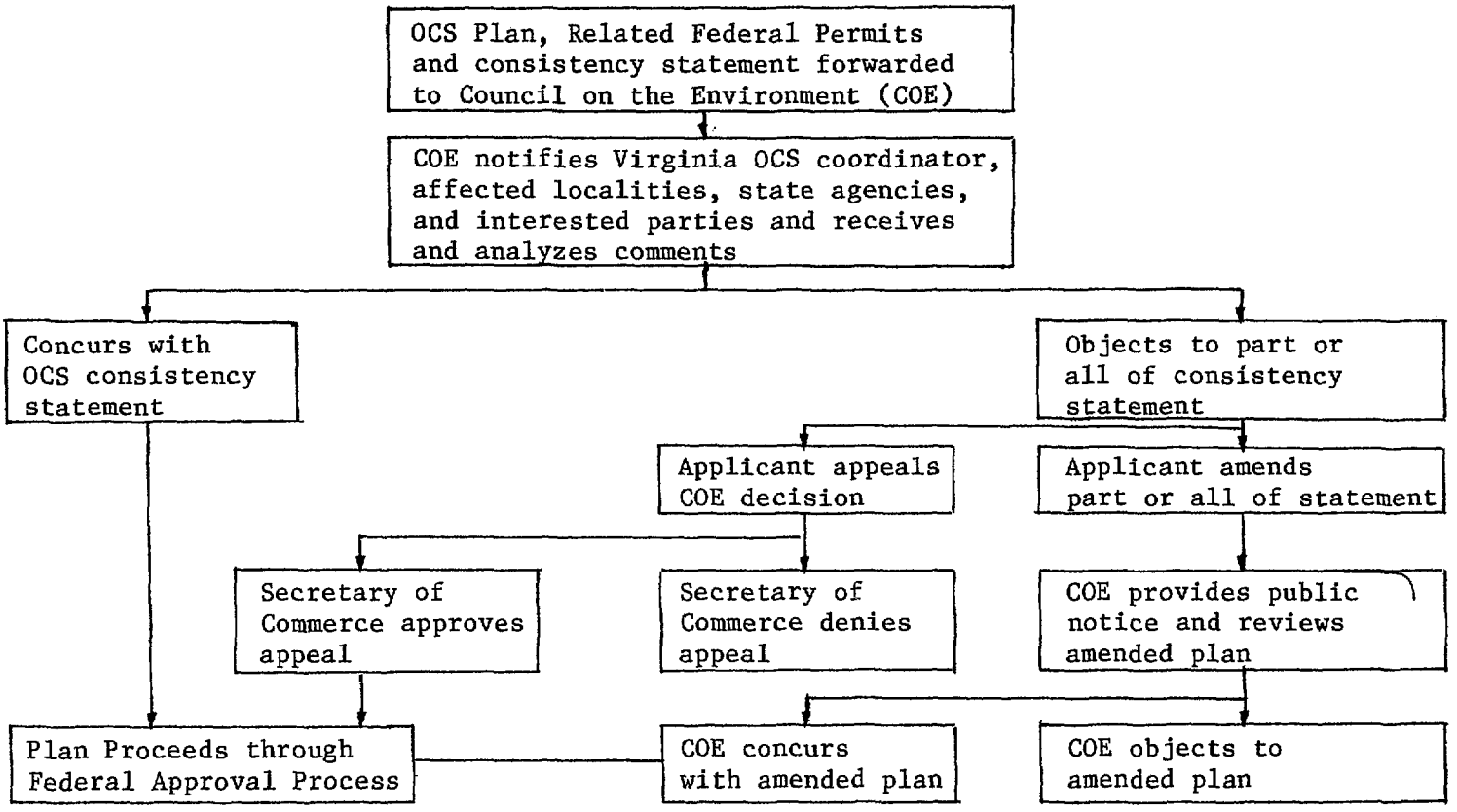
5) If the COE objects to any of the permits described in the plan, Secretary of the Interior may not approve the plan, nor can inconsistent permits described in the plan be issued until either the Secretary of Commerce finds, on appeal, that the activity is consistent with the purposes of the CZMA or the applicant files an amended OCS plan and consistency determination to which COE concurs.

6) After COE has objected to parts, or all, of an OCS consistency certification, it will review amended or new plans, consistency determinations and supporting information. From the receipt of the amended or new plans, COE will have three months to review the material and provide concurrence or objection to the material.

Chart X-4 illustrates consistency procedures for OCS activities.

CHART X-4

CONSISTENCY REVIEW FOR OCS PLANS
AND RELATED FEDERAL PERMITS



FEDERAL ASSISTANCE TO STATE AND LOCAL GOVERNMENTS

Federal assistance to State and local governments, which includes grants, loans, contracts, subsidies, guarantees, insurance and other forms of financial aid for projects affecting the coastal zone may only be granted when such activities are consistent with the State's approved CRM program. Only Federal assistance projects of more than twenty thousand dollars will be reviewed for consistency.

The Federal assistance programs subject to consistency are: (citations from 1975 Catalog of Federal Domestic Assistance)

Department of Agriculture

10.409 Irrigation, Drainage and other Soil and Water Conservation Loans

10.414 Resource Conservation and Development Loans

10.418 Water and Waste Disposal Systems for Rural Communities

Department of Commerce

11.300 Economic Development-Grants and Loans for Public Works and Development Facilities

11.407 Commercial Fisheries Research and Development

11.418 Coastal Zone Management Program Administration

11.420 Coastal Zone Management - Estuarine Sanctuaries

Department of Defense

12.101 Beach Erosion Control Projects

12.106 Flood Control Projects

12.107 Navigation Projects

12.108 Snagging and Clearing for Flood Control

Department of Housing and Urban Development

14.001 Flood Insurance (Applications for community eligibility)

14.203 Comprehensive Planning Assistance

14.702 State Disaster Preparedness Grants

Department of the Interior

15.400 Outdoor Recreation-Acquisition, Development and Planning

15.501 Irrigation Distribution System Loans

15.600 Anadromous Fish Conservation

15.605 Fish Restoration

Coastal Plains Regional Commission

28.002 Coastal Plains Technical and Planning Assistance (Construction only)

Environmental Protection Agency

66.027 Solid Waste Planning Grants

66.418 Construction Grants for Wastewater Treatment Works

66.419 Water Pollution Control-State and Interstate Program Grants

66.426 Water Pollution Control-Areawide Waste Treatment Management Planning Grants

The procedure for review of federally-assisted projects is:

1) The applicant sends to the clearinghouse the application for Federal assistance and a certification that the project being undertaken is consistent with the Virginia CRM program.

2) Using established clearinghouse procedures, State agencies,

including COE, and local governments in the area to be affected by the proposed project, are notified and asked to submit comments on the consistency of the assistance within thirty days to the State clearinghouse.

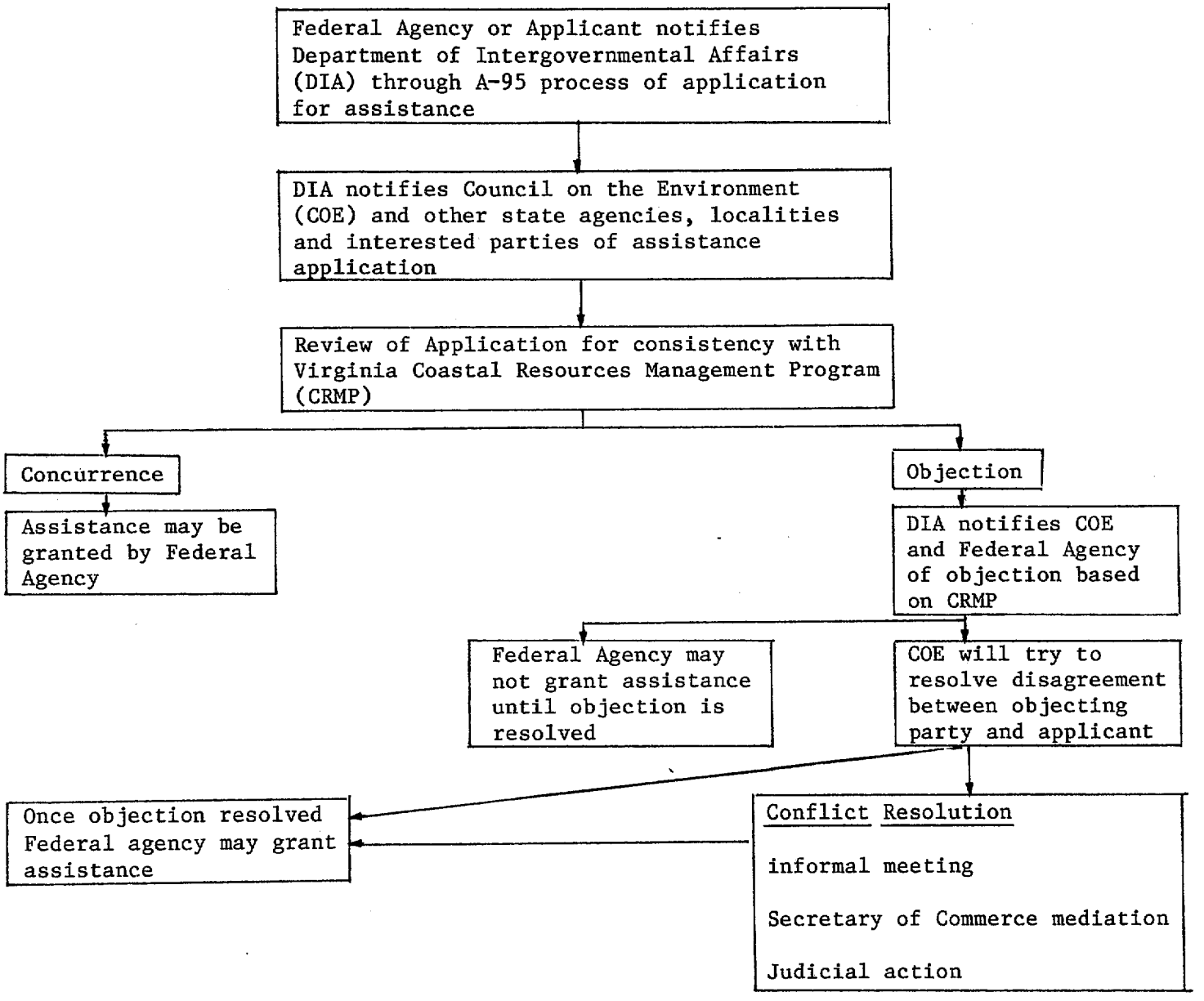
3) COE analyzes comments pertaining to the project's consistency with the State CRMP. COE will recommend either concurrence with or objection to the applicant's project. Any recommendation to object will include the reason for the objection and where possible, suggested changes that would allow the proposed project to be conducted in a manner consistent with CRMP.

4) Within forty-five days of clearinghouse notification, COE responds in writing to the Federal agency and the applicant informing them of its findings. If after forty-five days, COE has not acted on a clearinghouse notification, State concurrence may be presumed. The State will attempt to include the notification response with the clearinghouse comments.

Chart X-5 illustrates consistency procedures for Federal assistance.

CHART X-5

CONSISTENCY REVIEW OF APPLICATIONS
FOR FEDERAL ASSISTANCE



Virginia's Coastal Resources Management Program (CRMP) has been designed to: emphasize the importance of coastal resources; give citizens of Virginia a stronger voice in managing coastal resources; and provide a framework for consideration of coastal resources in Federal, State, regional, and local decision-making. These aims of the CRMP through state policies, goals, objectives, and legislation, should provide improved management of the coastal zone which will benefit not only Virginia, but the entire nation.

Although managing the coastal zone primarily to benefit Virginia's interest consequently also benefits the entire nation, the Commonwealth of Virginia is addressing the national interest directly because Virginia recognizes that its coastal zone is a national resource. The commerce passing through Virginia ports, the attraction of the coast for tourists, the importance of Virginia's fisheries, and military installations located in the coastal zone are indications of types of national concerns.

The difficulty in considering the national interest in the CRMP is that there are many and sometimes conflicting national interests and they are not always specifically defined. With respect to the coastal environment, the national interest can be found in the Coastal Zone Management Act of 1972, as amended and is variously portrayed by different Federal agencies and statutes.

In the Coastal Zone Management Act, Congress has found that there is a "national interest in the the effective management, beneficial use, protection, and development of the coastal zone," and that there is a "national objective of attaining a greater degree of energy self-sufficiency..." Beyond this, congressional findings and declaration of

policy in the Act leave no doubt that the primary national interest in coastal areas is protection of natural land and water resources.

> The coastal zone is rich in a variety of natural, commercial, recreational, industrial, and aesthetic resources of ... value to the present and future well-being of the nation ...
>
> The increasing and competing demands upon the lands and waters of our coastal zone ... have resulted in the loss of living marine resources, wildlife, nutrient rich areas, permanent and adverse changes to ecological systems ...
>
> The coastal zone and the ... living marine resources and wildlife therein are ecologically fragile and, consequently, extremely vulnerable to destruction by man's alterations ...
>
> Important ecological, cultural, historic, and aesthetic values ... which are essential to the well-being of all citizens are being irretrievably damaged or lost ...
>
> Special natural and scenic characteristics are being damaged by ill-planned development.

In light of these findings, the Congress declared it national policy to preserve, protect, develop, and ... restore or enhance the resources of the nation's coastal zone (and to)

> encourage and assist the states ... (in achieving) wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and aesthetic values as well as to needs for economic development.

Specifically, Congress mandated that the states must establish a means for ensuring "adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature." It becomes the State's responsibility to coordinate planning for these facilities by its agencies. The method by which decisions concerning federally and/or state-sponsored facilites are made is to be determined by the organizational authorities, responsibilities, and procedures at the state level and the means of coordination the Commonwealth has established with local governments.

