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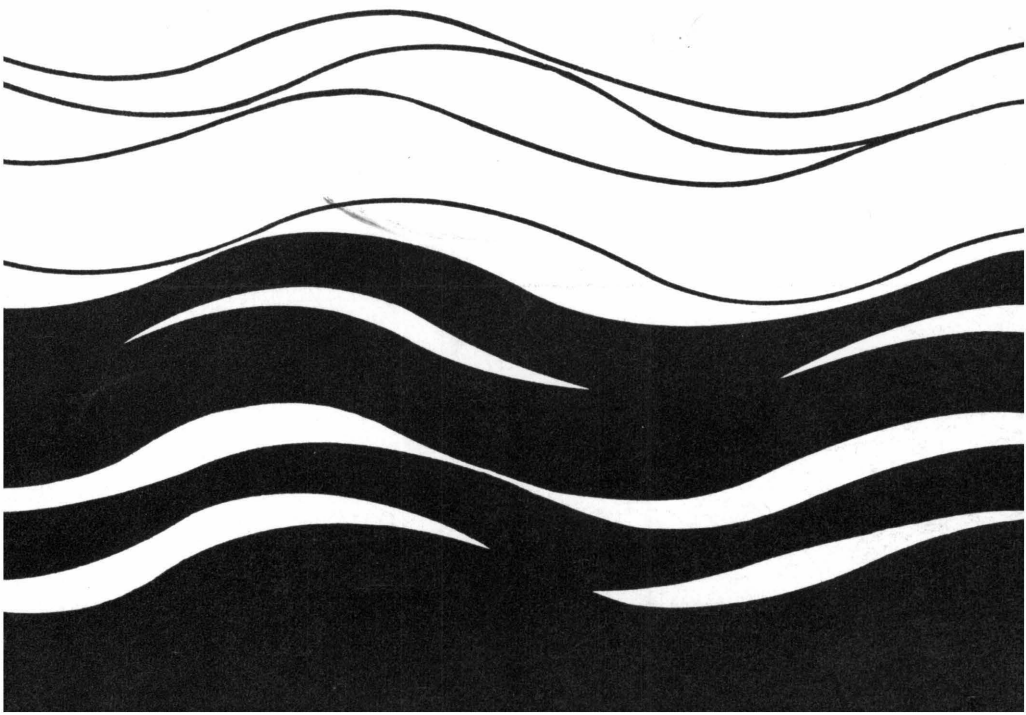
Water Resources Administration in Virginia: Analysis and Evaluation

William R. Walker & William E. Cox



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William R. Walker
Director

William E. Cox
Research Associate

Virginia Water Resources Research Center
Virginia Polytechnic Institute and State University

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PREFACE

The focus of this study is the design of the institutional structures for water resources management in the Commonwealth of Virginia rather than the evaluation of agency performance under existing legislative mandates. Recommendations contained in the report are intended to improve institutional effectiveness and not to solve problems that may relate to personnel. Therefore a recommendation to transfer a responsibility from one agency to another or to create an additional coordination mechanism does not necessarily imply that the agencies involved have not performed assigned duties satisfactorily. In fact, the dedicated efforts of agency personnel have often overcome obstacles posed by the existing institutional framework and achieved a higher degree of success than would have been anticipated. The objective of these recommendations is to suggest means to remove these obstacles such that future agency efforts can be more closely focused on water resource management problems with a minimum of effort expended in overcoming the management system.

The authors express their appreciation to state agency personnel for their considerable assistance during the course of the study. This assistance has involved the contribution of substantial time in discussing agency operations and providing various types of information. Important assistance has also been provided through review and comment regarding preliminary drafts of the individual sections of the report concerning each agency and also with respect to a preliminary draft of the recommendations.

Response to the preliminary recommendations has ranged from complete agreement in some cases to total opposition in others. All comments have been fully considered in preparing the final report. In some situations a preliminary recommendation has been modified to reflect input obtained during the review process, while in other cases suggestions for modification have been rejected. Full responsibility for the final recommendations rests solely with the authors.

Acknowledgment is also given to the other contributors to this report. Norene Essary typed much of the original manuscript; Victoria Esarey did the typesetting. Phyllis Mullins and Jenny Short worked on production.

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ABSTRACT

A description and analysis of the responsibilities of Virginia's administrative agencies and other governmental entities related to water resources management is presented as a basis for evaluating the adequacy of the state's institutional framework for management. Since the existing structure consists of the exercise of specific management functions by several relatively independent managerial entities, the study explores possible gaps in existing authority, overlapping authority, and the existence of adequate coordination mechanisms between agencies and other government bodies operating in functionally related areas of responsibility.

The study focuses primarily on the state's administrative agencies. Detailed consideration is given to the operations of the State Water Control Board, State Department of Health, Virginia Soil and Water Conservation Commission, Commission of Game and Inland Fisheries, State Corporation Commission, Council on the Environment, Department of Conservation and Economic Development, Commission of Outdoor Recreation, Virginia Institute of Marine Sciences and the Virginia Port Authority. The analysis also encompasses other agencies less directly involved in water resources management as well as other governmental bodies exercising such related responsibilities as local governments, interstate commissions, special districts, and the courts of the state.

Recommendations to remedy deficiencies identified in the existing structure are presented in several areas, including water policy and management philosophy, water resources development, water quality, ground water, marine resources, water-oriented recreation, and statutory updating. A primary area of concern addressed in these recommendations involves allocation of water and coordination of water resources development. It is suggested that the executive arm of state government assume a more active role in water allocation and water supply planning, and that a higher degree of coordination of water resource development with applicable policy and plans is necessary. Water quality management is another area where institutional change is needed, especially with regard to centralization of administrative responsibilities and coordination of non-point pollution control with the state's primary water quality management program.

Agency Responsibilities

Agency Responsibilities

INTRODUCTION

The special characteristics of the water resource have resulted in an approach to management that is highly unique when compared to that utilized for many other natural resources. In addition to its essential role in maintaining life, water provides a wide range of other services extending from the strictly utilitarian to the esthetic. Many of these services are incompatible to some degree, creating the need for decision processes for choice between competing objectives. Since the market in which most goods and services are exchanged has not been used extensively for the process of choice regarding the services of water, an elaborate system of laws and administrative agencies has been developed to control water use. The complexity of this managerial framework makes the question of institutional design one of the most significant water resource management issues.

Public involvement in management involves all levels of government. At the federal level, involvement has been characterized by massive programs of investment in water resource development projects and intensive regulation in the area of quality protection and private development in navigable waters. Although there is variation among the states, the state level of government generally has been less involved in direct investment in development but more concerned with planning and control of private water use and development. A significant function that has primarily been performed at the state level is the allocation of water supplies among competing users. Local government generally has exercised few direct water resource management functions with the exception of development of supplies for the inhabitants of the local jurisdiction. However, local government traditionally has exercised control over land use, an activity that is integrally related to many aspects of water resources management. In addition to these three basic levels of government, certain management functions have also been vested in special units of government of both an interstate and intrastate nature. Examples of this arrangement would include river basin commissions and special districts established to perform specific water resource management functions.

With regard to the exercise of water resources management functions at any level of government, the executive, legislative, and judicial branches all play significant roles. Using state government as an example, the typical institutional structure includes several agencies within the executive branch having responsibilities for administration of a variety of water-related laws passed by the state legislature, with the courts of the state serving in their traditional role as final arbiters in disputes involving interpretation of legislation and also exercising certain direct management responsibilities.

The relative significance of the role of the executive branch of state government as compared to that of the judicial branch varies considerably among the states, with the variation most notable in the area of water allocation. In one group of states, essentially no legislation nor administrative procedures apply to the allocation pro-

cess. Here the courts have total responsibility for the allocation function, which they perform by resolving conflicts between competing water users according to the principles of judicially developed doctrines of water rights. An alternative situation involves comprehensive legislation and administrative programs, with the courts' role largely limited to resolving appeals from administrative decisions.

In addition to this division of water resource management responsibility among the levels of government and among the executive, legislative, and judicial branches at each level, a further division of authority that is a significant institutional issue occurs within the executive branch of government itself. At the state level, for example, management responsibilities generally are not vested in a single agency but are subdivided among a combination of agencies in a manner somewhat unique to each state.

In the Commonwealth of Virginia, management responsibilities are fragmented to a considerable degree among the federal, state, and local levels of government; among the executive, legislative, and judicial branches of government; and among the various agencies within the executive arm. One of the basic factors underlying the existing institutional structure is the relatively passive approach which the state traditionally has taken with regard to management of both land and water resources. Two primary examples reflecting this approach involve land use controls and water allocation. The responsiblity for developing and implementing land use controls has been delegated to local government, with the state's role being a very restricted one. In the area of water allocation, basic responsibilities have always been exercised by the courts under the concept of riparian rights and common law doctrines of ground water rights. This approach has recently been modified with regard to ground water in specially designated areas, but the courts continue to exercise primary control over allocation of surface water and ground water outside designated areas.

With regard to the management functions that are exercised within the executive branch of state government, considerable fragmentation among several agencies exists. The existing structure was not designed to function as a single, integrated program; it just developed in largely uncontrolled fashion. The traditional approach has been to enact special laws to focus on specific problem areas as their significance has been recognized, in some cases providing for the creation of an independent agency to exercise administrative responsibilities. There is nothing unusual about this problem-oriented approach to institutional development, but a program developed in this manner is likely to be hampered by coordination problems. Unfortunately from the viewpoint of natural resource management, most physical systems are not divisible into independent areas of responsibility. Various interrelationships exist among the areas that may appear independent on the surface. Thus a program where responsibility is fragmented among a number of agencies of separate but equal authority has a basic structural weakness because of the inability of any one agency to view a problem from a sufficiently broad perspective. Therefore special

coordination mechanisms are essential if effective management is to be achieved within this institutional framework.

The history of agency development contains a number of examples of attempts to achieve coordination. One mechanism that has been utilized is the merger of agencies. The creation of the predecessor to the Department of Conservation and Economic Development in 1926 involved the merger of several previously independent governmental units.[1] Merger on an even grander scale was attempted by the reorganization of state government in 1927 when the State Commission on Conservation and Development (now the Department of Conservation and Economic Development), the Commission of Game and Inland Fisheries, and the Commission of Fisheries (now the Marine Resources Commission) were incorporated into a Department of Conservation and Development.[2] However, this merger was essentially nominal, and the various components remained largely independent. Legislation providing for the merger was repealed by another governmental reorganization in 1948.[3]

More recent attempts at consolidation have also occurred. In 1972, for example, the Division of Water Resources of the Department of Conservation and Economic Development was absorbed into the State Water Control Board.[4] The merger resulted from interagency conflict arising from the exercise of somewhat overlapping authority. Legislation specifying the respective duties of the two agencies had not given recognition to the relationship between the quantity and quality aspects of water management, making conflict inevitable.

A recent attempt at consolidation that would have encompassed most of the principal water resource agencies was embodied in the Environmental Coordination Act of 1973,[5] which was not enacted into law. The proposed legislation would have established a Department of Conservation, Development, and Natural Resources, to consist of five Divisions, including Air Pollution and Solid Wastes, Game and Inland Fisheries, Department of Conservation and Economic Development, and the Marine Resources Commission.