The Commonwealth must ensure that developments which are of regional, state, and national benefit are not "arbitrarily excluded or unreasonably restricted" without sufficient cause. Thus, the concern for the national interest must be expressed not only by state actions, but also by local actions. By implication, local land use controls should not prevent the location of a facility deemed essential to the national interest.

To develop a management program, a coastal resources effort has to be based, in part, upon the various federal and state natural resources planning requirements. These requirements must be integrated into state, regional and local planning programs. This would not only partially account for the interests of particular federal agencies, but it should help officials at all levels to understand these requirements and to keep duplicate data gathering and planning to a minimum.

Virginia's CRMP will account for national interests in a number of ways. First, the goals and objectives of the program explicitly include consideration of national interests in the coastal resources decision-making process. Secondly, the "areas of particular concern" program to be implemented through state and local planning and regulation contains selection

criteria specifically directed toward identifying areas suitable for marine-related development. The identification and designation of such areas through proper planning could lead to less resistance to facilities which are of national interest along the permitting route. The enhancement of permitting efficiency for major facilities may be facilitated by Virginia's Council on the Environment's joint permit process. The existing program of regional and state review of federal projects having state and regional impacts (A-95) also greatly facilitates the exchange of information between the various levels of government on the national interest in such facilities.

During program implementation, the Commonwealth will continue to consider the national interest in its decisions. During implementation, Virginia will take into consideration the following federal policy information, in addition to federal/state consultation:

a) Presidential policy statements and executive orders relating to energy, the environment, commerce, and recreation.

b) Future federal laws and regulations.

c) Future statements from federal agencies regarding national interests.

d) Plans, reports and research studies from federal and interstate groups, (e.g., interstate energy plans, river basin plans).

e) Testimony from federal officials at public hearings.

The discussion below summarizes how the Virginia program, both during program development and implementation considers facilities and resources identified as being in the national interest.

A summary of federal agency missions related to the national interests in Virginia's coastal zone concludes this discussion.

NATIONAL DEFENSE AND AEROSPACE

One of the more obvious national interests is national defense. The Virginia Coastal Resources Management Program has received comments from and has met with designated representatives of the U. S. Navy, U. S. Army, U. S. Air Force and U. S. Coast Guard to insure that consideration of this element is clearly portrayed.

Practically all of Virginia's military employment is located within the Coastal Zone. This can largely be attributed to the natural harbor of Hampton Roads that attracted numerous naval facilities to that area. Approximately 70 percent of the military employment is found in the Southeastern Virginia Planning District and the Peninsula Planning District (the two areas adjacent to the Hampton Roads Harbor) while other concentrations of military personnel are found in the Northern Virginia Planning District and the Crator Planning District.

Military personnel stationed in the Coastal Zone grew from approximately 132,500 persons in 1960 to 154,00 in 1970 but by 1975 had fallen to 121,000. The buildup can largely be attributed to the escalation of the Viet Nam and simiarly the reduction can be attributed to the termination of that conflict.

Information on future levels of military strength is uncertain. However one projection places the 1985 total at 124,400 persons, a slight increase over the 1975 level.

The Virginia program excludes all federal land from the coastal zone and where defense operations are directly concerned, consistency with the program

is not required. Nothing in the program arbitrarily excludes or unreasonably restricts military or aerospace operations.

The formation of federal agency sponsored and implemented coastal zone management programs for their own federal lands to protect coastal resources and consider other national interests is recommended. This could be accomplished in conjunction with continued State and local coordination such as for recreational opportunities on military lands.

TRANSPORTATION AND PORTS

The nation's coastal zone is the focal point for residential, industrial, urban and recreational growth and consequently requires expansion and optimal use of transportation systems. To consider the national interest in transportation and determine how Virginia's CRMP pertains to it, meetings were conducted with the U. S. Department of Transportation, U. S. Coast Guard, Federal Highway Administration, Maritime Administration, U. S. Corps of Engineers, Virginia Department of Highways and Transportation and the Virginia Port Authority.

The transportation activity more closely related to the coastal and marine environment is waterborne transportation which includes freight and passenger transportation as well as incidental services such as cargo handling and towing. Employment in these related occupations averaged 5,200 persons in 1976 and has ranged between 3,900 and 5,200 persons during the 1960 to 1976 period.

Although employment in marine transportation has not grown rapidly, the volume of goods passing through Virginia's ports has increased substantially. Foreign trade tonnage, which does not include the considerable volume of inland and coastal shipments, increased from approximately 33 million tons in

1960 to approximately 52 million tons in 1976. Much of the cargo passing through Virginia's ports is bulk, including large quantities of coal, petroleum, and grains.

Port development plans for ports under the Virginia Port Authority will be incorporated into the Virginia CRM program. This insures adequate consideration of the needs of Virginia Ports and the national transportation interest.

The Virginia program will not affect the maintenance of existing highways but is primarily geared at reducing nonpoint water pollution from new highway construction with the use of best management practices handbooks developed by the State Water Control Board.

RECREATION

As do all coastal states, Virginia considers the coast as a national recreational resource. This is illustrated by the tremendous volume of recreational activity in the coastal zone including tourism, boating, swimming and fishing and the consideration given to recreation in the development of Virginia's program. Perhaps one indication of the growth in this area is that annual attendance at Virginia's two coastal state parks increased from 205,000 persons in 1961 to 900,000 in 1976, an increased of over 300 percent.

During program development, Virginia consulted with the National Park Service, Fish and Wildlife Service and National Marine Fisheries Service; reviewed Federal legislation pertaining to recreation including the Land and Water Conservation Fund Act, the Historic Preservation Act, Surplus Property Acts and the Nation-wide Outdoor Recreation Plan; integrated the Virginia Outdoor Recreation Plan with the CRMP by coordinating with the Virginia Commission on Outdoor Recreation; and has placed special emphasis on the

public access to beaches, urban waterfront and shoreline erosion elements of the CRMP.

Virginia is meeting national recreational concerns by incorporating into the CRM program the authority of the Department of Conservation and Economic Development to acquire and manage lands suitable for state parks; Game and Inland Fisheries Commission providing recreational boating facilities and management of wildlife resources; and the Commission on Outdoor Recreation carrying out a scenic rivers programs, the Comprehensive Outdoor Recreation Plan and making funds available to local governments for acquisition and development of outdoor recreational and open space areas.

WATER AND AIR QUALITY

The Virginia CRMP has been geared to protect, maintain and where possible improve the water and air quality of the state. The national interest in water and air quality has been considered by review of the Federal Water Pollution Control Act, Clean Air Act and consultation with the Environmental Protection Agency, designated "208" agencies in the coastal zone and State Water and Air Control Boards. All development in the coastal zone must be consistent with water and air quality regulations and standards which have been incorporated into the program.

WETLANDS

The Virginia CRM program has considered the national interest in wetlands by consulting with the Environmental Protection Agency, Corps of Engineers, Fish and Wildlife Service and National Marine Fisheries Service and by reviewing the Executive Order on wetlands, Section 404 of the Federal Water Pollution Control Act and the National Environmental Policy Act. The major features of the national interest in wetlands are the protection of wetlands

for their values as habitat, flood prevention, storm buffering, and recreation and regulation of activities affecting wetlands especially dredging and filling. Virginia's CRM program addresses these concerns through incorporation of the Virginia Wetlands Protection Act into the program and designation of wetlands as geographical areas of particular concern.

LIVING MARINE RESOURCES

The Virginia CRM program is committed to conserving and planning for the appropriate utilizations of living marine resources. In determining the national interest in this valuable resource the National Marine Fisheries Service, Fish and Wildlife Service, Corps of Engineers, Fishery Conservation and Management Act of 1976 and Living Coastal Resources: A Marine Fisheries Program for the Nation were consulted. From these contacts the national interest in fisheries has been determined to include the protection of marine resources and wildlife habitat, emphasis on commercial fisheries and relationship of marine resources to recreation. The Virginia program is considering these interests by incorporating present fishery conservation laws into the program, developing a characterization of Virginia fisheries through CZM funding, State participation in regional fishery organizations which are discouraging development near productive shellfish grounds, submerged vegetation, important wetlands and placing conditions on development which minimize adverse effects on living marine resources.

MINERALS

Mineral development was considered during program development by consulting the Bureau of Mines and the U.S. Geological Survey. There is a potential for mining operations to become a major economical activity within the marine environment although at present mining in the Coastal Zone is

restricted to small sand and gravel operations and total employment is relatively small. However, with increasing energy needs, drilling for oil and natural gas on Virginia's coast is becoming more likely.

Mineral development is a permitted use in Virginia's coastal zone, although dredging and filling and associated wastes from mining are conditioned through present state law.

FLOODPLAINS, EROSION HAZARD AREAS AND BARRIER ISLANDS

The national interests on floodplains, erosion hazard areas and barrier islands as stated in the President's Executive Order in floodplains and the National Flood Insurance Program are incorporated into the Virginia program. Virginia is assisting localities in developing floodplain ordinances which would make localities eligible for flood insurance. The program also encourages nonstructural measures for erosion and flood control. Barrier islands will be designated as geographic areas of particular concern for preservation and limited use.

WILDLIFE REFUGES AND RESERVES

Federal wildlife refuges and reserves, as are all federal lands, are excluded from the provisions of the Virginia CRM program. The Virginia Game and Inland Fisheries Commission has the statutory authority to acquire land for the purpose of establishing wildlife preserves. During program implementation, the Federal consistency mediation procedures may be invoked to resolve conflicts arising from balancing the national interest in wildlife refuges and reserves with other national interests.

PRIME AGRICULTURAL AND FOREST LANDS

To determine national interest in these areas, the Departments of

Agriculture and Interior were consulted.

The latest agricultural employment statistics available (1975) indicate that approximately 18,300 persons representing only 18 percent of Virginia total agricultural employment, worked on farms in the coastal area. However, the farming operations in the coastal zone tend to be larger and more productive than the average for the state. Statistics from the 1974 Census of Agriculture indicated that: (1) The average size farm in the coastal zone was 25 percent larger in land area than the state average, (2) the value of land and buildings per farm was 65 percent higher and, (3) dollar value of farm products sold per farm was 100 percent higher than the state average.

Virginia's coastal zone has a large forestry industry. In 1976 an estimated 57 percent of the land in the coastal area was forest land. Forest land owned by farmers (37 percent of the total) and that owned by the forest industry (14 percent of the total) together make up slightly over one half of total forest land in the coastal zone. These two ownership categories tend to be the productive users of forest resources, actually managing and harvesting timber instead of holding forest land for other purposes.

The remaining major ownership category in the coastal zone is "miscellaneous individual" which accounts for one-third of the forest land. This is a significant percentage since owners in this classification are usually interested in recreational uses of forest land, second home development or speculation.

The Virginia CRM program exempts agricultural and silvicultural activities. Present state law includes provisions for the establishment of special agricultural and forest districts for the purposes of tax relief to conserve these valuable lands.

ENDANGERED FLORA AND FAUNA

The national interests in endangered flora and fauna were determined by consulting with the Environmental Protection Agency and Fish and Wildlife Service and reviewing the Endangered Species Act. The Virginia program protects habitat in wetlands and other areas through the geographic areas of particular concern process. The Virginia Game and Inland Fisheries Commission is empowered to designate areas of important habitat for endangered species and develop rules and regulations for such areas.

HISTORICAL SITES AND DISTRICTS

The national interest in these areas were considered by consulting with the Department of the Interior and reviewing the Archaeological and Historical Preservation Act, and the National Environmental Policy Act. The Virginia program recognized the importance of preserving representative and unique archaeological, historical and cultural resources through designation of these areas as historic districts and sites and ensuring that Federal and state facilities minimize adverse impacts on these areas. During program implementation, the national interest in historic sites will continue to be considered when designating additional sites.

Underwater historic property is the exclusive property of the Commonwealth and it is the responsibility of all State agencies to protect and preserve this property. A permit is required from the Marine Resources Commission for any underwater recovery operations.

ENERGY FACILITIES

Of all the defined natural interests, the interest in the siting of energy facilities has drawn the most attention. In order to assess and

consider this important element of CRM the Department of Energy, Department of Interior, the Corps of Engineers and many private energy corporations and interests were contacted. Regional energy plans and the National Energy Plan were also studied.

The Virginia CRM program has demonstrated its consideration of the national interest in energy facilities in Chapter VI. This chapter defines the present State policies toward energy facility development and explains the current State process concerning location and permitting of energy facilities.

The components of the energy facility planning process include four major phases which are forecasting, preliminary site analysis, environmental review (state and federal EIS procedures) and the permit decision process.

SUMMARY OF FEDERAL AGENCIES

RELATED TO THE NATIONAL INTEREST IN VIRGINIA'S COASTAL ZONE

CRM-RELATED PURPOSE AND AGENCY	MISSION
National Defense & Aerospace	
Air Force Army Navy NASA Coast Guard	ensure the national defense through research, training, military exercises, patrols, and management of federal lands used by the defense department.
Recreation	
National Park Service	plans, develops and administers the natural and recreational areas comprising the National Park system including scenic parks, natural areas, large recreation areas, national seashores and scenic riverways.
Fish & Wildlife Service	administers management and research programs for waterfowl, migratory birds, sport fish and other species and provides for compatible recreational activities on National Wildlife Refuges.

	Coordination Act and provides financial assistance to state sportfisheries management program.
Corps of Engineers	undertakes when authorized improvements and maintenance to harbors and channels used by commercial fishermen and regulates alterations to fishery habitat.