A mechanism for coordination that is similar to agency consolidation consists of the Governor's Cabinet wherein the various administrative agencies are classified into six functional groupings, with the agencies in each group administratively responsible to one Cabinet officer.[6] Most of the agencies with water resource management functions are responsible to the Secretary of Commerce and Resources.[7] The most notable exception is the Department of Health which is answerable to the Secretary of Human Affairs.[8]

The Governor's Cabinet has only been in existence since 1972, but preliminary indications are that significant improvements in administration have not yet been accomplished. In a 1974 interim report of the Commission on State Governmental Management,[9] it is stated that the Secretaries have not provided the mangement

and supervisory assistance contemplated by a 1970 management study and authorized by the 1972 enabling legislation. More specifically, the report suggests that each individual Secretary should devote more attention to his own area of responsibility with regard to such areas as ". . . resolving disputes, coordinating planning and operations, evaluating program performance, setting goals and policies, reviewing budgets and identifying duplication and ineffectiveness with respect to the agencies assigned to him."[10] Another report[11] published by the Commission in November of 1975, which contained tentative recommendations for public discussion, indicated that the Secretaries did not possess adequate authority to fulfill their intended roles and that the authority should be strengthened.

A third mechanism for coordination has consisted of the creation of special agencies with a primary responsibility of providing coordination within state governmental operations. A primary example of an agency with coordination as part of its basic mission is the Council on the Environment. The structure of the Council indicates its potential for coordination. Membership includes the chairmen of the State Water Control Board, Board of Conservation and Economic Development, Game and Inland Fisheries Commission, Marine Resources Commission, Soil and Water Conservation Commission, State Air Pollution Control Board, and the Commissioner of Health.[12] Responsibilities of the Administrator of the Council include the coordination of the administrative practices of the agencies of the Council, preparation of a joint environmental agencies' budget, and coordination of environmental permitting procedures.[13] This authority appears to offer considerable potential for improving coordination among the state's environmental agencies, including several with major water resource management responsibilities.

These various attempts to improve the institutional structure for water resources management have succeeded in eliminating or reducing certain program weaknesses, but there is still question as to whether the existing framework is adequate to meet the intensifying management problems that must be faced in the near future. The task of adequately meeting the needs of water supply, water quality protection, and other legitimate objectives will place heretofore unparalled stress on the existing management framework. Therefore it is essential that continuing weaknesses be fully identified and options for their mitigation identified if developing probelms are to be controlled before the critical stage is reached. This study has attempted to accomplish this general goal.

The approach utilized in this report consists of an analysis of the responsibilities of each administrative agency possessing significant authority in some area of water resources management. Eleven agencies are considered to fall within this category, including the State Water Control Board, State Department of Health, Virginia Soil and Water Conservation Commission, Marine Resources Commission, Commission of Game and Inland Fisheries, State Corporation Commission, Council on the Environment, Department of Conservation and Economic Development, Commission

of Outdoor Recreation, Virginia Institute of Marine Science, and the Virginia Port Authority. In addition, the responsibilities of two other agencies that have been abolished only recently—the former Division of Water Resources of the Department of Conservation and Economic Development and the Divison of State Planning and Community Affairs—are also considered.

The format used for the analysis of each of these 13 agencies consists of three subsections. The first is a summary of the agency's historical development, included to provide the necessary background for placing the agency's current responsiblities in proper perspective. The second and most important subsection consists of a description of the agency's current functions that relate to water resources management. This subsection also describes interagency activities and coordination mechanisms where agency functions are related to the responsibilities of other agencies, including an identification of apparent deficiencies. The third subsection consists of a brief description of the internal organization of the agency.

In addition to these agencies with major management responsibilities, a section entitled "Other Agencies and Governmental Bodies," is included to encompass several other state agencies and governmental entities that exercise responsibilities related to water resources management in a less direct manner.

The final division of the report consists of recommendations for improving the state's institutional structure for water resources management. The recommendations take a variety of forms, including creation of new state management responsibilities, modification of agency structure, transfer of responsibilities between agencies, and development of new interagency coordination mechanisms. The recommendations collectively address the various deficiencies noted throughout the report and provide the basis for a more functionally efficient management framework.

FOOTNOTES

1. *Va. Acts of Assembly,* 1926, ch. 169.
2. *Id.,* 1927, ch. 33.
3. *Reorganization Provisions of the Code of Virginia,* title 10 (1948).
4. *Va. Acts of Assembly,* 1972, ch. 728.
5. *Id.,* 1973, ch. 471.
6. *Va. Code Ann.,* secs. 2.1-51.7 to 2.1-51.28 (Cum. Supp. 1976).
7. *Id.,* sec. 2.1-51.9.
8. *Id.,* sec. 2.1-51.15.
9. Commonwealth of Virginia Commission on State Governmental Management, "Second Interim Report of the Commission on State Governmental Management: Recommendations on the Roles of the Secretaries," Va. Senate Document No. 3 (1974).

10. *Id.*, p. 13.
11. Commonwealth of Virginia Commission on State Governmental Management, "A Report for Public Discussion—Management of Virginia State Government—Tentative Recommendations of the Commission" (1975).
12. *Va. Code Ann.*, sec. 10-181 (Cum. Supp. 1976).
13. *Id.*, secs. 10-184.1, 184.2 (Cum. Supp. 1976).

STATE WATER CONTROL BOARD

I. Historical Development

The State Water Control Board was created in 1946 with the enactment of the State Water Control Law,[1] which had pollution control, prevention, and abatement as its general goals. The Board was established in the Executive Department for the purpose of exercising general supervision over the administration and enforcement of the law.[2]

The Board, as established by the original legislation, was to consist of five members appointed by the Governor from the state at-large and was subject to confirmation by the General Assembly. Provision was made for members to serve four-year terms, with some of the initial appointments to be made for shorter terms so that the expiration dates would be staggered.[3]

The original Water Control Law sought to control pollution through regulation of wastes discharges. It declared discharges of pollution-causing wastes into state waters without express authorization in the form of a certificate from the Board to be against public policy.[4] The original legislation clearly stated that no right to continue pollution had been acquired by virtue of discharging wastes in the past,[5] but the act contained special provisions with respect to waste discharges in existence on the effective date of the Water Control Law. Owners of facilities discharging wastes on July 1, 1946, were required to make application for a certificate within 12 months after requested to do so by the Board. After issuance of the certificate, the Board was empowered to require reasonable reductions in pollution as a condition for continuance of the certificate.[6] The requirements for the construction of new waste discharging facilities or the alteration of old ones after the act's effective date were somewhat more restrictive. Either of these activities required prior approval and a certificate from the Board.[7]

Numerous amendments to the Water Control Law have been enacted. Generally, these changes have enlarged the scope of the law and expanded the responsibilities of the Board. Membership of the Board has also been increased to seven.[8] A summary of these amendments indicates the nature of the major changes in the powers and duties of the Board.

The purpose of the original legislation was to "(1) . . . safeguard the clean waters of the State from pollution, (2) prevent any increase in pollution, and (3) reduce pollution existing when this law is adopted."[9] An amendment in 1968 expanded the purpose to "(1) . . . maintain all State waters in, or restore them 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, (2) safeguard the clean waters of the State from

pollution, (3) prevent any increase in pollution, and (4) reduce existing pollution."[10] The fourth purpose was expanded further in 1970 to ". . . reduce existing pollution, in order to provide for the health, safety, and welfare of the citizens of the Commonwealth."[11] This amended language developed by the 1968 and 1970 legislation does not denote a major change in purpose, but further delineates the original goals.

Definitions of terms used in the State Water Control Law have undergone considerable change. For example, the term "state waters," used to describe those waters over which the Board has jurisdiction, was originally defined through an enumeration of all the common terms applied to different bodies of water,[12] but a more concise definition introduced into the law in 1968 applied to ". . . all water, on the surface and under the ground, wholly or partially within or bordering the State or within its jurisdiction."[13] The definition of the word "pollution" has also undergone signifigant change. Originally, it was restricted to conditions arising from discharges of sewage, industrial wastes, or other wastes[14] but an expansion in 1968 encompassed all alterations of the physical, chemical, or biological properties of water which produce specified undesirable effects. Discharge of untreated sewage was established as pollution per se by the 1968 provision.[15] Another change in 1970 brought within the definition of pollution any action or inaction which contributes to the contravention of water quality standards.[16] The basic effect of these definition changes has been to broaden the scope of the law.

Provisions of the original legislation referring to waste discharges in existence on July 1, 1946,[17] its effective date, have been deleted by subsequent changes.[18] The need for these special provisions was eliminated as the Board assumed control over these discharges through the issuance of certificates. Once the certificate was issued, the Board possessed the same authority over the discharge, whether or not it had existed on the effective date of the law. In both cases, the Board's authority to require reduction in pollution was originally limited only to what was reasonable and practicable of attainment.[19] In 1971, a further restriction on this authority was applied to sewage discharges; the Board was prohibited from requiring political subdivisions to construct new facilities to upgrade the present level of treatment in existing sytems to abate existing pollution or expand systems in order to accommodate additional growth, unless the Board had committed itself to provide the maximum amount of financial assistance from state and federal grant programs.[20]

Provisions of the law concerning other powers and duties of the Board have also been amended. Original responsibilities included general supervision over the administration and enforcement of the law, investigation of pollution problems, establishment of water quality standards, research and experimentation concerning pollution reduction, issuance of certificates to dischargers, investigation to insure compliance with its rulings, adoption of rules and regulations related to procedural matters, and the issuance of special orders requiring certain operating results by dischargers.[21] In 1952, the authority to investigate large-scale fish kills was added.[22] Considerable re-

vision of the Board's powers and duties was undertaken by the 1968 legislature. Among other expansions of authority were added the powers to adopt regulations for pollution abatement, to administer the grant program for water quality control facilities within the state, to adopt rules and regulations to control waste discharges from boats, and to abate pollution from certain discharges of petroleum products.[23] Further expansion in 1970 included the responsibility to establish policies and programs for area-wide or basin-wide water quality control and management and to establish requirements for the treatment of wastes, with secondary treatment to be the minimum treatment except in cases where a lesser degree of treatment can be shown to be consistent with the purposes of the law.[24] The 1971 restriction on Board authority regarding the upgrading of sewage treatment or expansion of systems[25] has been referred to previously.

The historical development of the state's water quality program would not be complete without noting the passage of the Federal Water Pollution Control Act Amendments of 1972.[26] Although the legislation is federal, it has major significance for the operation of state programs. The general result is a considerable expansion of the federal role in water quality management, with the result that state efforts have undergone adjustment to accommodate this new distribution of authority.

Another major change in the Board's responsibilities also occurred in 1972. The scope of the Board's authority was considerably broadened with the transfer to the Board of the responsibilities and personnel of the Division of Water Resources from the Department of Conservation and Economic Development.[27] The new responsibilities are not limited to water quality control and therefore consitute a broadening of the agency's original mission. Included is authority for policy formulation and comprehensive planning with regard to the state's water resources.

Another major expansion of authority occurred with the passage of the Groundwater Act of 1973.[28] This legislation grants authority for the Board to designate special management districts, within which the agency can administer controls over ground water withdrawal.