Historical/Cultural Sites and Endangered Species

National Park Service	responsibility for sites on the National Register of Historic Places, National Historic Landmarks, National Parks, maintains and expands the National Register of Historic Places and adminsters a grant program for state survey and preservation planning program.
Fish & Wildlife Service	undertakes research and monitoring programs related to habitat alteration, pollution and other factors affecting ecosystems and is responsible for protecting endangered species and managing National Wildlife Refuges.
Corps of Engineers	undertakes programs, where authorized for removal of delapidated waterfront

	structures and debris, for construction of marsh areas and regulation of wetlands.
Prime Agricultural and Forested Lands	
Soil Conservation Service	provides technical assistance to landowners in developing plan for soil and water conservation, responsible for watershed protection and flood prevention and is authorized to undertake soil surveys.
Forest Service	provides technical assistance in cooperation with the State to private landowners to better manage forest resources.
Tidal Wetlands	
Corps of Engineers	administers permit system regulating alteration of marshes, wetlands and shorelines including dredging and filling of these areas.
Environmental Protection Agency	responsible for regulating dredging and filling activities affecting wetlands.
Fish & Wildlife Service, National Marine Fisheries Service	provide technical advice to the Corps of Engineers concerning permit decisions affecting natural habitat

	and wetlands.
All Agencies	responsible for complying with the Presidential Executive Order concerning wetlands protection which requires all agencies to consider the importance of wetlands in their activities.

Transportation

Department of Transportation

Coast Guard Federal Highway Administration Federal Aviation Administration	responsible for the Federal government's interests in the planning, development, improvement and operation of national transportation facilities and services. The Coast Guard is responsible for marine search and rescue, law enforcement, small boat safety programs, deepwater ports, bridges, transportation of petroleum and oil spill cleanup.
Corps of Engineers	responsible for the maintenance, improvement and development of navigation channels, harbors, breakwaters and related developments for commercial and recreational vessels.

Maritime Administration	responsible for promoting, encouraging and developing ports and related transportation facilities in connection with water commerce.

Water and Air Quality

Environmental Protection Agency	responsible for the regulation of water and air pollution, solid wastes and ocean dumping, establishes and enforces environmental protection standards, conducts research on adverse effects of pollution and on methods of controlling it and provides grants and technical assistance for pollution control.

Minerals

Bureau of Mines	responsible for mineral resources development through research and technical assistance; concerned with assuring the conservation and adequate supply of domestic mineral resources.
Geological Survey	conducts surveys, investigations and research into the topography, geology and mineral and water resources of the nation.

Bureau of Land Management	manages subsurface minerals and outer continental shelf leases in order to protect, develop and use the resources according to the principles of multiple use and environmental enhancement.

Preservation of Life and Property

Federal Insurance Administration	administers the National Flood Insurance Program which provides subsidized flood insurance to homeowners living in communities participating in the program and is responsible for ensuring that participating communities implement required land use controls.
All Agencies	responsible for complying with the Presidential Executive Order concerning barrier island protection.
All Agencies	responsible for complying with the Presidential Executive Order concerning floodplain protection.

Energy Production and Transmission

Department of Energy

Nuclear Regulatory Commission	responsible for licensing and regulating nuclear reactors,

	reviewing the safety of these facilities and preparation of a nuclear energy center site survey.
Energy Research and Development Administration	responsible primarily for research and development concerning sea thermal gradient conversion, windpower, coal and solar research and geothermal development.
Federal Power Commission	responsible for the planning, construction and operation of water resource projects particularly with regard to power development and regulates transmission rates of petroleum and liquified gas.
Federal Energy Administration	primary energy policy office and is responsible for promoting energy conservation and implementing fuel allocations and price control programs.
Bureau of Land Management	responsible for leasing of outer continental shelf land and prepares leases, establishes schedules for exploration and development, conducts bidding and prepares environmental impact statements.
Geological Survey	cooperates with BLM in preparation of

	leases and management of OCS petroleum resource potentials, evaluates environmental hazards, monitors exploration and inspects drilling operations.
Corps of Engineers	regulates the placement of submarine pipelines, cables and offshore islands.

INTRODUCTION

This inventory of federal lands has been compiled because these lands are excluded from Virginia's Coastal Zone. Federal activities within these lands which do not affect land and water uses do not fall under the consistency provisions of the Coastal Zone Management Act. Federal lands are displayed by agency, by planning district, and by actual site holdings.

Table 1

Federal Land in Tidewater Virginia by Federal Agency[1]

Agency	Acres
U. S. Army	113,443.84
U. S. Navy	109,319.25
Department of Interior (Fish & Wildlife Service)	65,560.00
Department of Interior (National Park Service)	47,844.58
Federal Aviation Administration	11,875.96
U. S. Air Force	5,670.89
NASA	6,772.00
Coast Guard	680.36
Department of Commerce	6.90
Federal Highway Administration	4.20
TOTAL FEDERAL ACREAGE	356,946.95
TOTAL ACRES IN TIDEWATER VIRGINIA	6,438,156.00
PERCENTAGE FEDERALLY OWNED	5.6%

[1]Includes fee simple and land where federal government has lesser interests such as leases, permits, and licenses.

Table 2

Federal Land in Tidewater Virginia by Planning District

District	Total Area	Federal Acres	Percent
8	508,278[1]	106,472	21.0
15	1,015,552[2]	5,154	.5
16	899,392	81,480	9.0
17	477,120	3,965	.8
18	827,584	10	.001
19	690,061[3]	9,078	1.3
20	1,282,304[4]	85,446	7.0
21	292,361	43,211,43	14.8
22	445,504	19,774	4.4

[1]Does not include Loudoun County.

[2]Does not include Goochland and Powhatan Counties.

[3]Does not include Dinwiddie and Greenville Counties and Emporia City.

[4]Does not include Franklin City.

FOR FEDERAL LAND IN TIDEWATER BY SITE, SEE APPENDIX II-1.

CHAPTER XI

LOCAL ROLE IN COASTAL RESOURCES MANAGEMENT

A. State-Local Government Relationship XI-1

B. Responsibilities of Local Government XI-2

CHAPTER XI

LOCAL ROLE IN COASTAL RESOURCES MANAGEMENT

STATE-LOCAL GOVERNMENT RELATIONSHIP

Effective coastal resources management depends on the State and local governments jointly carrying out their respective resource management responsibilities. The basic division of authority in Virginia gives the State jurisdiction over the use of waters and subaqueous bottoms and gives local governments jurisdiction over the use of lands. Because land uses do affect the marine environment, local land-use actions are critical to the successful implementation of the program.

Throughout the development of Virginia's Coastal Resources Management Program, local governments have played a crucial role in identifying issues, advocating changes in existing law and administrative procedures and evaluating recommendations presented by the legislative and executive branches of state government. A major focus of the Program is the local government management of the wetlands, sand dunes and fastlands. It is crucial, therefore, that local government be a key participant in the Program's implementation.

Much local land planning for activities at the water's edge has not taken into consideration the effects of land uses on the marine environment, nor have many land-use control ordinances been written with this emphasis. In order for the state and local governments to protect the marine environment, in part through land planning, both must seek to reduce or prevent pollution in the tidal streams. The best approach to this is through effective land-use management which will reasonably assure protection of the marine environment,

while permitting the wise development of private property. This effort emphasizes existing state and local laws, current and improved regulations and the Best Management Practice (BMP) guidelines which are now being prepared under the §208 water quality management programs.

Planning district commissions are also important partners in implementing Virginia's Coastal Resources Management Program. They were instrumental in developing regional assessment reports early in the development of the Program. Recently they have assisted local governments in evaluating proposed coastal resources management legislation. Their continued involvement is critical to the success of Program implementation particularly in the areas of providing technical assistance to localities, performing technical studies and assisting in public information and education programs.

RESPONSIBILITIES OF LOCAL GOVERNMENT

In fulfilling their role as partners in the Coastal Resources Management Program, local governments will carry out their planning, permitting and other administrative functions in support of the goals, objectives and policies of coastal resources management.

Pass-through funds will be available to localities through contracts negotiated with the lead agency. These funds will support (1) projects addressing the Program's goals, objectives, and policies, (2) projects designed to help solve critical coastal resource management problems, and (3) the acquisition of technical expertise for local coastal management. (See Chapter XII. FINANCIAL AND TECHNICAL ASSISTANCE.) Generally, priority will be given to those projects which go farthest in addressing long-standing resource management problems and in integrating local, area-wide and state

plans, programs and policies relating to coastal resources management.

In addition, the State government has an oversight responsibility in assuring that local and State agencies throughout Tidewater make land- and water-use decisions with adequate consideration given to potential impacts which may damage or degrade the marine environment. This will be accomplished through the laws, regulations and administrative procedures defined in a previous chapter (CHAPTER IX. STATE ORGANIZATION, AUTHORITY AND ADMINISTRATION). Local governments may also acquire technical assistance by the use of pass-through funds spent to hire full-time technical personnel with the required knowledge and experience.

CHAPTER XII

FINANCIAL AND TECHNICAL ASSISTANCE

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CHAPTER XII

FINANCIAL AND TECHNICAL ASSISTANCE

INTENT OF STATE ASSISTANCE

One of the underlying purposes for development of a Coastal Resources Management Program for Virginia is to provide a focus for increasing expertise in managing coastal resources at both the state and local levels of government. Local governments can benefit from the state's assistance in the form of technical as well as financial support. Conversely, state agencies can benefit from the experienced advice of local officials on local situations in developing the type of assistance the state can best offer. The proper management of coastal resources depends upon both state and local officials understanding their value; their limits and potential for use, their physical, biological and chemical characteristics; and their relationship to one another.

POLICIES

1. Financial and Technical Assistance

   a. To provide state assistance to local governments on the basis of local needs and the severity and immediacy of local coastal management problems.

   b. To provide state assistance to localities in the coastal zone primarily from funds granted under the Coastal Zone Management Act of 1972, as amended, in recognition of state assistance responsibilities to all Virginia localities.

c. To seek federal assistance to speed the preparation of coastal resources surveys, including soil and groundwater surveys, for localities in the coastal zone.

d. To coordinate the publication and distribution of information guidelines, reports, et. al., on coastal resources management issues.

e. To provide local officials convenient access to the technical, legal, and administrative information they need to manage coastal resources.

f. To coordinate assistance programs provided under the Coastal Zone Management Act of 1972, as amended, with other federal and state assistance programs.

2. Continuing Education

a. To provide local officials with the opportunity to become more knowledgeable about the natural processes of coastal resources and the legal and administrative means of managing them.

b. To cooperate with and seek the assistance of federal agencies in conducting such a program.

c. To make the academic research and resources at the Commonwealth's institutions of higher education available to state and local officials.

d. To establish a training program for state officials who will be directly involved in implementing the Coastal Resources Management Program.

DIRECT FINANCIAL AID

Grants Provided Under Section 306 (Management Program Implementation)

Funding

Federal Funds Available. Federal funds will be available to local governments and state agencies for implementation and administration of the program under Section 306 of the Coastal Zone Management Act. The funds may be used to assist the state in effectively implementing and administering the Coastal Resources Management Program. Current estimates are that 1.5 to 2 million dollars will be available to Virginia during the first year of implementation. In subsequent years, approximately 1.75 million dollars are estimated to be available annually for Virginia. Funds available to Virginia are contingent upon Congressional appropriations available to the Office of Coastal Zone Management.

State Match. These funds are available on an 80 to 20 ratio, federal to state matching share. With an estimate of 1.75 million dollars annually, Virginia would be expected to contribute $437,500 in cash contributions or in-kind services. Since the Virginia program is based, to a great extent, on existing programs, most, if not all, of the required match would be as in-kind services, the salaries, and associated overhead expenses of the state agencies and local staff whose normal activities are directly related to coastal resources management. Each individual grant recipient will normally be

required to provide its 20% of project match.

Activities Eligible for Funding

Implementation funds available to Virginia will be used to accomplish the objectives of the program as outlined in Chapter 1. The following section outlines the basic activities to be funded in Virginia's Program. The Coastal Resources Management Fund Distribution Advisory Committee will advise the Secretary of Commerce and Resources as to financial needs for implementation of the Coastal Resources Management Act. Localities participating in the program will be allocated approximately fifty to sixty percent of the funds available under Section 306.

Types of projects to be funded

i) Projects designed to improve the coordination of governmental agencies on priority coastal resource management issues.

ii) Projects designed to strengthen local government expertise in coastal resources management.

iii) Projects designed to improve the implementation and enforcement of existing regulatory and management policies and programs related to coastal resources management.

iv) Projects which are directed toward resolving national interest and coastal problems issues and conflicts.

Purposes of funding:

Program Administration

Eligible activities include the fiscal and managerial administration

of the program and projects funded through the program.

Eligible Recipient: lead agency

Program Financial and Technical Assistance. One of the primary purposes of Virginia's coastal resources management program is to provide both financial and technical assistance to those governmental units having jurisdiction over state waters, subaqueous bottoms, wetlands, primary and sand dunes and the fastlands. Several agencies of state government as well as a number of the planning district commissions have the technical staff capability to assist the state and local governments in the preparation of special studies or plans and the coastal resources management implementation measures. It is incumbent upon those agencies of government having technical expertise to make it available to units of government which will be carrying out the coastal resources management program.

Eligible Activities include problem areas--local, regional or statewide--in nature where funding and/or technical assistance is either nonexistent or insufficient. Examples of eligible projects include:

- Review and revision of local comprehensive plans, ordinances, and practices for compliance with Virginia's Coastal Resources Management Act (§62.1-13.20:3).

- Local hiring of the skilled people needed to administer programs already mandated by the state and important to management of coastal resources (for example, erosion and sediment control, subdivision plat reviews, wetlands protection).

- Assistance to applicants who need permits for construction in the shorelands and to shorefront property owners who need advice on erosion abatement techniques.

- Local preparation of site plans for recreational, commercial, and industrial development.

- Inventories of the causes and effects of shoreline erosion and mapping of land uses based upon high altitude photography.

- Training of local elected, appointed, and administrative officials in the techniques of coastal management activities, federal and state regulatory procedures, the economic and ecological value of coastal resources, and proper land planning and management.

- Preparation of basic information and plans which local officials and private citizens have suggested as essential to local and state decision-makers, including subject areas as:

  - Shoreline erosion rates, causes and effects.

  - Location of spawning and nursery grounds.

  - Mapping of oyster grounds and leases.

  - Transportation and location of hazardous materials in Tidewater.

  - Port development plans.

  - Possible sites for oil and gas pipelines in nearshore waters.

  - Fisheries protection and restoration.

Eligible recipients:

- State agencies

- County, city and town agencies

- Regional planning district commission

- Universities, colleges, and other education institutions.

Other Assistance. The Coastal Resources Management Act directs that implementation funds will be used to aid persons who do not have the water treatment and disposal systems. The State Department of Health will develop the regulations for establishing eligibility (by need) of persons to receive "hardship" funds.

Eligibility Criteria for Project Funding

Basic Criteria. In order to assure that the best possible use is made of available funds, applications for coastal program financial assistance must meet the following eligibility criteria:

1. They will further the goals and policies of Virginia's Coastal Resources Management Program.

2. They directly concern the planning for and management of coastal resources.

3. They are supported and signed by the chief administrative officer of the agency or governmental jurisdiction applying.

4. They serve a public need and benefit the "general health, safety and welfare."

5. They are consistent with existing comprehensive plans or proposed revisions thereto and/or any other relevant long-range plans.

6. They are technically sound, are based on valid assumptions and use effective methods to accomplish their objectives.

7. They must state that a reasonable investigation of alternative sources of funding has been made.

8. All efforts should be made to combine project funding with other local, state or federal funds (or projects) to achieve coastal management objectives.

9. Applicants must have a clearly-defined means of public participation in the proposed project (if appropriate).

10. Applicant must comply with the standard criteria on the use of federal funds (e.g., equal opportunity hiring).

Priority Criteria. Priority in consideration for funding will be given to applications for projects which:

i) are transferable and serve as a model for other towns;

ii) will help resolve local natural resource problems that have more than local impact;

iii) are integrated with other local, state or federal funds (or projects).

Application and Review

Local Governments

Advisory Committee on Funding for Local Governments. There will be established a Coastal Resources Management Fund Distribution Advisory Committee to advise the Secretary of Commerce and Resources on the local financial needs of the program. The Committee will have seventeen members including: One representative from the Virginia Marine Resources Commission, one representative from the State Water Control Board, three members of the Southeastern Virginia Planning District Commission, two members each from the Northern Neck Planning District Commission, the Middle Peninsula Planning District Commission, the Peninsula Planning District Commission, and the Accomack/Northampton Planning District Commission; and one member each from the Northern Virginia Planning District Commission; the Richmond Regional Planning District Commission, the RADCO Planning District Commission and the Crater Planning District Commission.

Application Process. Option 1: Prior to the first annual meeting of the allocation committee, the localities will be asked to submit project proposals to the lead agency. The lead agency will assist the allocation committee by developing program priorities, according to the objectives of the CRM Program, for each grant year. Local funding proposals will be reviewed by the Allocation Committee for recommendation to the Secretary for inclusion in the State's application to the Office of Coastal Zone Management. Proposals will be considered in terms of the program priorities and the particular needs of each locality. Upon federal approval of the grant applications, contracts will be awarded to localities.

Option 2: Prior to the development of the State's application to the Office of Coastal Zone Management, the Fund Distribution Advisory Committee will meet to discuss the program priorities suggested by the lead agency. After program priorities are established, the Committee will specify the types of projects which should receive implementation funds and establish project criteria for distribution of the funds (i.e., a projected number of shoreline permits, specific research needs, and local staffing problems). The types of local projects, and the project criteria, which will be funded will be submitted as part of the State's application. Upon federal approval of the State's application, the Fund Distribution Committee will meet to review local project proposals which will be submitted by each locality to the lead agency. The Committee will recommend to the Secretary how the funds should be allocated among the localities.

State Agencies. State agencies will also receive federal funds for implementing the CRM Program. The Council on the Environment, Marine Resources Commission, Virginia Institute of Marine Science, State Water Control Board, Soil and Water Conservation Commission, and the Department of Health are the agencies which may be eligible for the funds. State agency activities will also be funded on the basis of program priorities. State agency proposals will be reviewed by the Committee to coordinate state and local funding needs. The Secretary of Commerce and Resources with the assistance of the lead agency, will prepare the work program and budget to the Office of Coastal Zone Management (including state agency funding needs). Contractual agreements will be made between the lead agency and the other state agencies upon federal approval of grant application.

Grants Provided Under Section 315 (Estuarine Sanctuaries and Beach Access)

This is the only section of the Act which provides funds for the acquisition of public lands. The U. S. Congress, however, has not appropriated the funds authorized. Six million dollars have been authorized annually for the acquisition, development or operation of estuarine sanctuaries. Twenty-five million dollars have been authorized for the acquisition of lands to provide for access to public beaches or other coastal areas of environmental, recreational, historical, aesthetic, ecological or cultural value and for the preservation of islands. The amount of any such grant shall not exceed 50 per centum of the cost of the project involved, except that, in the case of acquisition of any estuarine sanctuary, the federal share of the cost thereof shall not exceed $2,000,000. There is a total of $31,000,000 (currently authorized annually) through 1980 for these programs.

If Congress does appropriate funds under this section, the lead agency, with the assistance of the Commission of Outdoor Recreation (COR), will solicit applications from local governments and other entities eligible to receive Section 315 grants. The COR and lead agency will jointly review all applications using factors including the State Comprehensive Outdoor Recreation Plan, site demand, local plans, environmental controls and competitive private industry.

Grants and Loans Provided Under Section 308 (Coastal Energy Impact Program)

To meet national energy needs in an environmentally sensitive manner and in harmony with the objectives of emerging state coastal resource management programs, Congress amended the Coastal Zone Management Act in 1976 to create a ten-year, $850,000,000 funding program. This source of specialized financial

assistance, the Coastal Energy Impact Program (CEIP), is designed to help coastal states and communities offset some of the regional and local effects of the national energy problem. The Commonwealth of Virginia has become eligible to participate in the CEIP through its continuing participation in the federal Coastal Zone Management Program which was established as a result of the Coastal Zone Management Act of 1972. While the CEIP is a recent amendment to the Act (1976 - Sec. 308) its funds are allocated specifically for impact assistance and are not part of the support given to the more comprehensive management program.

Types of CEIP Assistance

The Coastal Energy Impact Program consists of two related sources of financial assistance: (1) the Coastal Energy Impact Fund established under Section 308(h) of the CZMA; and (2) formula grants provided for in Section 308(b). Assistance from the Fund is aimed at meeting state and local needs resulting from impacts caused by coastal energy activity. Assistance from the formula grants is aimed somewhat more narrowly at assisting state and local governments to meet needs resulting primarily from Outer Continental Shelf (OCS) energy activity.

Fund Assistance

Planning Grants. Planning grants are available to assist local governments in planning for the economic, social, or environmental consequences of new or expanded energy facilites such as power plants, refineries, nuclear fuel processing plants as well as OCS and other coastal dependent energy activities impacting the coastal zone. CEIP funds pay for up to 80 percent of the costs (requiring 20 percent

matching funds from the grantee) of these planning activities.

Funds from this grant category have helped finance other states projects such as a harbors study, an outdoor recreation master plan, and an OCS lease sale impacts study. In Virginia planning funds were allocated during fiscal year 1978 to six projects on the Eastern Shore and one in the City of Portsmouth.

Environmental and Recreational Loss Grants. Environmental and Recreational Loss Grants are awarded to help prevent, reduce, or ameliorate unavoidable losses to environmental and recreational resources in a state's defined coastal zone which result from coastal energy activity. OCS exploration or production, coal and liquified natural gas terminals, deepwater ports, and associated support installations are examples of coastal energy facilities. Regulations define "unavoidable" losses as those which cannot be traced to any identifiable party or otherwise not preventable because of facility siting needs. Environmental and recreational resources include air and water quality, important animal habitats, wetlands, beaches, parks, or public access to these areas. Environmental and recreational grants in other states have paid for a fresh water siphon to reduce damages to a fresh water marsh caused by salt water intrusion resulting from coastal energy activity; an oyster bed reseeding project; and a fresh water intake to prevent drinking water loss due to energy development, among other projects.

Credit Assistance. Credit Assistance is available to finance new or improved facilities in communities experiencing impacts from coastal energy activity. This assistance is available in two forms: direct loans and loan guarantees.

Direct loans are available from the Coastal Energy Impact fund, and can be made for periods of up to thirty years. Loan interest rates range from a low of five percent on certain environmental and recreational projects to a rate equalling that of comparable U.S. Treasury Securities. This interest rate varies according to project need, applicant's financial condition, and state statutory interest rate ceilings on municipal obligations.

Bond Guarantees. Bond guarantees for principal and interest are also available from the Coastal Energy Impact Fund. The interest paid on such obligations, however, are to be included in the gross income of the bondholder for the purpose of Chapter One of the Internal Revenue Code of 1954. An interest subsidy sufficient to lower the interest rate to that available on direct loans may be paid to the borrower.

Repayment Assistance. Repayment assistance is a special and unique feature of the CEIP. Under this provision a borrower may receive special assistance if revenues securing the loan or guaranteed bond prove insufficient to service the debt because employment or population increases expected from the project did not materialize. The forms of this assistance may include: modification of loan terms, including interest rate reduction and principal postponement, refinancing and supplemental loans, and grants to meet the debt service on the loan.

Formula Grant Assistance. OCS Formula Grant for public facilities and services can pay up to 100 percent of the costs of planning for and development of new or improved public services and facilities required as a result of Outer Continental Shelf (OCS) oil and gas activity. Under this grant category, public facilities and services include police and fire protection activities and equipment, schools, water supply, roads, docks,

navigation aids, waste collection and treatment, hospitals, and health care.

Examples of previously funded projects throughout the country include hospital construction, road improvements, and a hurricane protection system.

Eligibility

Eligibility must be determined for three separate elements in a request: the applicant, the related energy development, and the proposed project. The specific question of what kinds of projects are eligible under each of the various types of assistance is dealt with in the Intra State Allocation Process which is appended to the CRM plan. The Coastal Energy Impact Coordinator will work closely with individual applicants and the OCZM staff so as to arrive at requests that will satisfy the questions of project eligibility. Early contact between applicants and the CEIP Coordinator is essential in this process of shaping the language and structure of a request and determining that there is adequate supporting information.

TECHNICAL ASSISTANCE

Types of Assistance Available

Technical assistance is presently available to localities on a case-by-case basis from various state agencies but not offered as part of an overall coastal resource management program. The wetlands orientation program now conducted by the Virginia Institute of Marine Science (VIMS) is an exception, but this program represents only one aspect of coastal resources management. Other related state assistance services, such as the State Health Department's Sanitation Survey, are either not up to date or available only on a limited basis because of lack of staff and financial support.

State-Local Assistance Team

Site-Oriented Technical Assistance

The State will be prepared to provide representatives to a local assistance team which would be established at the initiative of the Administrator of the Council on the Environment in response to a local need for assistance. The team would work under the direction of the Administrator. The nature of the project will determine the membership of the team.

Agencies under the purview of the Secretary of Commerce and Resources, Secretary of Education and the Department of Health, under the purview of the Secretary of Human Resources, will be requested to participate by the Secretary of Commerce and Resources through the administrator of the Council. These agencies include:

Commission of Game and Inland Fisheries

Commission of Outdoor Recreation

Department of Agriculture and Consumer Services

Department of Conservation and Economic Development

Department of Housing and Community Development

Division of Industrial Development

Marine Resources Commission

Soil and Water Conservation Commission

State Air Pollution Control Board

State Water Control Board

Virginia Institute of Marine Science

Virginia Port Authority

Program- and Ordinance-Related Technical Assistance

Agencies will provide assistance to localities such as:

(a) Review and revision of plans and ordinances affecting the shorelands areas.

(b) Preparation model ordinances, illustrative handbooks, and guidelines.

(c) Planning and implementation of shorefront access programs, including urban waterfront access.

(d) Planning and implementation of programs under the Coastal Energy Impact Program.

(e) Advice on shoreline permitting.

(f) Preparation of resource inventories.

(g) Advice on shoreline erosion, including engineering standards and construction techniques.

(h) Preparation of joint grant applications.

(i) Development of site plans for managing geographic areas of particular concern.

Local Requests for Assistance

Requests for assistance by local governments should be submitted and reviewed at the beginning of each program year by the Coastal Resources Management and Distribution Advisory Committee. The Committee will review all requests for assistance from local governments and will rank them according to the immediacy and severity of the problem to be addressed.

Background

Virginia has now had essentially seven years of experience in implementing the Wetlands Act of 1972. A significant feature of the Act was the authorization for local governmental entities to create wetlands boards and to regulate the wetlands within their own jurisdiction under the broad supervision of the Virginia Marine Resources Commission. So far, 28 localities have adopted this option.

While the Marine Resources Commission and the Virginia Institute of Marine Science provide specific technical advice for each local wetlands application, it was apparent that lay boards could not realistically regulate wetlands without some training. Indeed, it would require training just to enable lay persons to identify wetlands in the field and to establish their inland limits. The Institute of Marine Science formulated a one-day workshop designed to provide specific training to enable local boards to: identify marsh vegetation, define limit of wetlands, determine relative values of differing types of marshes, forecast probable impacts of various activities in wetlands, and determine ways for eliminating or reducing adverse impacts on marshes. As soon as a locality adopted a wetlands ordinance and appointed members of the board, the board was contacted by the Institute and arrangements were made for a workshop. As the program developed, workshop material was formalized and ultimately published as Local Management of Wetlands-Environmental Considerations (VIMS SRAMSOE No. 35, June 1973). Subsequently other information material was supplied to local boards and workshops are still being offered on a periodic basis to accommodate turnover of boards' membership.