The most recent expansion in agency responsibilities occurred in 1976 when the General Assembly enacted legislation providing for regulation of the safety aspects of the construction, operation, and maintenance of certain dams.[29]

II. Functions of the Agency

The State Water Control Board has general responsibility for the State's water quality control program and exercises several specific functions in connection with the administration and enforcement of the State Water Control Law. Areas of responsibility include the establishment of water quality standards; the issuance of certificates

to parties causing pollution; adoption of regulations to supplement statutory pollution law and control discharges from boats; establishment of requirements for waste treatment facilities; administration of financial assistance programs; water quality planning; certification of projects requiring federal licenses; investigation of fish kills; and abatement of pollution from petroleum discharges.

In addition to its responsibilities related to the state's water quality program, the Board has authority with respect to other aspects of the state's water resources program, including policy formulation, comprehensive river basin planning, water resources coordination, designation and administration of critical ground water areas, regulation of dam safety, state coordination of the national flood insurance program; collection of hydrologic data; and advisory services.

A. Establishment of Water Quality Standards

Although some stream standards had been established previously, no comprehensive program of setting standards for all the state's waters had been undertaken prior to enactment into federal law of the Water Quality Act of 1965.[30] This law required the adoption of water quality criteria for all interstate waters within the state before June 30, 1967, with provision for the Secretary of the Interior to promulgate such standards if satisfactory ones were not established by the state. The original standards adopted by the Board in an effort to comply with this requirement were not approved. Modified standards were adopted by the Board in June of 1970 and, with one minor exception, were given final approval by the federal government in February of 1971. The authority for federal approval of water quality standards is continued by the 1972 legislation, and it was under this legislation that in August of 1973 all water quality standards received federal approval.

Both federal and state law provide for periodic review and possible revision of water quality standards after their adoption. Federal law requires hearings to be held at least once every three years for the purpose of reviewing existing standards.[31] The State Water Control Law provides that standards can be revised only after a hearing held with proper notice,[32] and the Board is required to give consideration to the economic and social costs and benefits that are likely to result from modification.[33] The authority of the Board to modify standards is also constrained by the provision that the courts can determine the validity of any standard upon petition for a declaratory judgment brought within ninety days after its effective date.[34]

For purposes of establishing water quality standards, the Board has assigned sections of streams and other bodies of water in the state to one of six major classes. Based on geographical location and other factors, these classes consist of (1) open ocean; (2) estuarine, including tidal waters to the fall line; (3) free flowing streams, including the coastal and piedmont zones to the crest of the mountains; (4) mountainous zone, (5) put and take trout waters; and (6) natural trout waters. Standards applicable to

these classes establish minimum and daily average dissolved oxygen concentrations, acceptable pH ranges, maximum temperatures, and permissible rises above natural temperatures.

Waters are also assigned to one of two subclasses for the purpose of indicating the coliform standard. Those used for primary contact recreation, consisting of prolonged intimate contact with considerable risk of ingestion, are assigned to subclass B. All others are assigned subclass A and will be suitable for secondary contact recreation. Both subclasses are to remain satisfactory as sources of municipal water supply, propagation of fish and wildlife, and other beneficial uses.

In addition, special standards have been set in many individual cases. These standards impose restrictions in lieu of or supplemental to more general standards and may apply to waters used as public water supplies, shellfish propagation and harvesting, and others where unusual problems or conditions call for individual consideration.[35]

The basic function of water quality standards is the description of the quality level that will allow designated uses of a particular body of water. Prior to enactment of the Federal Water Pollution Act Amendments of 1972, compliance with water quality standards was a primary criterion for limiting the discharge of waste. The underlying philosophy for using such a criterion is based on the view that waste disposal is an acceptable use of water so long as it does not interfere with the uses reflected by the applicable water quality standard. The 1972 Amendments have supplemented this philosophy with the view that waste discharge should be reduced to the maximum extent consistent with practicable and economically achievable technology.

The mechanism for implementation of this new philosophy is the effluent standard. Whereas the limitations on discharge imposed by water quality standards varied on the basis of such factors as the size and other waste assimilative characteristics of the receiving water, the effluent standard will apply uniformly with regard to various classes of dischargers.

Use of effluent standards does not, however, displace the applicability of water quality standards under the current program. In the event that effluent standards do not reduce discharges adequately to meet applicable water quality standards, the Amendments provide that a greater reduction may be required in order to avoid the undesirable quality degradation.[36] Thus the degree of restriction imposed on waste discharges may be defined by effluent standards in some cases and by water quality standards in others.

B. 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

since it provides a means for the general requirements of law to be translated into specific restrictions on the individual discharger. Control over non-point sources of pollution requires other approaches, but the waste discharge permit will continue to function as a fundamental regulatory measure.

The process of authorizing waste discharges has recently undergone modification due to the enactment of the Federal Water Pollution Control Act Amendments of 1972. This legislation establishes a federal permit program for point discharges into navigable waters to be administered by the U.S. Environmental Protection Agency (EPA), with provision for assumption of administrative responsibilities by the individual states upon EPA approval of state programs. In general, approval is conditioned on the existence of state authority under its own laws to apply the requirements of the federal law through its permit program. A number of specific requirements must be met, including provisions concerning monitoring, public notices on permit applications, duration of permits, permit revocation, composition of permit boards, disposal of pollutants into wells, and use of uniform application and reporting forms.[37] The Virginia program was given approval early in 1975.[38]

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 or the alteration otherwise of the physical, chemical, or biological properties of State waters."[39] 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.

All sewerage systems and sewage treatment works are subject to joint supervision of the Board and State Department of Health.[40] The State Water Control Law contains an explicit statement of Board and Department authority regarding smaller systems,[41] but the statutory requirement for a permit applies only to treatment works designed to serve more than 400 persons.[42] However, current National Pollutant Discharge Elimination System (NPDES) procedures require a permit for essentially all sewage discharges to surface waters, even those from single family dwellings.[43] Application for the necessary permit is made concurrently with the Board and Department, and both agencies are involved in the determination regarding approval.

Final approval of a new sewage discharge involves a two-stage procedure, consisting of (1) action on the application for the particular discharge in question and (2) approval of plans and specifications of the facilities to produce that discharge. During the first phase, public notice of the application must be given, and the following determinations are made by the two agencies:

> The Department shall review the application promptly to determine whether it is complete, and if it is complete, shall advise the Board of the requirements necessary to protect public water supplies and shellfish beds. Upon

completion of advertising the Board shall determine if the application is complete, and if so, shall act upon it within twenty-one days of such determination. The Board shall approve such application if it determines that minimum treatment requirements will be met and that the discharge will not result in violations of water quality standards. If the Board disapproves the application, it shall state what modifications or changes, if any, will be required for approval.[44]

If the application is approved, the following action is taken during the second phase:

> After the application has been approved by the Board, the owner shall file concurrently with the Department and the Board copies of pertinent plans, specifications, maps, and such other information as may be required, in scope and detail satisfactory to the Department and the Board. After it determines that such plans are complete, the Department shall then review the plans without delay and file with the Board within two months a report in which the plans are approved or disapproved. If such plans are not approved, the report shall state what modifications, if any, or changes will be required for approval.
>
> The Board shall review the plans and the report from the Department and make a ruling within twenty-one days approving or disapproving the plans and stating the grounds for conditional approval or disapproval. If they are approved, the Board shall grant a certificate authorizing construction of the system or works.[45]

The requirement for review of plans and specifications after permit approval has been waived in the case of treatment facilities serving single family dwellings. However, construction of such systems must be consistent with applicable regulations, and as in the case of other sewage treatment works, the NPDES permit becomes void unless construction is initiated within two years after issuance or an extension of time is obtained.[46]

Regulation of sewage treatment facilities is a joint responsibility of the Board and Department, but statutory provisions do not set forth explicit guidelines for resolution of differences between the two agencies regarding permit applications. The above-quoted statutory guidelines for each phase of the process for resolution of permit applications provide for a Department determination prior to Board action. One possible interpretation of this procedure is that the Board decision must be consistent with Department findings. However, the legislation does not explicitly condition Board decisions on Department determinations, suggesting that such determinations are to be considered as advisory only, with the Board possessing final authority. Since the two agencies generally have been able to resolve differences informally, this question of authority has not been officially resolved. It should be noted that the Board

is located within the administrative jurisdiction of the Secretary of Commerce and Resources while the Department is under the Secretary of Human Affairs,[47] an institutional arrangement that increases the potential significance of interagency conflicts.

A second type of certificate is for authorization of construction or alteration of facilities responsible for industrial waste discharges. Applications for this type of certificate are made directly to the Board and must contain such information as is required by the Board. The same application procedure is used in situations where domestic sewage from the industrial establishment is treated and disposed of jointly with industrial wastes. Public notice regarding applications for certificates to authorize industrial waste discharges is required before final action is taken. A ruling approving or disapproving the application is made within a four-month period from the date the application is filed, without formal participation by the Health Department as in the case of sewage discharges.[48]

A potential conflict with this operating procedure is posed by the language of the State Water Control Law. As noted above, the law specifies that "all sewage systems and sewage treatment works" are under the joint supervision of the Board and Department.[49] Normal interpretation of this provision would exclude industrial waste systems, but the definition of "sewerage system" given in the law includes ". . . pipe lines or conduits . . . and appliances appurtenant thereto, used for conducting sewage or *industrial wastes* or other wastes to a point of ultimate disposal [emphasis added]. . . ."[50] The intended role of the Health Department in this situtation is in need of clarification.

A third type of certificate is concerned with non-discharging operations by any owner "who handles, stores, distributes, or produces"[51] substances other than sewage or industrial wastes when such substances would cause pollution if they found their way into state waters. 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.

The issuance of a certificate authorizing a waste discharge does not create a permanent, unalterable situation. The Board has adopted a regulation[52] requiring each certificate holder discharging industrial wastes to develop a program for the reduction of pollution from the discharge. In addition, the Water Control Law provides that all certificate holders who discharge sewage or industrial wastes must provide facilities sufficient to meet new water quality standards in the event that applicable standards are upgraded by the Board. The Board has the authority to amend or revoke and reissue certificates to reflect such new facilities and may issue a cease and desist order to the discharger if the requirements are not met within a reasonable time.[53] A limitation on this authority exists in the case of municipalities discharging sewage since

the Board cannot require construction of new facilities to upgrade the present level of treatment in existing sewage works or to expand systems to accommodate additional growth without a commitment of the maximum amount of state and federal financial assistance.[54]

Although the Virginia program has been approved by EPA, certain federal authority with respect to permitting continues in existence. The federal legislation provides authority for a veto of individual permits issued by the state where the EPA administrator finds the issuance of such permit as being outside the guidelines and requirements of federal law. EPA is authorized to waive its veto power with regard to certain categories of discharges. In the event that state administration of an approved permit program is not in accord with federal requirments, authority also exists for EPA to withdraw approval of the state program and resume federal administration upon completion of certain procedural requirements.[55]

C. Issuance of Special Orders

The Board has the authority to issue special orders for the cessation of pollutional activities under a variety of conditions. Such orders can be issued when the polluter violates the terms of a certificate, contravenes water quality standards, or fails to comply with other provisions of the Water Control Law or decisions of the Board.