The implementation of the Wetlands Act by local boards and by the Marine Resources Commission has been generally recognized as superior by knowledgeable observers both within and without the Commonwealth. Much credit for this high level of performance has been attributed to the initial and continuing training and education provided for wetlands boards.

It is the intent of the CRM Program to capitalize upon and expand this experience.

CURRICULA

Wetlands Boards

Refresher training will continue to be provided for wetlands boards. However, the curriculum will be expanded in content and in participation by other agencies. Resource content will be expanded from consideration of only vegetated wetlands to include non-vegetated wetlands, dunes, subaqueous areas, submerged aquatic vegetation and fish spawning and nursery areas. Management content will be expanded to include the resource areas and to include impact of land uses on the resources and mitigation options available. Regulatory content will be expanded to include considerations of other state agencies, besides those of VMRC and VIMS, and to include those of federal agencies engaged in the regulatory process. It is anticipated that active participants in course preparation and teaching will include the Institute of Marine Science, Marine Resources Commission, Water Control Board, Bureau of Shellfish Sanitation, Soil and Water Conservation Commission, the Corps of Engineers and its advisory agencies. It is anticipated that course length will expand from six hours to approximately ten hours. This program will be offered as demand

indicates, but at least once annually.

Local and State Officials

A new program will be designed to train local and state staff officials in the interdisciplinary aspects of land and water relationships and management practices designed to aid in the conservation of coastal resources. Course content will emphasize the physical, biological and chemical aspects of coastal resources; the impacts of pollutants and physical changes; land use practices and impacts upon adjacent marine resources; pertinent laws and regulatory programs; and methods of improving implementation of laws and regulations. Envisioned as a 40-hour course, teaching participants will include representatives of state and federal agencies who are involved in implementing laws and regulations pertaining to marine resources and land uses which affect marine resources. This program will be offered once annually.

Planning Commissions

Planning Commissions will be provided a program emphasizing the impacts of land uses on adjacent marine resources and means of minimizing adverse impacts through utilization of best management practices being developed by the State Water Control Board. Planning considerations for use of the shoreline, e.g., locational criteria for marinas, will also be covered. This is a key course in that, for the first time, there will be an organized effort to key those persons directly involved in land use management into the maritime impacts of their decisions. While the curriculum will have a base core, the course will be modified to meet conditions in the various planning districts. For example, course content for highly developed areas will

include urban waterfront renewal while content for the Eastern Shore may include aspects of on-shore development resulting from OCS oil development. It is anticipated that the course will be presented in each of the eight planning districts initially. Thereafter the course should be modified to be an annual refresher course. Expected course length is ten to fifteen hours.

General Education

A recurring comment at workshops and public hearings was a need for broad public education in marine resources and maritime affairs. The Institute of Marine Science, through the Sea Grant Program, is already providing assistance to secondary schools and colleges in terms of curricula development and education for teachers. There is a need, however, to develop a program for adults who are no longer in the formal school process. Development of content and method of presentation has not yet crystallized, but current inclinations are to use the existing mechanisms of the continuing education program.

Technical Training

An analysis of shoreline structures, particularly erosion control structures, indicates a need to develop minimum construction guidelines and to provide workshops for persons involved in construction along the shoreline. Standards and subsequent workshops will have to be based on a regional concept in order to meet the varying physical and biological environments in the estuarine and ocean areas of the Commonwealth.

While the foregoing program is one of immediate and particular concern, other technical training will continue to be provided on an "as required" basis such as a recent conference on "Marina Design and Environmental Impact."

Summary

The Commonwealth's resource to the public demand or more education pertaining to marine resources ranges from a broad education effort down to specific technical training.

INFORMATIONAL MATERIALS

Wetlands Guidelines

Guidelines for use in implementing the Virginia Wetlands Act of 1972 have been in existence and in use since December 1974. Developed by the Institute of Marine Science in conjunction with the Marine Resources Commission, the guidelines establish types of wetlands, relative values of the several types, general criteria for use of wetlands, and specific guidelines for avoiding or reducing adverse impacts to wetlands when dredging, filling or constructing facilities on the shoreline and in the nearshore environment. While the wetlands guidelines have held up well for five years, they will be refined and expanded as a result of experience gained since their initiation.

Subaqueous Guidelines

The wetlands guidelines, discussed above, were specifically designed for use in vegetated wetlands. While basically applicable to non-vegetated wetlands they are only partially applicable to subaqueous lands. The Marine Resources Commission has drafted guidelines for activities in the subaqueous area and has staffed them through state agencies. As is the case with the wetlands guidelines, the tenor of the subaqueous guidelines is to eliminate or reduce adverse impacts resulting from dredging, filling, or construction in

areas below mean low water. As wetlands guidelines are revised and subaqueous guidelines proceed, there may be a future amalgamation into one set of guidelines.

Best Management Practices

A major part of Virginia's statewide water quality management planning program now being undertaken to Section 208 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) involves the development of Best Management Practice (BMP) Handbooks. These documents are intended to present those methods or procedures which have been determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals. The BMP Handbooks have been developed by the State's 208 Technical Advisory Committee with guidance from special interest groups and the general public. The following Handbooks have been completed in draft form and will be available to the public along with handbook summaries in Spring of 1979.

Handbooks

I. Agriculture
   a. Erosion & Sediments
   b. Pesticides & Chemicals
   c. Animal Wastes

II. Forestry

III. Mining

IV. Urban
   a. Construction

b. Storm Water Management

c. Urban Runoff Quality

V. Hydrologic Modification

a. Channel Modification

b. Dredging and Dredged

c. Impoundments

VI. Sources Affecting Groundwater

VII. Residual Waste Disposal

An additional handbook is being prepared by the SWCB to accompany the BMP Handbooks. This Management Handbook outlines the State strategy for implementing the BMP's recommended in the seven technical Handbooks. It will include a separate section on institutional and financial arrangements for each non-point source category. Regulatory authorities, incentives and deterrents are presented, including an inventory of assistance available from Federal, State and Local governments. In general, voluntary compliance and local responsibility will be relied upon to implement the State's BMP's.

The BMP's recommended in these Handbooks are designed to reflect the soils, climate and topographic conditions of Virginia. Although the individual practice is the basic element in solving a non-point source problem, it must be realized that in most cases an individual practice will not solve these problems completely. A combination of practices will be necessary to control runoff and leachate problems. The designated BMP's will be subject to change. The Statewide 208 Plan (including BMP Handbooks) must be reviewed and revised periodically. BMP's and recommended institutional and

financial arrangements will be updated as necessary when the state of the art improves and when there is better understanding of non-point source problems in Virginia.

Rules and Regulations of the State Board of Health Governing Non-Discharging Sewage Disposal Systems for Homes, Schools, Small Businesses and Small Industries

These rules and regulations governing non-discharging Small Sewage Disposal Systems for Homes, Schools, Small Businesses, and Industries have been adopted under the authority of Chapter 1 of Title 32, Section 32-9, Code of Virginia (1950) as amended and in accordance with the provisions of Section 9-6.14:1, et seq. (Virginia Administrative Process Act). These regulations amend those revised by the State Board of Health on June 2, 1971, effective on July 1, 1971, and they are supplemental to the Virginia Sewerage Regulations which became effective February 1, 1977, adopted jointly by the Board of Health and the State Water Control Board pursuant to Section 62.1-44.19(8) of the Code of Virginia (1950), as amended.

These regulations are primarily concerned with those sewage disposal systems which can be used for homes, schools, small businesses, and small industries and similar entities and which do not require National Pollutant Elimination Discharge System (NPDES) permits. They principally concern sewage systems which use soil as the final means of disposal and systems which dispose of small quantities of sewage by incineration, composting or chemical or biological reactions without significant conveyance of sewage. These regulations have general application throughout the Commonwealth. They have application in those situations where the method of disposal constitutes a non-point discharge to the soil and therefore does not necessitate a NPDES Permit. The Virginia Sewerage Regulations, on the other hand, govern

primarily methods of disposal which do constitute point source discharges to waters of this Commonwealth which necessitates the acquisition of an NPDES permit. These regulations are designed not to conflict with the Virginia Sewerage Regulations; however, in the event of a conflict the Virginia Sewerage Regulations shall control.

Erosion and Sediment Control Handbook

This handbook was published by the Soil and Water Conservation Commission in 1974 as an aid to communities and conservation districts in implementing Virginia's Erosion and Sediment Control Law. It is a semi-technical document which provides guidelines for planning and standards and specifications for mechanical and vegetative means of controlling erosion and sediment. While not oriented specifically to coastal resources, the application of the standards and techniques in the Erosion and Sediment Control Handbook is equally important in managing coastal resources as are the wetlands and subaqueous guideline.

Coastal Development Handbook

The Coastal Development Handbook, prepared under the auspices of the Coastal Resources Management Program, is designed to assist local officials (both appointed and elected), land developers, and interested citizens in the planning and design of land use in the shoreland areas of the Tidal Areas in Virginia. This handbook is composed of four chapters. Chapter I, the Coastal Environment, includes the basic ecological relationships of land and water, especially in terms of the impact that inappropriate and/or poorly planned land uses have on tidal waters. Chapter II, General Land Planning and Design Considerations, suggests some general considerations to help local public and

private land use decision makers undertake land developments compatible with protection of the coastal environment. Chapter III, Special Land Planning and Design Considerations, presents some special planning and design considerations which are recommended and/or required for certain land developments in shoreland areas. The last chapter, Guide to Local, State and Federal Land Management Programs, covers selected land management tools and techniques that are necessary for ecologically sound land management in coastal areas.

This handbook should not be considered a set of detailed planning considerations, primarily because the shoreland area of each locality is different in terms of resources, economic significance, intensity of existing development, and social values attached to these land characteristics. Local officials, developers, and interested citizens should develop specific standards and restrictions on shoreland use and development so that such use or development is substantially compatible with the particular character of their shoreland areas. It should be used in conjunction with the State Water Control Board's Best Management Practices Handbook, which will be released in 1979 and will contain detailed land management practices for reducing non-point pollution effects of land development activities.

Rules and Regulations for Surface Mining

Rules and regulations for surface mining are contained in the Minerals Other than Coal (MOTC) Surface Mining Manual published by the Division of Mined Land Reclamation of the Virginia Department of Conservation and Economic Development. The law for surface mining of minerals other than coal, contained in Chapter 16, Title 45.1 of the Code of Virginia, specifies the following:

1) Definitions of surface mining and other related terms;

2) Declaration of policy of the General Assembly regarding mining of minerals in the Commonwealth;

3) The authority of the Board of Conservation and Economic Development;

4) The regulation of mining activity including permits required; the application and review process; and operations plans required;

5) Orphaned lands; and

6) Mined land reclamation fund

The regulations were adopted by the Board of Conservation and Economic Development pursuant to the above law. They establish general and specific rules for:

1) Surface mining permits;

2) Bonds;

3) Operations and reclamation procedures;

4) Roads;

5) Revegetation; and

6) Drainage and Sediment Control

CHAPTER XIII

RESEARCH

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CHAPTER XIII

RESEARCH IN SUPPORT OF COASTAL RESOURCES MANAGEMENT

INTRODUCTION

Previous sections of this document have detailed issues of concern and program objectives of the Virginia Coastal Resources Plan as they are viewed in context of our present level of knowledge regarding resources and the processes acting on or between these resources.

Research in support of Coastal Resources Management in Virginia must contain both a short-term and a long-term thrust. The short-term thrust must deal with those knowledge gaps identified in the issues and program objective statements. The long-term thrust must provide, either by synthesis of the products of other ongoing research efforts or by direct support of specific studies, an improvement in our present knowledge level to enable us to deal with the complexity of problems that are bound to emerge in future years.

It would be ideal, in terms of management of coastal resources, if exact and specific answers were immediately available to questions regarding impacts of projected activities. This is not, however, the case. Our present knowledge base allows us to make much better impact assessments than a decade or so ago. However, advances in technology, coupled with population shifts during this same period, have presented managers and those charged with the responsibility of advising them much more complex problems than were projected.

The knowledge gap, that ever increasing spread between what we know about

given actions or factors and the creation of new actions or factors will be with us for a long time. It is unlikely that the basic cause of their knowledge gap, i.e. a greater application of funds to discover new and innovated ways of doing or accomplishing something than to evaluating effects of these innovations, will change in the near future.

Since research funds for coastal resources studies will continue to be limited, it is necessary to utilize these funds in a manner that will provide the optimum amount of critical information for planners and managers. The remainder of this section will deal with the program for planning and conducting this research under the Virginia Coastal Resources Management plan.

RESEARCH EFFORTS DURING THE PLANNING PHASE

Research related activities specifically carried out during the CRM program development have with few exceptions been limited to inventory activities.

The most notable results of these inventory efforts are the County and City Wetlands' Inventories and Shoreline Situation Reports which provide state and local managers and planners with the current state of wetlands and coastal development along with an evaluation of known factors that are relevant to coastal projects. These reports are the short term type of activity that enable use of present state of the art scientific knowledge.

The other research activities during the planning phase were primarily oriented towards methodology testing or in the area of legal and administrative mechanisms. The products of these research efforts have been used to develop the specific program elements previously discussed.

IDENTIFICATION OF RESEARCH NEEDS FOR VIRGINIA'S

COASTAL RESOURCE MANAGEMENT

Research planners for Coastal Resources Management in Virginia are fortunate in being able to draw upon a number of comprehensive efforts dating back a number of years. Hargis and Laird (1971) prepared a compendium on environmental, resource-use and management needs of the Coastal Zone that served as a major input to a multi-university research planning effort devoted to the Chesapeake Bay (Beers, Hargis et al. 1971) which set forth a multi-discipline coordinated plan for approaching research needs in the region. As a result of this report the National Science Foundation initiated a comprehensive research program in the region which unfortunately was narrowed and eventually terminated because of funding availability. The choice of research priorities determined by the NSF funded study was evaluated in a study by Ellis (1973) as a test of research planning methodology.

In 1973 the U. S. Army Corps of Engineers completed an Existing Conditions Report upon which they projected the future conditions in Chesapeake Bay in a Future Conditions Report published in 1978.

In addition, a survey of the Chesapeake Bay resource managers, research scientists and the public resulted in the focusing of a Bi-State Conference on the Chesapeake Bay in early 1977, the proceedings of which are available (CRC 1977).

The 1977 Bi-State review assisted the program planners in Virginia, Maryland and EPA in focusing on specific problem areas for study as part of the EPA's Chesapeake Bay Study.

Research planners in Virginia's Coastal Rsources Management planning efforts mentioned above and have prepared a program that does not duplicate

something missing

ongoing efforts and draws upon the results of previous studies particularly those inventory and methodological research efforts conducted under the sponsorship and in support of the CRM effort in Virginia.

RESEARCH PRIORITIES FOR THE INITIAL MANAGEMENT YEARS

The principal knowledge deficiency related to the proposed program is the specific location of confirmed spawning and nursery areas in the Commonwealth.

Previous studies conducted by VIMS personnel have located general spawning and nursery regions. To provide permitting authorities with detailed information with regard to proposed activities, however, it is necessary to provide more site specific data. Our present knowledge enables us to say with a high degree of confidence that spawning occurs within a given system and that young fish and shellfish use a given system as a nursery area. What is not known is the specific reach of a given stream or stream system that is critical to spawning or the nursery function. Utilizing the information already on hand regarding known general spawning and nursery areas, personnel will focus on identification of specific nursery and spawning areas in the major tributaries of the Chesapeake Bay system.

Our lack of information regarding spawning and nursery areas is even more critical on the Eastern Shore. Initial studies in this area must define the general areas and later focus on specific sites. The information developed during these inventory efforts will be compiled along with already existing information into a coordinated accessible data resource available to local and state management personnel.

As the principal inventory efforts progress scientists will attempt to develop a systems approach to the question of "value" of specific sites in

supporting the resource and resource base. Questions as to the amount of given wetlands, both vegetated and non-vegetated submerged aquatic beds, hard and soft bottoms etc., necessary to maintain a given resource base will eventually have to be faced.

Research projects designed to mitigate damage both to the resources and the socio-economic utilization of these resources will be conducted as damaging activities occur or are perceived.

At all times the CRM research element will attempt to draw upon other research activities sponsored by state and federal entities particularly such programs as Sea Grant P.L. 88-309 fisheries development funds, and the general fund research conducted by VIMS.

RESEARCH PROGRAM IMPLEMENTATION

The Virginia Institute of Marine Science is responsible for conducting studies of marine resources for the Commonwealth (§ 28.1-195). Under CRM implementation this responsibility will continue to reside with VIMS.

VIMS will periodically consult with state and local agencies, interest groups and the public to identify problem areas of concern in the CRM program. VIMS staff will evaluate the problem areas in terms of:

a) Whether existing information is sufficient to provide a basis for management resolution;

b) Whether the state of the art in our appropriate disciplines allow a reasonable chance at developing the appropriate information;

c) Whether the problem area should be a priority for research efforts

under the aegis of the CRM program or whether other studies can reasonably be expected to provide appropriate and timely information relevant to the problem.

This evaluation will be presented to the concerned state and local agencies and the CRM program administration to set specific research priorities for CRM funding.

Once the priorities are established VIMS will, through appropriate mix of its own research staff, faculty and staff in Virginia's public and private universities and colleges, and private research firms, arrange for resources to conduct the specific tasks. Contracts or grants as appropriate will be negotiated between the performing entity and the lead agency. VIMS will monitor the progress of all research efforts under CRM program sponsorship. VIMS will have the responsibility of disseminating the information developed under CRM auspices to appropriate local and state managers, interested parties and the general public. Mechanisms for accomplishing this are discussed in Chapter ____.

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CHAPTER XIV

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CHAPTER XIV

PUBLIC PARTICIPATION IN THE VIRGINIA COASTAL RESOURCES MANAGEMENT PROGRAM

The management of coastal resources is a complex task due to the presence of a variety of natural resources, land and water uses, and their interrelationships in and around Virginia's creeks, rivers, the Chesapeake Bay and the Atlantic Ocean. In the coastal area, multiple uses of natural resources, e.g. Hampton Roads, which is used for shipping, sailing, waterskiing, and fishing, are not uncommon. Unfortunately, conflicts between the users of these resources are also fairly common. It was recognized early on that opportunities for participation by those individuals and groups who have a vested interest in the future of Virginia's coastal zone was critical to the development of an effective and acceptable management program. Consequently, involvement in the program by the public, i.e. state and federal agencies, local governments, regional organizations, private (and other public) interest groups, citizens and their legislative representatives, was sought from the outset (Table XIV-1).

HISTORICAL PERSPECTIVE - PARTICIPATION DURING PROGRAM DEVELOPMENT (306 PLANNING PROCESS)

Virginia first initiated its coastal resources management program in the summer of 1974. Since that time, public participation efforts have been directed toward achieving three goals:

TABLE XIV-1

LISTING OF GOVERNMENT AGENCIES, PUBLIC AND PRIVATE ORGANIZATIONS WHO MAY BE AFFECTED BY AND/OR INTERESTED IN THE VCRMP

Government Agencies	Public and Private Organizations
Federal	CARE
Army Corps of Engineers (DOD)	Izaak Walton League
Fish & Wildlife Service (DOI)	Garden Clubs
Environmental Protection Agency	League of Women Voters
Bureau of Land Management (DOI)	Audubon Society
Coast Guard (DOT)	Chamber of Commerce
Navy (DOD)	Wetlands Boards
Army (DOD)	Saltwater Fisherman's Assoc.
Air Force (DOD)	Charter Boat Captains
Marines (DOD)	Va. Fed. of Marine Trades
NMFS (DOC)	Sierra Club
FHWA	Tidewater Builders Assoc.
	Wetlands Contractors
State	Divers
State Water Control Board	Va. Seafood Council
Department of Health	Service Clubs
Air Board	Waterman's Assoc.
DID	NRDC
COE	Secondary Schools
VIMS	Northern Va. Builders Assoc.
VMRC	Va. Petroleum Industries
SWCC	Va. Port Authority
DH & T	Peninsula Port Authority
Bureau Shell Sanitation - DOH	Citizens Program for the Chesapeake Bay
Attorney General Office	Potomac River Fisheries Commission
Tidewater PDC's and their localities	

Note: This chart is not all inclusive and will be expanded in the final draft.

1) To provide ample opportunity for public participation in the planning process.

2) To inform government agencies; civic, professional, and interest groups; and the general public about the program's status and development on a continual basis.

3) To increase public understanding of coastal planning and management needs.

The Staffs of OCR, VIMS, and VMRC have worked together to insure that the Virginia program has interpreted correctly and addressed subsection 306 (c) (1) of the Coastal Zone Management Act (as amended) which requires,

...in addition to consultation with relevant federal agencies...the opportunity for full participation in program development be provided State agencies, local governments, regional organizations, port authorities and other interested public or private parties.

Two basic types of input were viewed as necessary vehicles for effective participation. First, the staffs perceived a need to involve various groups in the program and through their active involvement, coastal problems have been identified, issues defined and alternative solutions have been developed and refined. A second type of participation concentrated primarily on the need to provide information to individuals and groups interested in the coastal environment, program status and upcoming CRM events. The following sections detail the efforts by the Virginia program in both involving the public in developing a CRMP, and keeping them informed as progress has been made during the 305 planning process.

PUBLIC INVOLVEMENT

Although transferring information to the public about the program is undoubtedly important, participation efforts in Virginia have sought to focus on working more directly with public and private interest groups. To this end, input has been obtained, in three ways:

1) through the regional advisory committees (RAC),

2) through interactions between staff and interest groups on various projects and/or program missions, and

3) through public hearings.

Regional Advisory Committees

Public involvement in the CRMP began in October 1974, when Tidewater Planning District Commissions (PDC) were asked to set up a Coastal Zone Regional Advisory Committee. The RAC has been the primary channel for public participation in CRM in each PDC region. Additionally, the RAC has been a focal point for public comment and input in program development. To assist the CRM staff in determining the coastal problems which the program should attempt to resolve, each RAC was asked to prepare a Regional Assessment Report which would:

1) engender an understanding of CZM in the PDC and to provide a basic intent and status of the program,

2) present a system for local and regional agencies and their citizens to recommend primary elements of the State program and their

respective roles and responsibilities in its development and implementation, as well as

3) provide an opportunity for participants to identify CZM issues and conflicts and suggest approaches for dealing with those issues.

The membership of the RACs included: local government representatives, private organizations with coastal zone interests, and citizens at large. A CRM staff member from either OCR, VIMS or MRC was designated to be the liaison, or regional representative, with each of the PDCs. Each regional representative worked closely with the RAC to keep the PDC informed on the program. Four of the nine Tidewater PDCs had RACs which were very active and consistently participated in coastal resources management program development through regular meetings and through their Regional Assessment Reports.

The Regional Assessment Reports were crucial to defining the issues of particular importance to Virginia and its coastal resources management program. The issues which the RACs emphasized as being important and which have since been translated into the targets, or key management elements, of the program are:

1) Too many agencies involved in permit process;

2) Shoreline erosion problems not being effectively managed;

3) Too little public access to coastal lands and waters;

4) Desire for local governments to carry out responsibility for implementation;

5) The need for coordination among regulatory programs;

6) Lack of sufficient data base upon which to set regulations;

7) Need for effective programs to help state meet future water supply problems; and

8) Pollution from non-point sources needs to be reduced.

CRM Projects

The Virginia program has long stressed the development of a strong technical information base as being prerequisite and essential to sound decision-making. Through the marine research, education and advisory resources provided by VIMS, the regulatory experience of MRC, and the planning background possessed by the OCR staff, numerous projects aimed at developing a useful and technical information base for resolving coastal issues have been initiated. On all projects, the CRM staff has worked very closely with interested groups, including federal and state agencies, PDC's, local governments as well as environmental and economic groups (Table XIV-2), thus providing an effective means of coordinating the CRMP with other related programs and plans.

With the passage of the Wetlands Act in 1972, local governments were brought into the permitting process for coastal activities. As a consequence, for the first time, a significant opportunity presented itself for all three levels of government and, through the local wetlands boards, citizens to work together toward a common goal - resource conservation. The arrival in 1974 of another resource conservation effort, the Coastal Resources Management Program, subsequently found an effective vehicle for active public participation already in place. By design, most of the VIMS and MRC staff involved in processing shoreline permits are also assigned to Virginia's coastal program and these staff have strived to involve wetlands boards

TABLE XIV-2

CRM PROJECTS/TASKS IN WHICH
AFFECTED PARTIES HAVE PARTICIPATED

Year/Time	Project/Task	Groups Involved
1977-1979	Elizabeth River	VIMS, DID, SEV, PDC
1978	Hampton-Poquoson	Hampton Planning Poquoson VIMS, SWCB, DOH, VMRC Poquoson HS, Hampton HS Science Program
1977-1978	Pipeline Corridor Study	All PCD's, Nat. Cons. VPet. Ind, Exxon, API, DID, SWCB
	Boundary Study	PDC 17, VIMS
1974-Onward	Permitting System present system proposed system improv.	PDC 2- Southeastern Va., VIMS U. S. Army Corps (Baltimore and Norfolk districts), DOH, VMRC
1978-	Erosion	PDC 17, VPI, VIMS, Legislative Comm.
1978-	Hazardous Materials Survey	VIMS, SE Va. PDC, USCG, SWCB, DOH
1978-	Marina Study	VIMS, PDC 17
1978-	Executive Position Paper	VIMS, MRC, OCR, Numerous State Agenceis
1977-1979	Technical Assistance to Legislative Committees	VIMS, MRC, OCR, Several Legislative Committees

citizens, and local and federal representatives in the evolving CRM program.

As mandated by the Wetlands Act, local boards have the authority to permit activities in vegetated wetlands. Although the administrative conditions under which the wetlands boards function vary somewhat, members are appointed for 5 year terms, their positions are totally voluntary and they generally have very little or no support staff. Because the boards are voluntary and are usually not well supported, the Commonwealth has tried to assist by providing (1) training and education for board members (through VIMS) and (2) technical advice and assessment reports (by VIMS and MRC) on which to base their decisions. The staffs of VIMS and MRC are routinely called upon to visit sites and provide an assessment of proposed wetlands alterations. In addition to sending reports to the local boards and in coordination with other permitting agencies, copies of the VIMS advisory reports are distributed to MRC, the State Water Control Board and the U. S. Army Corps of Engineers.

The degree of activity of wetlands boards varies from place to place. Generally, however, boards in rapidly developing areas process more permits than those in rural areas. Wetlands boards also keep very busy by not only acting on permit applications, but also visiting sites upon request either as a pre-application advisory, checking an alleged violation, or a follow up to ensure that conditions prescribed upon permit approval have been met. In the case of the York County wetlands board, for example, only 8 permit applications were processed in 1978. However, the board actually met on 160 instances to perform functions described above. The wetlands boards often call in the VIMS wetland staff for technical advice in roughly 60% of their actions. It is clearly evident that local permitting activities demand a great deal of time and effort from citizen boards and technical support and

assistance from the state.