Under ordinary circumstances, special orders can be issued only after a public hearing with at least thirty days' notice to the affected party. The orders usually do not become effective for at least fifteen days after notification by certified mail. However, in certain situations the Board may issue, without advance notice or hearing, an emergency special order for the immediate cessation of pollution. This type of special order can be issued when the Board finds the pollution to be grossly affecting the public health, safety, or welfare; a public water supply; the health of animals, fish, or aquatic life; or the recreational, commercial, industrial, agricultural, or other reasonable uses of water. A hearing is held subsequently to affirm, alter, or cancel the emergency order. Statutes provide penalties for violations of special orders, and the Board may institute proceedings to compel compliance by injunction.[56]

D. Adoption of Regulations

The Water Control Law provides the authority for the Board "[t]o adopt such regulations as it deems necessary to enforce the general water quality management program of the Board in all or in part of the State. . . ."[57] Adoption, amendment, or cancellation of regulations requires a public hearing. A regulation becomes effective thirty days after it is filed with the Secretary of the Commonwealth.

Seven individual regulations have been adopted by the Board pursuant to this authority. Numbers one[58] and two[59] require certain waste dischargers to develop pro-

grams for the reduction of the resulting pollution, with progress reports to be filed with the Board at the end of each three-month period. Regulation number one applies to owners discharging raw, untreated sewage, while number two has application to owners who have been issued certificates for the discharge of industrial wastes.

Regulation number three[60] provides that the Board issue certificates for sewage treatment facilities only after approval of the site by appropriate local governing bodies. Regulation number four[61] requires any owner to immediately advise the Board should any unusual or extraordinary discharge of wastes to state waters occur.

Boat regulations comprise regulation number five.[62] Provision is also made for the Board ". . . to adopt and promulgate all necessary rules and regulations for the purpose of controlling the discharge of sewage and other wastes from both documented and undocumented boats and vessels on all navigable and non-navigable waters within this State."[63] In formulating such rules and regulations, the Board is required to consult with the State Department of Health, the Commission of Game and Inland Fisheries, and the Marine Resource Commission for the purpose of coordination with the activities of these agencies.

Current boat regulations require boats equipped with marine toilets and regularly moored within designated shellfish growing areas to have sewage retention facilities. Wastes from holding tanks must be discharged to approved shore treatment facilities. Boats moored within shellfish growing areas that were equipped with a marine sanitation device meeting federal requirements on March 27, 1976, may retain such device as long as it continues to operate properly. Boats not regularly moored in shellfish waters are required to be equipped with a marine sanitation device meeting applicable federal requirements. The current boat regulations must be complied with one year after the Environmental Protection Agency certifies that adequate facilities are reasonably available for the safe and sanitary removal and treatment of sewage from vessels.

The legislation provides that all law enforcement officers of the state have enforcement authority in connection with rules and regulations regarding wastes from boats, but no agency is specifically directed to function in this capacity. This lack of definite responsibility could prove detrimental to effective enforcement.

Regulation number six sets forth procedures to be used by the Board in connection with permits issued under the National Pollutant Discharge Elimination System established by the Federal Water Pollution Control Act Amendments of 1972.[64] Regulation number seven provides for a survey of industrial wastes being discharged into certain types of waste treatment works in the state.[65]

The Board is authorized to adopt rules with respect to all procedural matters, including hearings, filing of reports, and the issuance of certificates and special orders.

Public notice of such rules is required in a form prescribed by the Board.[66]

E. Establishment of Requirements for Waste Treatment

The Board is authorized to establish "requirements" for the treatment of sewage, industrial wastes, and other wastes consistent with the purposes of the Water Control Law. Statutory provision requires that minimum treatment must consist of secondary treatment or its equivalent, unless a lesser degree of treatment can be shown to be consistent with the purposes of the law.[67] Board authority is also restricted in that it cannot require the state or its political subdivisons to construct new facilities in order to upgrade the present level of treatment in existing systems or to expand systems in order to accommodate additional growth unless it commits itself to furnishing state and federal financial assistance in the maximum amounts provided by law.[68]

The only "requirement" adopted by the Board[69] concerns expansion of certain existing sewage treatment works serving more than 400 persons. Where such works are discharging inadequately treated sewage and the owner is not engaged in an approved pollution abatement program, construction of new sewers, connections, or extensions are prohibited without express authorization of the Board.

Although only one requirement has been adopted, other waste disposal controls have been adopted pursuant to authority to adopt regulations. In fact, the need for the "requirements" authority is questionable in view of the general power to promulgate regulations.

The area of waste treatment requirements has been largely pre-empted by provisions of federal pollution control law regarding effluent limitations.[70] With regard to publicly owned treatment works, the law requires use of secondary treatment by July 1, 1977, for works in existence on that date or approved for a construction grant under the law prior to June 30, 1974.[71] Publicly owned treatment works are required not later than July 1, 1983, to provide for "the application of the best practicable waste treatment technology over the life of the works."[72] Other point source dischargers are required to apply "the best practicable control technology currently available"[73] by July 1, 1977, and "the best available technology economically achievable"[74] by July 1, 1983. Definition of the various levels of waste treatment required for these dates is the responsibility of the EPA administrator. In the event that the effluent limitations described above are not adequate to maintain desirable water quality, EPA can establish more stringent limitations to maintain desired quality levels.[75]

The act also provides for EPA to proceed with the establishment of waste treatment requirements, known as "standards of performance," for application to new sources of waste initiated subsequent to publication of such standards. These standards are to reflect "the greatest degree of effluent reduction . . . achievable through applica-

tion of the best available demonstrated control technology, processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants."[76] The act provides a list of 27 categories of sources for which standards are required, and EPA is authorized to establish additional categories.

F. Administration of Financial Assistance Programs

The Board has the responsibility of administering all programs of financial assistance to political subdivisions for planning, construction, operation, and maintenance of water quality control facilities.[77]

The federal share currently equals 75 percent of the construction cost of a project.[78] Approval of grants is conditioned on a number of factors, including among others, the following: application of the best practicable waste treatment technology; consistency with state and applicable areawide waste treatment management plans; conformity with cost effectiveness guidelines; and adoption of a system of user charges to assure that each recipient of waste treatment services pays a proportionate share of operation and maintenance costs and that industrial users pay the portion of construction costs attributable to treatment of industrial wastes.[79]

The remaining 25 percent of project costs are met by a combination of state and local funds. Although no funds are available from the state during the 1976 fiscal year, state grants of as much as 20 percent have been available. During the 1975 fiscal year, for example, a standard grant of five percent and a supplement for hardship situations in a maximum amount of 15 percent were available.

Priorities for grants are established on the basis of the impact of the various discharges throughout the state on water quality, with both volume of water affected and the severity of the impact taken into consideration.

G. Water Quality Planning

The Board is authorized by the State Water Control Law to develop comprehensive pollution abatement and water quality control plans in connection with the establishment of policies and programs for effective areawide and basin-wide water quality control and management.[80] Water quality planning has been a primary Board activity since development of federal requirements for such plans as a necessary condition for participation in the federal construction grant program. The original federal planning requirements[81] called for completion of metropolitan/regional and river basin plans by July 1, 1973. These planning requirements have now been expanded by the passage of the Federal Water Pollution Control Act Amendments of 1972.

Three types of water quality planning are required by current federal law, including a

continuing state planning process,[82] special area planning,[83] and facilities planning.[84] State planning is broad in scope and is intended to provide a coordinating framework for other more detailed planning. One basic objective of the state program is the classification of waters as to whether application of EPA effluent standards will be adequate to meet existing water quality standards or whether a greater reduction in waste discharge will be necessary. Where effluent standards are not adequate to prevent violation of water quality standards, the plan must establish the total maximum daily loads of pollutants which will allow water quality standards to be met.

"Areawide waste treatment management planning" involves a more detailed level of planning. This planning is statewide in scope, with more intensive programs applicable to specially designated areas having "substantial water quality control problems." Minimum requirements with regard to the scope of resulting plans include identification of necessary treatment works; establishment of construction priorities for treatment works; establishment of a regulatory program to control the location and construction of waste-discharging facilities within the area; identification of the institutional and financial arrangements for carrying out the plan; processes for identifying and controlling non-point sources of pollution; a process for disposition of residual waste; and a process to control disposal of pollutants on land or in subsurface excavations.

The administration of the areawide planning process within designated areas is the responsibility of the regional planning districts. Federal law provides for identification of areas requiring such planning and for designation of the planning organization by the Governor of the state. Such plans are required to be consistent with basin plans prepared under statewide water quality planning, thus giving the Water Control Board certain review powers. Although federal law provided for 100 percent federal financing of the areawide planning process through the fiscal year ending June 30, 1975, a maximum of 75 percent federal funding is authorized in succeeding years.

The Board has adopted two policies concerning submission of facilities plans by owners of sewerage works.[85] One requires the submission of plans for expanding the capacity of treatment works when the average influent flow for any consecutive three-month period reaches 80 percent of the approved design capacity. When the flow for any such period reaches 95 percent of capacity, the owner of the plant is required to terminate the issuance of permits for new construction in the service area and submit a plant expansion program for Board approval before granting any additional permits. A second policy requires submission of plans for elimination of untreated discharges of sewage where they have occurred.

H. Certification of Projects Requiring Federal Licenses

The Federal Water Pollution Control Act Amendments of 1972 require "any applicant for a Federal license or permit to conduct any activity including, but not limited

to, the construction or operation of facilities, which may result in any discharge into the navigable waters,"[86] to provide the involved licensing agency with certification from the state that the discharge will comply with provisions of the Amendments. The Amendments provide that no license shall be granted by the federal agency involved if this certification by the state is denied.

By letter of June 25, 1970,[87] Governor Holton designated the State Water Control Board to act as the state agency to grant the necessary certification to federal licensing agencies as required by federal law existing prior to the 1972 Amendments. Although this authority is quite explicit, it appears to be restricted by the legislative mandate to the State Corporation Commission (SCC) in the case of hydroelectric projects and other dams in certain bodies of water in the state. The issue was brought into sharp focus when the State Water Control Board and the SCC attempted to prescribe different minimum releases from a proposed Virginia Electric and Power Company installation on the North Anna River. The Board sought to impose its release schedule through the terms of its own certificate and by provisions of the certification to be supplied to the Atomic Energy Commission (AEC) that water quality standards would not be violated. The AEC was the only federal licensing agency involved because of the non-navigable nature of the stream.

In response to an inquiry concerning the authority of the Water Control Board in the case, the Attorney General of the Commonwealth[88] noted that the apparent discrepancy with respect to the authority of the two agencies is resolved by statutory language. The Attorney General's opinion gives recognition to provisions of the State Water Power Development Act[89] stating that, "[t]he control and regulation on the part of the State of the development of the waters of the State shall be paramount and shall be exercised through the agency of the State Corporation Commission. . . ."[90] This control includes the power to license hydroelectric dams and other dams ". . . across or in the waters of the State."[91] a classification including the immediate case. In order to further indicate the paramount nature of the SCC's authority, the opinion notes that the legislation creating the State Water Control Board "is intended to supplement existing laws . . ."[92] but not to replace it. Consideration of these legislative provisions defining the respective powers of the Board and the SCC led the Attorney General to reach the decision ". . . that in water power projects the final decision as to flow release schedules is that of the State Corporation Commission."[93] The opinion adds that the SCC must consider the advice and judgment of the Board in such cases, but unilateral action by the Board is precluded.

In addition to projects licensed by the Atomic Energy Commission, several other types of development projects require federal licenses and therefore are subject to State Water Control Board certification. Projects within the jurisdiction of the Federal Power Commission's licensing authority[94] constitute one such group. These projects also are within the jurisdiction of the State Corporation Commission, giving rise to a situation somewhat analagous to the specific case discussed above. Another

group of projects subject to Board certification includes dredging and filling operations in navigable waters requiring permits from the United States Army Corps of Engineers,[95] some of which also require a permit from the Marine Resources Commission.[96]

I. Investigation of Water Quality Problems

The Board possesses broad investigatory authority relative to water quality problems. It is specifically empowered "[t]o conduct or have conducted scientific experiments, investigations, studies, and research to discover methods for maintaining water quality consistent with the purposes of . . . [the State Water Control Law]."[97] It also may carry out investigations and inspections to insure compliance with certificates, water quality standards, rules and regulations, and special orders.[98] The Water Control Law requires any party whose activities might result in pollution of state waters to furnish the Board such pertinent information for the determination of the effect of the materials involved on water quality. Such parties are protected by the provision that no secret process, methods, or formula other than effluent data need to be disclosed.[99]

J. Investigation of Fish Kills

Investigation of any large-scale killing of fish is the duty of the Board. Once the discharge responsible for the kill is located, the Board is authorized to effect a settlement with the owner covering the costs of the investigation plus the replacement value of the fish, or such settlement as it deems proper. If no settlement is reached within a reasonable time, a civil action can be brought against the owner for all costs, including court or other legal costs incurred in the action. The fact that the discharge responsible for the kill was authorized by a certificate from the Board does not serve as a defense in any such action.[100]

K. Abatement of Pollution from Petroleum Discharges

The Board has the specific authority to take necessary action to abate pollution resulting from the discharge of petroleum products from watercraft, including, with the permission of the governor, the engagement of contractors to eliminate the pollution when the party responsible for the discharge cannot be immediately determined. The owner of any vessel or land-based facility who allows a discharge of oil into state waters is liable to the state for any resulting costs of clean-up.

L. Water Resources Policy Formulation

The Board is under legislative mandate to ". . . formulate a coordinated policy for the use and control of all the water resources of the State. . . ."[101] The Board is required by statute to give consideration to studies and policies initiated by the former

Division of Water Resources and give all concerned state agencies and political subdivisions an opportunity to be heard. In addition, the following principles are prescribed for consideration:

1. Existing water rights are to be protected and preserved subject to the principle that all of the State waters belong to the public for use by the people for beneficial purposes without waste;
2. Adequate and safe supplies should be preserved and protected for human consumption, while conserving maximum supplies for other beneficial uses. When proposed uses of water are in mutually exclusive conflict or when available supplies of water are insufficient for all who desire to use them, preference shall be given to human consumption purposes over all other uses;
3. It is in the public interest that integration and coordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof for the benefit of the State as a whole;
4. In considering the benefits to be derived from drainage, consideration shall also be given to possible harmful effects upon ground water supplies and protection of wildlife;
5. The maintenance of stream flows sufficient to support aquatic life and to minimize pollution shall be fostered and encouraged;
6. Watershed development policies shall be favored, whenever possible, for the preservation of balanced multiple uses, and project construction and planning with those ends in view shall be encouraged;
7. Due regard shall be given in the planning and development of water recreation facilities to safeguard against pollution.[102]

This legislative mandate requires formulation of a broad policy encompassing all aspects of water resource management. The enabling legislation does not convey authority for effecting the resulting policy provisions, and implementation must be accomplished within the scope of existing agency authority. Consequently, the resulting policy statement adopted by the Board encompasses programs that are under the jurisdiction of a number of agencies. The Board's direct implementation powers are limited to areas within its jurisdiction pursuant to other legislation. The agency has stated that the policy will also be utilized ". . . in the preparation of Water Resource Management Plans, advising on the adequacy/desirability of water resource projects, and authorizing specific water resource projects or in commenting on projects which affect water resources."[103]

Board policy is divided into eight separate areas of concern, including natural water sources, beneficial use and public benefit, environmental protection, pollution and wasteful use, water supply and storage, floodplains and flood control, financial considerations, and wetlands. Due to the significance of this policy declaration, provi-

sions from each of the sections will be quoted and consideration given to the related agency programs.

Natural Water Sources (groundwater and surface water)

Community, natural resource and transportation development should proceed in such a way that the adverse effect on runoff (rates, quality and quantity) and groundwater recharge are minimized and that remedial structures (such as spreading basins and flow retarding structures) are incorporated as permanent features of developments and that adequate financial and legal provisions are made for the maintenance of such structures.

Total withdrawals from coastal zone aquifers should be limited to such a quantity as to prevent the intrusion of salinity beyond the limit determined acceptable for the beneficial uses of the aquifer.

Total withdrawals from a specific aquifer shall not exceed estimated recharge except for short (one to two year) periods of time: the divergence should not be so great as to affect unreasonably legal rights to withdrawal or to affect the capability of the aquifer to be recharged fully in the future.[104]

Board authority to implement these measures for protection of natural water sources is limited largely to water quality control and control of ground water withdrawals from critical ground water areas. Although the Board's authority encompasses non-point sources of pollution, primary authority concerning problems associated with runoff from construction and resource development projects is vested in other agencies such as the Virginia Soil and Water Conservation Commission and the Division of Mined Land Reclamation of the Department of Conservation and Economic Development.[105] With regard to control of ground water withdrawal, there is no authority for general state control. The authority of the Board to designate special management areas and to administer control programs therein is discussed later in this section.

Beneficial Use and Public Benefit

The natural values and natural processes occurring in water resources in an undisturbed state constitute a substantial social and economic benefit to the citizens of the Commonwealth, and protection of these processes should be considered in any resource management plan.

The public shall have full access to future facilities paid for by general public funds to the extent that such access is compatible with project purposes and to the extent that the primary purpose of the facility is not defeated.

> Once a project site has been approved by the Board, it will be a policy of the Board to encourage preservation of the site by other State Agencies.
>
> Flow releases from reservoirs for the purpose of maintaining minimum flows necessary for prevention of eutrophic conditions (due to natural sources); protection of fish and wildlife values, marine organisms; and protection of aesthetic values will be considered as beneficial uses.
>
> Generation of electricity by hydropower, both in conventional and pump storage developments, is considered a beneficial use of water resources provided that the system is so operated that neither maximum nor minimum operations flow releases are unreasonable and so that the rate of flow does not change so rapidly as to be hazardous.
>
> Water resource projects and sewerage systems shall be so designed, operated and maintained that hazards of health, public safety and environmental values are minimized.
>
> The consideration of water resources projects by the Board shall include coordination with other public agencies in order to insure that all relevant public policy and formal standards will have an appropriate bearing on the final decision.[106]

One of the primary features of the above-quoted section is the recognition given to natural values and processes associated with water resources as beneficial uses. In addition to the declaration contained in the first subsection that such processes be protected, a specific policy provision provides that reservoir releases for maintenance of minimum flows for protection of aesthetic values are also to be considered as beneficial uses. The concept of minimum flow maintenance may at times be in conflict with other managerial objectives such as maximum hydroelectric power development. Since power development is also a recognized beneficial use, some mechanism for compromise is necessary. The policy statement provides for such considerations by restricting the beneficial scope of power development operations to that which does not result in unreasonable maximum or minimum flow releases. The qualification that such releases be reasonable provides for consideration of other values when such releases are specified. As noted previously, the primary authority for establishing flow releases from certain types of impounding structures is vested in the State Corporation Commission rather than the Board.

Although enumeration of types of uses considered beneficial has potential advantages, this approach has the inherent weakness of implying comprehensiveness, an unobtainable goal in view of the essentially limitless application of water and the continuing shift in the importance attached to individual uses. Due to this factor, the usual approach in a statement of water policy consists of a generalized statement of the

scope of beneficial use, with the interpretation of applicability to a particular use to be resolved on a case-by-case basis. If the more detailed approach is to be utilized, it should include an explicit statement that the listing is not to be considered exclusive.

Environmental Protection

The long term protection of the environment shall be the guiding criterion in decisions relating to water and related land resources.

Channel management projects should be designed, constructed and operated in such a way as to minimize, and preferably to avoid, both short term and long term adverse environmental effects; the capability of water resources to absorb change shall be a designed constraint for such projects (e.g. erosion during construction).

Agricultural and urban channelization projects in natural water courses should be limited in size to that essential for the protection of property and should be developed and/or constructed in such a way that fish and wildlife and aesthetic values are protected, that erosion and flood hazards are not increased, and that groundwater is not adversely affected.

Water resource projects and sewerage systems plans shall be accompanied by an adequate environmental evaluation.[107]

A principal area of environmental protection encompassed by these policy provisions concerns channelization projects. This concern is a response to the increasing awareness of the adverse consequences of such projects. Control over channelization activities is essential because many of the costs are generally in the nature of environmental degradation and are dispersed over a large number of individuals while the benefits are very concentrated, a condition creating strong incentives for over-use.

Although the policy provisions relative to minimization of adverse impacts associated with channelization are potentially beneficial with regard to environmental protection, a basic weakness exists because of their failure to condition approval of specific channelization projects on the extent of environmental impact. Consideration of adverse environmental consequences should be required prior to final approval, and projects should be prohibited where potential environmental damage is large in relation to expected project benefits. The policy statement should therefore address the issue of project approval as well as the matter of minimizing adverse consequences of those projects that are approved.

Regulatory authority with respect to channelization is somewhat fragmented. Board authority is primarily restricted to the water quality aspects of such projects. Other programs at the state and federal levels of government traditionally have been involved

in the promotion of channel management activities. Examples include drainage projects under the Watershed Protection and Flood Prevention Act and flood control projects under the jurisdiction of the U.S. Army Corps of Engineers.

Pollution and Wasteful Use

Industrial processes should be designed to minimize system demand through reuse and process change and to minimize discharge of wastes. As a goal the Board favors the design of industrial processes with minimum withdrawal.

Flow releases from reservoir systems to dilute wastes are not to be considered as a substitute for adequate treatment of waste from industry, agriculture, or municipalities.

No water storage reservoir project will be endorsed or approved unless accompanied by adequate plans and programs for safeguarding reservoir storage from loss through sedimentation from upstream erosion and shoreline erosion associated with a project, which may include the use of upstream sedimentation basins and for control of pollutants from all sources. Any such plan and project shall have adequate legal and financial support.

Plumbing and building codes should prevent needless waste of water, without interfering with maintenance of health values (See Table 1—Virginia Uniform Statewide Building Code). Metering of municipal water deliveries to users should be essential.

The discharge of pollutants into deep groundwater aquifers shall be contrary to Board policy except that brine derived from aquifers may be returned to these aquifers and chemicals and water may be used in connection with the exploration for and development of water, brines, oil and natural gas to the extent that such uses do not result in pollution of ground water.

Spoils produced from original dredging and channel maintenance projects should not be disposed of in any manner that would in itself adversely modify circulation in estuaries or wetlands. Installation and maintenance of drainage ditches, including disposition of any spoils produced thereby, or use of drain tile is permissible in managing wet or soggy agricultural lands.

Fail-safe type mechanisms should be provided for all facilities designed to store substances which might be hazardous to stream environment or to groundwater.