The recent trend of permitting coastal activities has also led to a move to understand more clearly the impacts of such activities. In this regard, discussions among state and federal agencies, particularly the permitting authorities and their advisors, have been held fairly regularly over the last several years. These discussions, and others related to streamlining the multi-level government permit process, have been invaluable to the CRM program and the state's attempts to meet federal requirements, i.e. determining priority of uses and uses subject to management and the national interest, on the basis of an acquired understanding of the impacts of coastal uses. However seemingly indirectly, the federal and state agencies, localities, wetlands boards and shorefront property owners who participated in such discussions and the day-to-day administration of the Wetlands Act have made significant contributions to, and thus have participated in, the development of Virginia's coastal resources management program.

In summary, passage of the Wetlands Act in 1972 has resulted in the development of several vehicles for participation in the Virginia CRMP:

1) State consultation of local wetlands boards - regular technical assistance provided by VIMS and MRC has resulted in increased awareness of the CRMP and has educated citizens on how to protect fragile areas (see Chapter XII).

2) Monthly joint permit processing meetings - MRC, VIMS, SWCB, the U. S. Army Corps of Engineers and local wetlands boards have been meeting the last Tuesday of every month since 1976 to discuss permit applications (see Chapter VIII).

3) Development of a single permit application - to streamline the present permit process, the above permit authorities are attempting to develop a process whereby shoreline property owners will submit only 1, instead of 3 or 4, permit applications.

During the latter part of the program, i.e., from 1976 to the present, several projects have required input from various government agencies and interest groups. These projects, therefore, have served as opportunities for public involvement in addition to fulfilling a particular program mission. These projects relied heavily upon special interests, such as the Commonwealth's Division of Industrial Development in the Elizabeth River Study, for guidance in developing the project and interpreting its findings with respect to the CRMP. In all instances, the various elements of the coastal program have utilized and benefited from the participation of public and private interest groups.

In addition to actual projects, the staffs of VIMS, OCR, and MRC expended a tremendous amount of time and energy with the legislative and executive government levels of Virginia's government. Recognizing that an acceptable program should be developed with the guidance and support of the General Assembly, the CRM staffs have kept these groups informed of the program and have provided them with assistance whenever requested. Contact with the legislative committees since late 1977, in preparation for the 1978 session, has been continuous, with VIMS supplying technical information, often in written form, as often as has been needed.

During the summer of 1978 the executive branch became actively involved in the CRM program. To accompany the ongoing legislative participation in program development, state agencies met frequently during this period, with

the staffs of VIMS, ORC, and MRC, to establish an executive recommendation on the program.

Public Hearings

An additional opportunity for public involvement has been the numerous public hearings held on the program proposals (Table XIV-3). In the fall of 1977, 926 copies of a public hearing document, Proposals for Coastal Resources Management in Virginia, were distributed to the public. Two rounds of public hearings were held in October, November and December. The October hearings were held in each of the nine Tidewater Planning District Commissions with an afternoon and evening hearing in each location. The November and December hearings were held in eight locations throughout Tidewater. Public hearing notices were published thirty days prior to the hearings in the Tidewater newspapers, accompanied by an informative article on the Program. The public hearing document was not available for public review for the full thirty-day period prior to the first round of hearings. Still, the substantive comments received during the first round were valuable to the CRM staff in evaluating the public's perception to the proposed management program.

Approximately 500 people attended the 26 hearings to offer testimony or to learn more about the Coastal Resources Management Program. Federal, state, and local government officials, representatives of trade associations, environmental organizations, industry and private citizens participated in these hearings. The public record was open for comment submission for ten days after each hearing. The transcripts from the hearings, as well as summaries of the testimony, were published and made available to the public (copies were previously forwarded to OCZM).

TABLE XIV-3

PUBLIC HEARINGS HELD DURING PROGRAM DEVELOPMENT

By Coastal Resources Management Staff:

October 12, 1977	Norfolk (2 p.m.)
	Norfolk (7 p.m.)
October 13, 1977	Eastern Shore (2 p.m.)
	Eastern Shore (7 p.m.)
October 17, 1977	Saluda (2 p.m.)
	Saluda (8 p.m.)
October 18, 1977	Warsaw (2 p.m.)
	Warsaw (7 p.m.)
October 19, 1977	Hampton (2 p.m.)
	Hampton (7 p.m.)
October 20, 1977	Richmond (2 p.m.)
	Richmond (7 p.m.)
October 24, 1977	Fredericksburg (2 p.m.)
	Fredericksburg (7 p.m.)
October 26, 1977	Northern Virginia (1 p.m.)
	Northern Virginia (7 p.m.)
October 27, 1977	Hopewell (2 p.m.)
	Hopewell (7 p.m.)
November 21, 1977	Fredericksburg
November 29, 1977	Prince George
November 30, 1977	Norfolk
December 1, 1977	Glenns
December 6, 1977	Richmond
December 7, 1977	Hampton
December 8, 1977	Springfield
December 13, 1977	Warsaw

By Legislative Committees:

July 18, 1978	Richmond
July 19, 1978	Hampton
July 25, 1978	Warsaw
July 27, 1978	Fredericksburg
August 9, 1978	Eastern Shore
August 10, 1978	Norfolk
December 28, 1978	Senate Committee on Agriculture, Conservation and Natural Resources
January 12, 1979	Subcommittee of Committee on Agriculture, Conservation and Natural Resources
February 16, 1979	House Committee on Conservation and Natural Resources

Public hearings were also held by the Joint Subcommittee on Coastal Resources Management on an "Issue Paper" in five locations in Tidewater in July and August, 1978. The hearings allowed citizens to comment on Senate Bills 401, 402 and 403, prior to the Subcommittee's final drafting of the bill for the 1979 session. Subcommittee Chairman Joseph Gartlan met with local officials at each hearing location, prior to the hearings, to allow further comment and participation by those who would be most affected by the Coastal Resources Management Act. Additional public hearings were held while the Coastal Resources Management Act was being considered by the Senate Agriculture, Conservation and Natural Resources Committee and the House Conservation and Natural Resources Committee.

Comments on the Virginia Coastal Resources Management Program have been many and varied in their focus, scope and level of detail. The majority of comments have been received during the comment periods associated with the rounds of public hearings held at the end of 1977, during the summer of 1978 and during the 1979 hearings. The documents which were commented upon during those periods were Proposals for CRM in Virginia (September 1977), the legislative "Issue Paper" prepared by the Joint Subcommittee (July 1978) and S.B. 403, respectively. The documents presented the issues objectives and policies identified by the program and proposals which the CRM staffs and the legislative committee had developed to date.

Most of the comments on these documents may be divided into either of two basic groups. One group addressed the background issues, either re-stating or refining those coastal problems which individuals believed the CRM program should address and resolve. For example, one commenter reiterated the "major problem (appears) to be a multitude of permits necessary to construct even small shoreline projects while large projects were permitted which had major

impacts upon Coastal Waters".* Other comments, however, were directly related to the management proposals and alternative outlined in the two documents.

Because a variety of interest groups and individuals were represented at the hearings, comments reviewed by the staffs were tremendously diverse and often contradictory. As a result, the CRM staff and the legislative sub-committee has had no easy task considering all the comments in the attempt to develop a program which reflects the views of commenters.

PUBLIC INFORMATION

Efforts by the CRM staff to ensure that pertinent information on the program, technical elements, their progress and CRM related events have taken the form of newsletters, flyers, project reports, radio and television spots and, in 1977, a 14 day, Tidewater-wide "Coastal Awareness Celebration". In addition, a great many meetings and workshops were held over the last several years as a means of effecting 2-way information transfer - transmitting information to the public while, simultaneously, obtaining their feedback.

Distributing literature to the public in an effective and timely fashion was an important objective of the public information program. Consequently, the development of mailing lists was given a great deal of consideration. An extensive effort was made to compile a list which would allow interested and affected individuals and public and private organizations to receive

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* Testimony on Issues Paper prepared by Middle Peninsula Planning District Commission July 1978.

information on the program. Through the lists compiled by the staffs of OCR and VIMS, a total of approximately 9,500 individuals and groups receive literature on the CRMP. Table XIV-4 displays the mailing list categories utilized for public information purposes.

Publications

During the program planning process, publications have been developed to increase public understanding of the program. Pamphlets, brochures and fact sheets on coastal resurces management were developed by the Coastal Resources Management staff and distributed to the persons on the mailing list (Table XIV-5). Newspaper articles on the program were published in Tidewater newspapers. Newsletters published by the Virginia Institute of Marine Science, Virginia Polytechnic Institute Extension Service and the State Soil and Water Conservation Commission have periodically included articles about CRM during program development. Two program drafts were published for discussion purposes: Alternatives for Coastal Resources Management in Virginia (Jan. 1977) and Proposals for Coastal Resources Management in Virginia (Sept. 1978) (public hearing document). The public comments received on these program drafts were instrumental in the final program proposals.

Numerous technical reports have been prepared throughout the 305 planning process (Table XIV-6) to support the premise that a sound management program needs to be based on technical information. Virginia's vegetated wetlands and shorelines have been inventoried. These inventories are reflected in 31 Tidal Marsh Inventories and 27 Shoreline Situation reports.

TABLE XIV-4

MAILING LIST CATEGORIES

OCR LIST — Total Mailings - 802

Diving Clubs
Dive Shops
Individuals
State Agencies
Extension Agents
Senators & Congressmen
(Tidewater)
Outdoor Writers Association
Soil and Water Conservation Districts
Wetlands Boards
Charter Boat Captains Association
Sport Fishing Associations
Organizations
Federal Marine Trades
Member Trade Associations
Izaak Walton League Chapters
PDC Executive Directors
PDC Commission Chairmen
Federal Officials
Industry and Business
Education
Other States
Radio & TV
Newsletters
County Farm Bureau
Local Officials
Libraries
Chambers of Commerce
Tidewater Newspapers

VIMS MAILING LISTS (2) — Total Mailings - 8,700

#1

News Release
Environmental Interests
Sea Grant
News Media
Delegates
Senators
Wholesale Dealers
State Agencies
Shellfish Shippers
Oyster Ground Leasers

TABLE XIV-4 (concluded)

Boat Docks & Marinas
Sport Fishing Facilities
Tidewater Planning Districts
Saltwater Sportfishermen
Wetlands Contractors
Wetlands Boards
Camping Facilities
Freshwater Marinas
Marine Sales & Service
Education
Coastal Zone Management
Local Governmental Agencies

#2

Virginia Seafood Council
Virginia Writers Association
Saltwater Sportfishing Association
Charter Boat Captains
Watermen's Association
VPI&SU Extension Agents
Virginia Federation of Marine Trades Association
Divers
Southern Maryland Marine Trades Association
National Marine Education Association
Aquaculture
Sea Grant
Mid-Atlantic Marine Education

TABLE XIV-6 (continued)

Regional Assessment Reports by the following Planning District Commissions:

Northern Virginia
Richmond Regional
Northern Neck
Middle Peninsula
Crater
Southeastern Virginia
Accomack-Northampton

Marina Study by Northern Neck Planning District Commission. (In process - January 1979.)

Local Land Use Regulations in the Crater Planning District and Implementation of Virginia's Coastal Resources Management Program. June 1978. By Crater PDC/Local Planners. Financed in part through CRMP funds.

Tidewater Virginia Atlas, 1st Edition, October 1977. MRC, OCR, and VIMS.

Northampton County Public Facilities, Accomack-Northampton PDC, A Component of the Comprehensive Plan. Financed in part by CRMP.

"Legal Symposium on Wetlands: A Legal Summary" by Roger D. Anderson, David Garten, Ted Smolen, 11/74.

"Virginia State Agencies Concerned with Coastal Zone Planning, Management or Scientific and Engineering Activities" by Beverely L. Laird, 1975.

"Virginia and the Outer Continental Shelf: Problems, Possibilities, and Posture, 1976 Update" by Roger D. Anderson, 1976.

"Some Aspects of the Economic Impact of Coastal and Marine Resources Uses Upon Virginia's Economy" by Ronald L. Schmied, N.D.

Wetlands Inventories (VIMS for OCR)

Accomac County 1977
Caroline County 1979
Charles City County 1979
Chesterfield County 1979
Hanover County 1979
Henrico County 1979
Middlesex County 1979
Northampton County 1977
King George County 1975
Southampton County 1979
Spotsylvania County 1979
Surry County 1979
Westmoreland County 1978
Norfolk - Chesapeake - Portsmouth 1979
Colonial Heights 1979

TABLE XIV-6 (concluded)

Hopewell 1979
Petersburg County 1979
Richmond County 1979
Suffolk County 1979
Va. Beach 1976
Back Bay 1979
Prince William County 1975
Lancaster County 1973
Northumberland County 1975
Mathews County 1974
York County and The Town of Poquoson 1974
Stafford County 1975
City of Hampton 1975
Fairfax County 1976
Gloucester County 1976
City of Newport News and Fort Eustis 1977

Shoreline Situation Reports (VIMS FOR OCR)

Accomack County, Virginia 1975.
Charles City County, Virginia 1976.
Cities of Chesapeake, Norfolk, Portsmouth, 1976.
Essex County, Virginia 1976.
Fairfax County, Virginia (not published).
Gloucester County, Virginia 1976.
City of Hampton, Virginia 1975 (not available).
Henrico, Chesterfield, City of Richmond 1976.
Isle of Wight County, Virginia 1975.
James City County, Virginia 1975.
King George and Caroline Counties, Virginia (not published).
Lancaster County, Virginia (not published).
Mathews County, Virginia 1975.
Middlesex County, Virginia 1975.
New Kent, King William, King and Queen Counties, Virginia 1975.
Newport News, Virginia 1975.
Northampton County, Virginia 1975.
Northumberland County, Virginia 1978.
Prince George County, Virginia 1976.
Prince William County, Virginia 1976.
Richmond County, Virginia 1975.
Stafford County, Virginia 1975.
City of Suffolk, Virginia 1976.
Surry County, Virginia 1976.
Virginia Beach, Virginia (published 1979).
Westmoreland County, Virginia (published 1979).
York County, Virginia 1975 (not available).