Fail-safe devices shall be incorporated in the construction of wastewater treatment facilities to prevent discharges which would create a potential

hazard to downstream uses. All sewer systems shall be so designed and operated that bypassing occurs only under emergency conditions and that nearby residents and official agencies are informed and alerted whenever such bypassing of raw sewage occurs.[108]

This policy provision addresses the issue of water conservation, with the two specific objectives of minimizing industrial withdrawals and prevention of waste of municipal water through plumbing and building codes and by means of metering. These objectives are fundamental to any program of water conservation but should be expanded to encompass other types and aspects of water use. For example, agricultural use should be included, and policy with respect to municipal use should encourage evaluation of such means as pricing changes to reduce the continual expansion of withdrawals.

Board authority to implement the policy provisions in this section is primarily limited to pollution control measures. In general, regulation of wasteful use must be accomplished by indirect means since mechanisms for state control over withdrawal of water are limited to ground water use in critical areas. For example, the goal expressed in the first subsection for industrial process design to minimize withdrawal might be accomplished on the basis of minimizing waste discharge while direct regulation for the sole purpose of minimizing withdrawal may not be authorized.

Water Supply and Storage

Municipal areas should have adequate off-stream raw water storage. The amount of storage should be governed by such factors as community size and demand, hydrographic characteristics of the supply area(s) (including well fields) and susceptibility to accidental contamination.

Water systems should be interconnected whenever practicable in order that they may mutually support or aid each other in emergency situations and assure the best possible uses of available surface and groundwater resources. In order to insure reliability and safety the use or development of multiple or alternate sources should be considered.

The use of reclaimed water should be considered in water resources planning for urban areas providing such uses are compatible with the public's health and safety. Acceptable uses which should be considered are:

1. Cooling Waters
2. Agricultural
3. Irrigation
4. Industrial
5. Recreational

The direct reuse of sewage effluents as a raw domestic water source is not recommended or condoned.

The use of reservoir surfaces for all compatible uses including recreation, municipal and industrial water supply and fish/wildlife management, and the use of reservoir shoreline for all purposes shall be subject to community/project controls which will protect the reservoir against pollution from run-off or discharges from point sources, and to zoning controls which will preserve agreed-upon aesthetic values.

Sub-surface storage and groundwater recharge should be encouraged subject to the provisions that such practices do not cause pollution of underground water resources.

Municipal sewage treatment plants shall, whenever possible, be so located to permit the beneficial reuse of effluents for the purposes set forth in sub-paragraph 3.5-3 above.

Criteria for guidance in the withdrawal and use of groundwater should be considered as follows:

The relationships between groundwater and surface water in the area.

Information relating to the planned use of the groundwater, considering use for domestic drinking water as of greatest importance.

The economic effects involved in both the withdrawal and non-withdrawal of groundwater on the area and the State.

The urgency of the need for groundwater in a given area.

Provide the highest degree of protection for the capacity and quality of reservoir and storage through programs designed to assure reliable waste treatment systems, effective erosion and runoff controls, and effective control of quality of runoff in newly developed areas.[109]

Principal authority for regulation of public water supply is vested in the Department of Health.[110] The Board possesses full authority to control activities impacting on the quality of sources of supply. Board authority to effect the policy guidelines for ground water withdrawal contained in this section is limited to situations where critical ground water areas are designated pursuant to the Ground Water Act of 1973.[111] Until such designation, authority does not exist for imposition of these requirements, and the Board's regulatory powers after designation will be limited in applicability to within the critical area(s).

Flood Plains and Flood Control

Development of permanent, private or public structures should be discouraged on the flood plains unless there are overriding economic or social justifications for such development and compatible facilities are designed to withstand inundation and provide for the safety of the users.

Communities and individuals should make optimum use of flood plain insurance and the level(s) of participation will be considered by the Board in recommending protection measures.

Existing or authorized development of the flood plain should be protected from a flood with a recurrence interval of 100 years.

Flood control measures approved or recommended for any given community shall incorporate a cost-effective mix of reservoirs, dry dams, protective levees, structure flood proofing, flood plain zoning and other measures necessary for preservation of environmental values including historic sites.

Any proposals for additional development of water or sewerage systems in defined flood plains, with the exception of limited park and recreational facilities or agricultural uses, should be discouraged.

In the flood plain, construction of facilities designed to store substances which might be hazardous to the stream environment should be discouraged.

In approving sewerage projects, the Board will consider the extent to which the proposed project will result in increased erosion, changes in the rate and amount of surface runoff, changes in the development-induced quality of runoff, and increased exposure to flood control.[112]

The Board is responsible for state level coordination of flood plain management activities under the national flood insurance program which is discussed in a later section.

Financial Considerations

Project costs (both non-recurring and recurring), to the extent not financed by Federal and State programs should be apportioned equitably among the project beneficiaries.

No community or area of Virginia, in the development or management of a water resource project, shall unduly place any hardship on another community or area without just compensation. The Board in acting on a water resource project will consider the extent to which such inequities may be

present and the steps, financial and otherwise, necessary to alleviate both short and long range consequences of such inequities. Compensation of individuals disrupted by water resource projects necessarily includes, to the extent reasonably possible, subjective as well as objective valuation factors.

Beneficiaries of water resource structures and projects shall be encouraged to adopt user charges which shall be based upon the total recurring and non-recurring costs of the structures or projects.[113]

If the term "water resource projects" is interpreted to include sewage treatment plants, this policy provision establishes a principle that is violated whenever establishment of such facilities results in condemnation of shellfish grounds.[114] In many cases the impact is an internal effect involving one community only, but waste disposal facilities may serve much broader areas than the community where located, and the adverse effects of upstream discharges may extend for considerable distances. The shellfish grounds themselves usually are owned by the state, but individuals and communities both can suffer considerable disruption where a traditional means of livelihood is detrimentally affected.

The principal policy element concerning financial affairs that is supported by active implementation mechanisms is the requirement for beneficiary user charges contained in the last subsection of the above quotation. Adoption of user charges to cover costs is a basic requirement of the federal construction grant program for sewage treatment facilities existing under the Federal Water Pollution Control Act Amendments of 1972.[115]

Wetlands

It is the policy of the State Water Control Board to preserve the wetland ecosystems, both tidal and non-tidal, and to protect them from destruction.[116]

Authority of the Board with regard to wetlands is limited to water quality considerations and is exercised through its permit program for such activities as waste discharge and dredging. Primary regulatory authority for tidal wetlands protection in Virginia is vested in the state's political subdivisions and the Marine Resources Commission.[117]

M. Comprehensive River Basin Planning

The responsibilities of the board with regard to river basin planning are set forth in the following statutory provision:

The Board shall devise plans and programs for the development of the water resources of this State in such a manner as to encourage, promote and secure

the maximum beneficial use and control thereof. These plans may include comprehensive water and related land resource plans for each major river basin of this State, including specifically the Potomac-Shenandoah River Basin, the Rappahannock River Basin, the York River Basin, the James River Basin, the Chowan River Basin, the Roanoke River Basin, the New River Basin, the Holston River Basin, the Clinch River Basin, the Big Sandy River Basin, and for those areas in the Tidewater and elsewhere in the State not within these major river basins, or for portions of such basins or areas.[118]

With the transfer of this authority to the State Water Control Board, the Board assumed the responsibility for the completion of the planning program initiated by the Division of Water Resources under the supervision of the Board of Conservation and Economic Development. Although a significant amount of planning work had been accomplished, only one river basin plan, the New River Basin Study,[119] had been completed and given final approval. The format of this original plan consisted of six volumes, including an Introduction, Economic Base Study, Hydrologic Analysis, Water Resource Requirement, Engineering Development Alternatives, and Implementation of Development Alternatives. The Potomac River Basin Study follows a similar format with the exception that the volume concerning implementation of alternatives is omitted. Later basin plans were further reduced in scope by elimination of the volume discussing engineering development alternatives. In an attempt to comply with regulations covering construction grants for municipal waste treatment facilities, a supplemental volume designed to serve as the basin water quality plan has subsequently been added in each case. Although some variation in contents occurs among the different basin reports, there is considerable similarity in the scope of information presented. A generalized analysis of the contents of the different volumes follows.

Volume I contains factual data necessary for a general description of the basin under consideration. The general physical characteristics are reviewed, with emphasis placed on climate, geology, surface water, and ground water; and a history and general description of the political subdivisions of the basins are presented. The report contains listings of existing water resource developments, water withdrawals by user and amount, and information about waste water discharges. A summary of proposed impoundments in the basin is also presented, including those planned by the Corps of Engineers, the Soil Conservation Service, local political subdivisions, and private corporations.

Volume II consists of an economic base study for each basin. The objective is to formulate projections of population and other factors affecting future water requirements and to provide an economic framework within which alternative solutions for water resource problems can be developed. Statistics concerning such factors as population, employment, personal income, manufacturing output, agriculture, forest resources, retail and wholesale sales, and transportation facilities are presented.

Volume III presents a comprehensive hydrologic analysis of the basin. It analyzes the climate, general meteorological data, and physical characteristics of the basin that influence hydrologic features. Streamflow records have been subjected to statistical analyses to determine probable ranges of flows on which plans can be based. These studies indicate normal flows to be expected and the magnitude and recurrence intervals of various low and flood flows. The ground water appraisal includes considerations of quantity, quality, current development, production potential, and geologic characteristics related to the occurrence, distribution, and availability of ground water.

Volume IV is devoted to an analysis of present and projected water requirements and includes a discussion of water resource related problems. Projections of water withdrawals are presented for public and private water supply, separate industrial use, steam electric generation cooling, and agriculture. Demand is projected for various outdoor recreation activities, both water-oriented and otherwise. Consideration is given to existing water quality, applicable water quality standards, and waste assimilation characteristics of the streams involved. The impact of projected development on existing water quality is evaluated. Problems of erosion and sedimentation associated with water resource developments, such as reservoirs, and navigation projects, are noted. Past flood damages are analyzed, average annual damages determined, and the need for flood control measures presented. Where navigation exits, facilities are listed and described, and the need for future development of channels and terminal facilities is indicated where inadequacies are found.

Volume V, where included, is a detailed discussion of various water resource management alternatives to meet present and projected water resource needs within the particular basin. As a measurement of the potential for water resource development, a summary of undeveloped reservoir sites in the basin is presented. The specific problem areas and development alternatives differ considerably between basins because of different water requirements and the characteristics of the resource itself. A substantial portion of the volume is generally devoted to consideration of various alternatives for water supply and water quality control. Management alternatives are also discussed for flood control, recreation, hydroelectric power, and erosion and sediment control.

Volume VI in the New River study is devoted to recommendations for the implementation of development alternatives and is considered to be the plan for basin development. On the basis of such considerations as technology, economics, and public acceptance, proposals to satisfy basin needs are selected from the various alternatives discussed in Volume V. These proposals are of several different types. Some are in the form of specific recommendations concerning development projects under consideration by governmental and private interests. The plan may indicate the degree of state support for a given project, note the significance of the project to water management in general, or suggest modifications in project purposes and

operating procedures. Other proposals indicate developments that will be needed in addition to those presently under consideration for construction by various interests. Certain proposals do not recommend action, but rather point out the need for further study.