Meetings and Workshops

Meetings and workshops have been held throughout program development to acquaint interested citizens and governmental groups with coastal resources management and to solicit public input into the plan development. Additionally, CRM staff were readily available to speak on the proposals whenever requested. Meetings, workshops and speaking engagements were held frequently and with many groups (Table XIV-7).

In June 1977, a citizens workshop on coastal resources management was held in Hampton, Virginia. Two hundred citizens participated in the workshop which included speeches on coastal resources management and Virginia's Program and task group discussions on recommendations for the public hearing draft.

Media

Information of the CRMP was occasionally aired by radio and television stations through interviews with CRM staff during the spring and summer 1977. Additionally, a thirty-minute presentation on the CRMP, with a film on Tidewater Virginia, was shown by three Tidewater television stations. Radio and TV public service announcements announced upcoming public hearings on the Program and requested citizen participation in program development.

Coastal Awareness Celebration

The CRM staff coordinated a Coastal Awareness Celebration from Sept. 24 - Oct. 9. The two week celebration included exhibits and festivities on coastal-related activities throughout Tidewater. The celebration was to promote greater awareness among the public of the natural resources of the

TABLE XIV-7

STAFF MEETINGS WITH LOCAL AND REGIONAL GROUPS TO DISCUSS THE COASTAL RESOURCES MANAGEMENT PROGRAM

Coastal Resources Management meeting with the RADCO Planning District Commission (PDC)
CRM meeting with the RADCO PDC
Northern Neck Regional Advisory Committee (RAC)
CRM meeting with the Stafford County Planning Commission
Northern Neck RAC
PDC 21
PDC 22
PDC 16
Middle Peninsula RAC
CRM meeting with the Crater PDC
Eastern Shore CRM Workshop
Middle Peninsula County Administrators
Northern Neck RAC
Middle Peninsula RAC
CRM meeting with the County Administrator of Spotsylvania
Peninsula RAC
Southeastern Virginia RAC
CRM meeting with the Charles City County Planning Commission
CRM meeting with the New Kent County Planning Commission
CRM meeting with the Hopewell City Planning Commission
James City County Planning Commission and Wetlands Board
Peninsula RAC
Northern Neck RAC
CRM meeting with King George County Planning Commission
Southeastern Virginia RAC subcommittee
CRM meeting with the Caroline County Planning Commission
CRM meeting with the Chesterfield County Planning Staff
CRM meeting with the Henrico County Planning Staff
CRM meeting with the Surry County Planning Commission
CRM meeting with the Prince George County Planning Commission
Southeastern Virginia RAC
CRM meeting with the Hanover County Planning Staff
CRM meeting with the Crater PDC (local planners)
Northern Virginia RAC
Northern Neck RAC
Peninsula RAC
Hampton Wetlands Board
Planning Staff of Virginia Beach
Hampton City Council and Wetlands Board
Southeastern Virginia RAC
Virginia Beach City Council ("Dunes")
Virginia Beach Planning Commission
Northern Neck RAC
York County Board of Supervisors
Isle of Wight Planning Commission
Suffolk Planning Commission
Chesapeake Planning Commission and Wetlands Board
Accomack Planning Commission
Norfolk Planning Commission
PDC 21

TABLE XIV-7 (continued)

Portsmouth Planning Commission
Lancaster County Wetlands Board
Mathews County Wetlands Board
Permissible Water Use Meeting, Richmond
Meeting with DID concerning cooperative development policies/GAPC designation of Southern Branch of Elizabeth River
Joint Permit processing meeting, Norfolk
Shellfish industry subcommittee meeting, Newport News
Task Force meeting on Chesapeake Research Coordination bill, Richmond
Conference with Air Force representatives on Virginia CRM Program, Newport News
Groundwater management hearing, Accomac
Joint subcommittee hearing on CRM legislation, Hampton
Briefing on permitting proposals to VIMS Marine Affairs class
CEIP Allocation Committee meeting, Richmond
Briefing on CRM status to PDC-20 RAC meeting
Joint Subcommittee hearing on CRM legislation, Warsaw
Joint Subcommittee hearing on CRM legislation, Fredricksburg
Presentation to Secretary Rowe on CRM permitting proposal, Richmond
Conference with NMFS on fisheries, characterization, Gloucester Point
Shellfish industry subcommittee meeting, Newport News
Briefing on CRM for Rep. Trible, Washington
CRM Executive Committee meeting, Gloucester Point
CRM demonstration project meeting with industry representatives, Hampton
EPA Chesapeake Bay Program SAV working group meeting, Washington
Joint Subcommittee hearing on CRM legislation, Melfa
Joint Subcommittee hearing on CRM legislation, Norfolk
Agency head meeting on CRM Executive position, Richmond
Presentation to Northampton County Board of Supervisors on estuarine sanctuary, Eastville
Meeting with Sen. Gartlan on CRM, Washington
Presentation to Accomack County Board of Supervisors on estuarine sanctuary, Accomac
Lunch with representatives of Tidewater Builders Association and Lynnhaven Dredging on CRM permitting proposals, Virginia Beach
Toxic substances meeting, Richmond
Presentation to Farm Bureau Federation, Suffolk
Meeting with federal environmental agencies on permitting proposals, Gloucester Point
Meeting on Virginia CRM Program with Natural Resources Defense Council, Richmond
Presentation to Farm Bureau Federation, Accomac
SVPDC meeting; Regional Advisory Committee
Hampton City Council briefing on 208 Study
Meeting with F&WS agent at VIMS
CZM presentation to York County Board of Supervisors
PDC-22 Regional Advisory Committee
Meeting with PDC-22 Executive Director
Meeting with Accomack County Wetlands Board
VPI Feasibility Study review, Blacksburg
COE dredging meeting in Norfolk
Estuarine Sanctuary meeting with Natural Conservancy representative
Coastal Study Commission meeting, Richmond

TABLE XIV-7 (continued)

Meeting with Northampton County officials on CRM
Meeting at SWCB to discuss CMPM
Meeting with regional Soil and Water Conservation representatives, Northampton County
PDC-22 meeting
Briefing at Isle of Wight Wetlands Board
Meeting with SWCB on joint permit application, Richmond
Briefing at Chesapeake Wetlands Board
Accomack County Wetlands hearing, Accomac
Land Use Council meeting, Richmond
Briefing of Lancaster County Wetlands Board
Briefing of Northampton County Wetlands Board
Briefing of Westmoreland County Wetlands Board
Briefing of Hampton Wetlands Board
PDC-22 meeting, Accomac
Review meeting on Seafood Industrial Park Feasibility Study
Briefing on remote ssensing systems, Richmond
Tidewater planning District Commissions
Farm Bureau Federation
State Chamber of Commerce
Local Chambers of Commerce
Schools and Universities
Agricultural extension agents
Environmental groups (Audubon Society, Izaak Walton, etc.)
County Planning Boards
Local Wetlands Boards
Marine Trade Associations
Soil and Water Conservation Commission Districts
Water/Resource Management Programs - (numerous meetings with 208)
League of Women Voters
Prince William County
Izaak Walton League, Harrisonburg
Va. State Bar
Hampton Planners
Newport News Land Use Committee
Cape Henry Billfish Club
Stafford Planning Committee
Expo 77, Ocean City, Md.
Highway Research Council
Tappahannock Chamber of Commerce
Middle Peninsula PDC
Jr. Women's League of Westmoreland
Westmoreland Ruritan Club
WHRO-TW
Isle of Wight
Waller Mill Elementary
Poquoson High School
Marine Trade Association
York Exchange Club
West Point Kiwanis
Cobbs Creek Ruritans
Va. Beach Teachers
Thomas Nelson RCC
Colonial Beach Town Council

TABLE XIV-7 (concluded)

Essex Co. Ruritans
Va. Beach City Council
HRWQA "208" Regional Advisory Committee
Peninsula "208" Regional Advisory Committee
CRM Public information meeting with Fredricksburg Soil Conservation District
Meeting with Secretary of Commerce and Resources concerning dredging
Virginia Resources Information System conference, Richmond
Joint Permit processing meeting, Norfolk
Shoreline Erosion Conference, Williamsburg
Fisheries characterization meeting, VIMS
CRM Executive Committee meeting, VIMS
Joint permit processing meeting, Norfolk
Briefing before Joint Legislative Subcommittee on CRM, Richmond
EPA-CBP Virginia Advisory Committee meeting, Richmond
API OCS activities meeting, Richmond
Tangier Island trip, Northampton
Conference on CRM boundaries, VIMS
Oyster depuration workshop, VIMS
Conference on general permit criteria, meeting with Russ Eberhardt
RAMS Data Bank
Meeting with State Bar representative
Conference on air and water management, Fredricksburg
Meeting to discuss EPA-CPCB's movie on Chesapeake Bay
DOT, Coast Guard meeting, Richmond
Meeting on dunes protection ordinance
Baltimore Channel Deepening meeting
EPA-CBP Virginia Advisory Committee meeting
Shoreline Erosion Project briefing
Meeting with Virginia Port Authority
Public hearing on Virginia Resources Conservation Study, Richmond
Chlorine Task Force meeting
Hampton Roads tour
Dunes protection ordinance meeting
Estuarine Sanctuary meeting
Meeting with Secretary Shiflet and Senator Gartlan, Richmond
Toxic Substances meeting, Richmond
EPA Chesapeake Bay Study, Washington, D. C.
Presentation to Sierra Club, Accomac
Presentation to Rotary Club, Exmore
Meeting at SWCB for BMP handbooks
Chlorine Task Force meeting, Newport News
Meeting with Virginia Road Builders Association
Meeting with Division of Industrial Development, Richmond
Meeting with Virginia Energy Office, Richmond
Eastern Shore CRM Workshop
Coastal Studies Commission, Gwynn's Island
Chesapeake and Tributaries Committee meeting, Newport News
Meeting with Corps of Engineers at Secretary Shiflet's office
Kepone Task Force, Marine Subcommittee meeting
Marine Resources Conference, Williamsburg
Meeting F&WS

coastal zone and to emphasize the importance of these resources to the economic and social well-being of the citizens of the Commonwealth.

PARTICIPATION DURING PROGRAM IMPLEMENTATION

(306)

Guidance for participation activities in the Coastal Resources Management Program during its implementation is provided by the CZM Act, and its implementing rules and regulations, which requires coordination of the state's program with other related local, areawide and interstate plans and continued consultation and coordination with local governments, state agencies, regional organizations and other parties affected by implementation of Virginia's CRMP. To achieve the above directives the Virginia program envisions a participation effort which will continue the involvement and information functions of the 305 planning process.

PUBLIC INVOLVEMENT

The major difference in the participation element of the program before and after federal approval focuses on the staff's efforts to assist localities in implementing the CRMP, rather than obtaining input for the developing program.

The Implementation Role of Local Governments

During implementation, local governments will have primary responsibility for implementing the CRMP. Local governments will also be working to develop

effective and politically acceptable land use solutions to non-point source pollution problems.

As has been the case since the implementation of the Wetlands Act in 1972, local governments have relied heavily upon VIMS for technical information and advice in administering their permit loads. As an example of this type work load, over 800 advisory contacts were made and approximately 430 permit applications were processed last year for vegetated wetlands alone. The main thrust of the Virginia program will be to network existing laws and to utilize the present vegetated wetlands program as the basis for expanding local and/or state management activities over other fragile areas. To support the expansion of local government involvement, the CRM staff anticipates that localities will require additional training and education sessions and will continue to depend upon MRC and VIMS as the main source of technical information needed for their expanded decision-making role.

Other state agencies will continue to be involved in the CRMP during program implementation. Pertinent agencies are still actively trying to further streamline the complicated permit process. Many of these same agencies, e.g., SWCB, Army Corps, VIMS and others, are also seeking answers to the technical questions associated with non-point pollution. Consequently, coordination and consultation with other coastal-related programs is occurring through the communication channels established during program development.

Regional Advisory Committees (RAC's)

The CRM program will continue to receive input and direction from local governments through the RAC's established in each planning district commission. Because of their proximity to local governments and the

relatively accessible forum they provide for citizens, it is envisioned that the RAC's will perform several important functions during program implementation.

First, the RAC's will serve as the main communication line between citizens in coastal localities and the implementing state and local agencies. In this role, each RAC will maintain communications with its citizens, and will assist the lead and local agencies in recognizing other coastal problems which remain and need to be more fully addressed. The RAC's could also assist OCZM and the CRMP in another way: by either conducting within localities an evaluation of the implemented Virginia coastal program, or by developing evaluation guidelines or criteria for use by OCZM. An evaluation service provided at the PDC level would be an especially valuable function since the program has been designed for local implementation. Another participation activity for the RAC's would be to advise the lead agency of local funding needs and priorities.

PUBLIC INFORMATION

Several mechanisms will be employed to inform interested public and private parties of the final management provisions of the CRM program, of current coastal issues, of other programs that affect the coastal area, and of materials that enhance the reader's understanding of coastal resources and their problems. A bimonthly newsletter will be initiated to report to the 9,000 individuals and groups presently on the mailing lists the progress of the Virginia program, announce upcoming events, highlight important out-of-state coastal developments, and to discuss current and significant events which have a bearing on coastal resources and uses. The coastal program will also develop brochures and flyers on specific coastal topics or

to announce upcoming events of interest to citizens residing in Tidewater Virginia. The staff of OCR, VIMS and MRC will be involved in developing special education and training projects in concert with the Commonwealth's marine education resources for local regulatory boards, special interest groups and others. Visual presentations will be produced to quickly and clearly explain Virginia's coastal program. The services of the staff to provide speakers to interested groups will continue to be made available upon request. Annual forums or bi-state conferences will be initiated to bring together diverse interests, solicit their input, and utilize this information to provide direction for future implementation activities.