The basin water quality plan relies on Volumes I through IV as a basis of planning information and includes revised data to update these previous volumes. Water quality planning information consists of the location of waste discharges within the basin, discussion of waste assimilative models for the basin, and guidelines for minimum treatment requirements and treatment alternatives for point and non-point discharges of pollutants.

The basic data and the variety of projections and calculations incorporated into the comprehensive basin studies have several origins including federal, state, and local governmental bodies and private organizations. Information has been derived from previously existing plans and reports such as those of the Corps of Engineers, Soil Conservation Service, and private power companies. Certain planning elements have been prepared by other state agencies in cooperation with the Board. Examples include population and economic projections developed by the previously existing Division of State Planning and Community Affairs and outdoor recreation plans prepared by the Commission of Outdoor Recreation.

One of the most useful functions of the river basin plans consists of the identification of water resource management issues and policy conflicts, especially in those cases where management alternatives are evaluated. For example, conflict is indicated between such recreational management alternatives as scenic river designation and water resource development for other purposes. In addition, certain development alternatives considered suggest that present institutional controls over water use may serve to limit future management possibilities. For example, interbasin transfers of water are given consideration even though the concept is foreign to the riparian doctrine of water rights traditionally followed in the Commonwealth. Other proposals likely to produce legal complications under the present framework of water law include allocation of water by management agencies and the diversion of wastewater from the basin of origin. Because these basin studies indicate that certain of these unprecedented actions will likely be necessary in the future, revisions of basic water law may become a necessity.

N. Water Resources Coordination

State Water Control Board authority allows it to coordinate certain aspects of the state's water resource activities. One important coordinating function is contained in the following provision:

> In all matters directly related to conservation or use of the State's water

> resources, except as otherwise provided by law, the Board is authorized to speak and act for the State in all relations with the federal government or with the government of other states or with interstate agencies or authorities directly concerning conservation or use of the State's water resources.[120]

This authority specifically includes the right of the Board or its designate to appear and testify for the state ". . . before any committee of the United States Congress or any branch or agency of the federal government or the legislature or any court or commission of any state."[121] Another situation in which the Board functions as spokesman involves state relations with the Corps of Engineers in the area of floodplain studies and other activities under the National Flood Insurance Act. Coordination in these areas was previously provided by the Department of Conservation and Economic Development, and these responsibilities were transferred along with the Department's other water resource functions. Other areas where the Board functions as spokesman include state activities with the Water Resources Council and data collection programs in cooperation with the United States Geological Survey.

The above-quoted authority for the Board to Act as state spokesman is limited by the provision "except as otherwise provided by law." This limitation is significant because state law places certain aspects of federal-state relations in the jurisdiction of other agencies and beyond any systematic central control. For example, the Virginia Soil and Water Conservation Commission acts as state spokesman regarding water resource development projects within the scope of the Watershed Protection and Flood Prevention Act.[122] The Commission of Outdoor Recreation is the participating agency for the state in the Federal Land and Water Conservation Fund.[123] Also, the Department of Intergovernmental Affairs has been designated as the state clearinghouse for project notification and review in connection with federal grant programs,[124] some of which are related to water resources.

This division of authority among agencies emphasizes the importance of a comprehensive water resources policy to provide guidance for decisionmaking. Attention is drawn also to the need for effective interagency coordination within the administrative branch of government, a function most logically exercised within the Governor's cabinet.

In addition to providing some coordination in federal-state relations in the area of water resources, the Water Control Board has limited authority to effect coordination within the state's water resource program. One such power is the recommendation of plans to resolve certain water use conflicts:

> The Board shall upon application of any State agency or political subdivision, and may upon its own motion, recommend a plan to resolve any conflict as to actual or proposed water use or other practice directly affecting water use that involves a potential or existing conflict between water use

functions under the jurisdiction of different State agencies. If requested by any State agency or political subdivision directly affected, or at the Board's discretion, the Board shall hold public hearings on such question at which all persons concerned shall be heard.[125]

This provision has not seen significant use since its 1966 enactment. It does offer a possible means of mitigating agency conflicts and therefore may prove to be valuable.

Coordination in the state water resources program is also facilitated through the authority granted to the Board with regard to the interchange of information between state agencies and political subdivisions. The Board has the power to request water resources information from agencies and political subdivisions for its own needs and also to cooperate with other agencies and political subdivisions in utilizing such information.

All the officers and employees of the state and its political subdivisions are directed to cooperate with the Board in the discharge of its duties and in effectuating the water resources policy of the state.[126] This provision apparently encompasses policy formulated by the Board since it is contained in the legislation delegating policy-making authority.

O. Designation and Administration of Critical Ground Water Areas

The Board has joint authority with the State Department of Health for the administration and enforcement of the Groundwater Act of 1973,[127] with the Board having the principal responsibility for the Act's regulatory provisions concerning ground water withdrawal. The act vests in the Board the authority for designation of special districts known as "critical ground-water areas," within which the Board has the responsibility of administering a permit program for ground water use.

Legislative guidelines specifying the conditions for initiation of proceedings for the declaration of a critical ground water area are as follows:

1. Ground water levels (elevations relative to mean sea level of water table or of artesian water head) in the area in question are declining or have declined excessively; or
2. The wells of two or more groundwater users within the area in question interfere substantially with one another; or
3. The available groundwater supply in the area in question is being or is about to be overdrawn; or
4. The groundwater in the area in question has been or reasonably may be expected to become polluted.[128]

Such proceedings can be initiated by the Board upon its own motion or upon petition

by any county, city, or town within the area in question. The provision that the Board can initiate critical area proceedings appears to be one of the strong points of the act. Experience in other states where initiation of action has been vested solely at the local level has shown this arrangement to be a major obstacle to timely solution of conservation problems. The parties who eventually will be regulated by control measures can be expected to have an inherent opposition to such controls. Thus, it is not practical for sole responsibility for initiation of control measures to be placed at the local level.

The primary mechanism for local input into proceedings to establish critical areas is the public hearing that is required before the Board determines the desirability of creating such an area. After the hearing is held, the Board can designate the area as critical only if it finds any of the conditions listed above for initiation of action to be true *and* if it finds that the public welfare, health, and safety require the adoption of corrective controls.[129]

After the Board defines the boundaries and issues an order declaring an area to be critical, additional uses of ground water require a permit from the Board, with the exception of certain exempted uses. Any person desiring to initiate a new or expand an existing use of ground water for a non-exempted purpose must acquire a permit from the Board before ". . . constructing, rehabilitating, altering or extending a well or before using the groundwater."[130] The following provisions of the act set forth the basic guidelines for approval of a permit application:

> When an application discloses the probability of wasteful use or undue interference with existing wells or that any proposed use of a well will impair or substantially interfere with existing rights to use groundwater by others, the Board may impose conditions or limitations in the permit to prevent such interference or reject the application after a hearing.
>
> An application may be approved for less groundwater than applied for or it may be approved upon terms, conditions and limitations necessary for the protection of the public welfare, safety and health. In any event, the application shall not be approved for more groundwater than is applied for or that can be applied to a beneficial use. No application shall be approved when the same will deprive those having prior rights of benefical use of the amount of groundwater to which they are lawfully entitled.[131]

Uses that are exempt from the permit requirement that is generally applicable in a critical area include ". . . the use or supplying of groundwater for agricultural and livestock watering purposes, for human consumption or domestic purposes, or for any single industrial or commercial purpose in an amount not exceeding fifty thousand gallons a day."[132] Exemption of home wells and other minor uses is a standard feature of ground water controls and can be justified on the basis that the resulting

impact of such uses is inconsequential. Since small uses are likely to exist in considerable number, their exclusion also eases the burden of administering the control program. However, the Virginia Act does not restrict the exemption to small users since the 50,000 gallon per day limitation applies only to single industrial and commercial uses.

One potentially significant category of use encompassed by the exemption consists of agricultural use. Such uses, particularly irrigation, are among the least efficient and most consumptive of all water uses. The impact is mitigated in a state such as Virginia where rainfall is relatively abundant and irrigation is not extensively practiced at present nor planned for the future, but blanket exclusion of agricultural uses without regard to quantity may pose a problem if unanticipated increases in such uses occur.

Municipal use is an even more significant category encompassed by the exemption. The act itself is silent with regard to municipal use, but the Attorney General[133] has held that municipal withdrawal for human consumption and other domestic purposes is exempt without regard to quantity as in the case of individual use for these purposes. Municipal withdrawals for single industrial and commercial purposes exceeding the 50,000 gallon per day limitation theoretically are subject to the permitting requirement. However, regulation of municipal withdrawals on a selective basis poses problems of administrative feasibility since individual withdrawals are likely to serve a variety of types and sizes of users.

Since the viability of a ground water allocation program depends on control of all major withdrawals, exception of agricultural use and most municipal use greatly weakens the potential of the Groundwater Act to achieve its stated goal of preventing excessive withdrawal in critical areas. Therefore it appears desirable that the act be amended such that its regulatory provisions apply to all uses except those below some specified magnitude, perhaps the 50,000 gallon per day limitation currently applied to single industrial and commercial uses.

Another category of uses largely exempted from control includes those in existence on the date an area is declared critical or on any date within two years prior to such date. This exclusion also applies to any intended use where the party involved is engaged in ". . . the construction, alteration, rehabilitation or extension of a well for the application of groundwater to beneficial uses"[134] at the time the area is declared critical. Within six months after designation of a critical area, such persons claiming rights on the basis of existing use are required to file with the Board a registration statement concerning the use. The act provides that "[u]pon receipt of the completed registration statement, the Board shall issue to the registrant a certificate of groundwater right."[135] Thus with the exception that such rights are limited by the extent of application to beneficial use, Board authorization must be issued automatically without review and imposition of conditions as in the case of new uses. Failure of

any party to file the required registration statement within the prescribed six month period results in the presumption that the claim to a right has been abandoned. The act provides that any person who falls within this category may within one year request the Board to provide a hearing for rebuttal of the abandonment presumption and acquisition of a certificate of ground water right.[136]

The lack of authority for the Board to regulate uses existing prior to establishment of critical areas is a potentially significant weakness in the state's ground water management program. The very activities which are responsible for the problem leading to critical designation are not subject to control. In addition, the natural response of a ground water user faced with the prospect of critical area designation will be to expand his level of use prior to designation and thereby establish a greater right free from regulation. A limit on the amount of expansion in use is provided by the requirement that the right will be restricted to the extent that the water is applied to a beneficial use, but this provision is not likely to lead to adoption of water conservation practices unless a very restrictive view of beneficial use is imposed.

Of course the exemption of existing uses is designed to avoid constitutional questions concerning the taking of vested property rights since water rights have traditionally been viewed as property. There is, at most, a fine line between governmental exercise of the police power in regulating the use of private property and an unconstitutional taking of such property. Regulation is usually on a firmer basis where it applies to unexercised property rights as opposed to those already utilized, but ground water statutes in other states have included the regulation of existing uses. For example, the Georgia Groundwater Use Act of 1972[137] gives pre-existing uses a preferred permit position but contains a qualification that such uses must not have adverse effects on other present and future uses. The Georgia legislation has not been challenged on constitutional grounds. The Virgina act provides that existing uses exempted from the permit requirement ". . . are expressly subject to the right and authority of the General Assembly or the Board, pursuant to subsequent and specific delegation of authority by the General Assembly, to hereafter limit such rights should the General Assembly determine that the continued, unrestricted uses of groundwater contribute or will contribute to pollution or shortage of groundwater thereby jeopardizing the public health, safety or welfare."[138] Thus the act makes clear that controls over existing uses are not authorized at present and require an additional delegation of authority by the General Assembly. Ground water users whose rights are acknowledged by the Board are notified by a statement contained on the certificate of right that such rights are subject to change upon future action of the General Assembly.

The regulation of future uses of ground water in order to protect existing uses introduces the concept of priority in time as a basic element of water rights. The restriction that ". . . [n]o application shall be approved when the same will deprive those having prior rights of beneficial use . . ."[139] expresses the basic concept of the doc-

trine of prior appropriation which has not been officially adopted in Virginia. Provisions for registration of existing uses and permitting of new uses place considerable emphasis on priorities. With regard to registration of existing uses, the act requires a recording of the date of return of registration statements.[140] Dates also are to be recorded for receipt of permit applications for new uses, and it is provided that "[a] right to use groundwater under a permit shall have a priority from the date on which the application was filed with the Board."[141] The act does not specify what weight is to be given to such priorities in making permit determinations where conflicting uses are proposed, but it appears that the time of filing is to be considered as a factor.

The act provides for a broad range of input to be considered by the Board in making a determination concerning a permit application for new or expanded ground water uses in a critical area. A copy of each application must be sent to the local governing bodies in the critical area and those who are potential beneficial users of the water from the area, and public notice must be given concerning the Board meeting where the application is to be considered. The Board is authorized to hold a public hearing whenever it views such proceedings as necessary to determine whether the proposed use will conflict with existing ground water rights. Persons holding ground water rights in a critical area may file protests with the Board concerning the issuance of new permits.[142] The act requires that final determinations by the Board be ". . . supported by competent, material and substantial evidence upon consideration of the whole record."[143]

A significant omission in the Groundwater Act with regard to permits concerns their duration and provisions for review and modification subsequent to issuance. Since permit duration is not specified, the assumption arises that a ground water right thus established is granted in perpetuity. Furthermore, provisions concerning permit review procedures are limited to public hearings for cancellation of permits where willful violations of the permit or of the act occur.[144] No provision is made for review and modification of permits to reflect changed conditions affecting the desirability of a given water use in relation to the public interest. Thus the granting of permits adds to the inflexibility created by the inability to regulate uses existing at the time of critical area designation.

Political subdivisions and other parties adversely affected by a decision of the Board have the right of judicial review. The first appeal is to the circuit court of the county or city in which the well in question is located, with provision for appeal to the Supreme Court of Appeals. The circuit court may modify or reverse the decision or remand the case for further proceedings:

1. If the order or decision of the Board will not adequately achieve the policy and standards of this chapter or will not reasonably accommodate any guidelines which may have been promulgated by the Board; or
2. If the substantial rights of the appellant have been prejudiced because

the findings, conclusions or decisions are:

a. In violation of constitutional provisions; or
b. In excess of statutory authority of jurisdiction of the Board; or
c. Made upon unlawful procedure; or
d. Affected by other error of laws; or
e. Unsupported by the evidence of the record considered as a whole; or
f. Arbitrary, capricious, or an abuse of discretion.[145]

As of February 26, 1975, a critical ground water area became effective in the southeastern part of the state encompassing the counties of Prince George, Sussex, Southhampton, Surry, and Isle of Wight and the cities of Chesapeake, Franklin, Hopewell, Norfolk, Portsmouth, Suffolk, and Virginia Beach.[146] The primary management problem in this area consists of extensive lowering of ground water levels as the result of large-scale pumping in the vicinity of the City of Franklin. The Southhampton County Board of Supervisors had requested initiation of critical area designation proceedings in 1974 on the basis of allegations that many existing wells had been lost or had required reconstruction, a situation having an adverse economic effect on the citizens of the county. The State Water Control Board currently is developing its program for implementation of management controls as established by the act.

P. Regulation of Dam Safety

The Board is authorized to promulgate regulations to ensure that certain impounding structures in the state are safely constructed, maintained, and operated. Implementation of this authority is currently underway. However, the scope of such regulations is likely to be limited due to the wide range of exemptions, which include:

i. dams licensed by the State Corporation Commission;
ii. dams owned or licensed by the United States government;
iii. dams designed, constructed or maintained in accordance with specifications of the United States Soil Conservation Service under the provisions of Public Laws 74-46, 78-534, 83-566 or 91-343 or dams constructed, maintained or operated primarily for agricultural purposes;
iv. water or silt retaining dams approved pursuant to Sec. 45.1-222 of the Code of Virginia [applies to mine refuse piles and dams in connection with mining operations];
v. obstructions in a canal used to raise or lower water; or
vi. dams creating impoundments of not more than one hundred acre feet capacity and not more than twenty-five feet in depth.[147]

Q. State Coordination of National Flood Insurance Program

The Board has been designated as the agency to provide state level coordination for the national flood insurance program and related activities. The flood insurance pro-

gram was established by 1968 legislation[148] and provides for federally subsidized insurance coverage for flood damages in qualified communities. Qualification requirements for the program include adoption of floodplain land use controls and other management measures. Legislation[149] introduced in the 1976 session of the Virginia General Assembly proposed authority for the Board to promulgate regulations for floodplain management. While actual land use controls would have remained a local responsibility, such controls would have been subject to the Board's guidelines, to have been developed in cooperation with the Virginia Soil and Water Conservation Commission. The proposed legislation was carried over for consideration during the 1977 legislative session.

The flood insurance program is administered at the national level by the Federal Insurance Administration of the U.S. Department of Housing and Urban Development. Current responsibilities of the Board related to this program include assistance with community qualification, information dissemination, and coordination of floodplain studies that are carried out by various federal agencies in connection with community qualification procedures.

R. Collection of Hydrologic Data

Collection of hydrologic data is accomplished through a cooperative program between the Board and the U.S. Geological Survey, with other state and federal agencies as well as other public and private organizations also providing assistance. The cooperative agreement between Virginia and the Geological Survey for collection of streamflow data has existed since 1925. With regard to water quality data, an agreement existed from 1944 to 1956 and from 1967 to the present. An agreement for collection of data pertaining to ground water levels existed from 1931 to 1956 and from 1967 to the present.[150]

S. Advisory Services

The Board is authorized to make technical advice and information on water resources available to agencies and political subdivisions of the state and to private persons and organizations.[151]

Legislation directs the Board to advise the Governor and the General Assembly as to all matters relating to the state's water resources policy and to report to them annually on the status of the state's water resources. The Board is authorized to recommend to the General Assembly any additional legislation deemed necessary or desirable for the accomplishment of its comprehensive river basin plans.[152]

III. Organization

The present Water Control Board consists of seven members appointed by the Gover-

nor, subject to confirmation by the General Assembly. The Water Control Law specifies that members of the Board must be citizens of Virginia selected from the state at large for merit without regard to political affiliation. Persons directly associated with industries or political subdivisions who are certificate holders under the law cannot serve as members of the Board.[153]

The Board is authorized to elect a chairman from its members and to employ an Executive Secretary to serve as the chief executive officer of the agency. The Executive Secretary exercises such administrative authority as in conferred upon him by the Board. These delegated responsibilities may include all the powers and duties invested in the Board with the exception of the following: the adoption and promulgation of standards, rules, and regulations; the revocation of certificates; and the issuance, modification or revocation of orders to waste dischargers, except in emergency situations as defined by the law.

Administratively, the agency consists of six regional offices and a central office. The regions are designated as the Southwest, West Central, Valley, Piedmont, Northern Virginia, and Tidewater, with the respective offices located in Abingdon, Roanoke, Bridgewater, Richmond, Alexandria, and Virginia Beach. The central office is located in Richmond.

The central office is organized into five divisions, including Administration, Bureau of Applied Technology, Bureau of Enforcement, Bureau of Surveillance and Field Studies, and Bureau of Water Control Management. In addition to the coordination and office management responsibilities of the administrative section, the municipal construction grant program is operated by this section.

The Bureau of Applied Technology operates the permit programs for wastewater treatment facilities and is the branch of the agency responsible for approving equipment and facility design. The Bureau maintains contact with permitted dischargers to assure reasonable progress in pollution control.

The Bureau of Enforcement manages the legal affairs of the agency, conducts official Board meetings and other public hearings, coordinates reviews of environmental impact statements, certifies that federally funded or licensed projects will not violate pollution control laws, administers boat pollution regulations, and is responsible for water quality standards.

The Bureau of Surveillance and Field Studies is responsible for compliance monitoring in connection with operating treatment plants and conducts treatment plant surveys and studies. It conducts stream quality monitoring, including ecological studies, fish kill investigations, and investigation of all hazardous materials spills. The Bureau also collects streamflow data by means of a system of stream gaging stations and ground water data through a network of observation wells. A 24-hour standby team is main-

tained to investigate fish kills or other emergency situations arising from unusual pollution events.

The Bureau of Water Control Management encompasses functions previously carried out by the Division of Water Resources prior to transfer to the Board, including the preparation of water resource management plans. It is also responsible for river basin quality management planning and administration of critical ground water management areas and studies in connection with potential critical areas.

The operating budget of the State Water Control Board is met from a combination of state and federal funds. When certain conditions are met, the Administrator of the Environmental Protection Agency is authorized to allocate funds appropriated for operation of pollution control programs among the states and interstate agencies on the basis of the pollution problem within the respective jurisdictions. The Board also receives funds from the U.S. Water Resources Council, participates in U.S. Geological Survey programs involving federal funding, and has been the recipient of funds from the U.S. Department of Housing and Urban Development in connection with the flood insurance program.

FOOTNOTES

1. *Va. Acts of Assembly*, 1946, ch. 399.
2. *Id.*, sec. 1514-b9(1).
3. *Id.*, sec. 1514-b5.
4. *Id.*, secs. 1514-b4, 1514-b9(5).
5. *Id.*, sec. 1514-b2.
6. *Id.*, secs. 1514-b14, 1514-b17.
7. *Id.*, sec. 1514-b16, 1514-b18,19.
8. *Id.*, 1970, ch. 638.
9. *Id.*, sec. 1514-b1.
10. *Id.*, 1968, ch. 659, sec. 62.1-14.
11. *Id.*, 1970, ch. 638, sec. 62-44.2.
12. *Id.*, 1946, ch. 399, 1514-b3.
13. *Id.*, 1968, ch. 659, sec. 62.1-15(4).
14. *Id.*, 1946, ch. 399, 1514-b3.
15. *Id.*, 1968, ch. 659, sec. 62.1-15(6).
16. *Id.*, 1970, ch. 638, sec. 62.1-44.3(6).
17. *Id.*, 1946, ch. 399, 1514-b14-17.
18. *Id.*, 1970, ch. 638.
19. *Id.*, 1946, ch. 399.
20. *Id.*, 1971, ch. 197, 245.
21. *Id.*, 1946, ch. 399, sec. 1514-b9.

22. *Id.*, 1952, ch. 702, sec. 62-23(9).
23. *Id.*, 1968, ch. 659, sec. 62.1-27, 62.1-44.1.
24. *Id.*, 1970, ch. 638, sec. 62.1-44.15(13,14).
25. *Id.*, 1971, ch. 197, 245.
26. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1251 *et seq.* (Cum. Supp. 1976).
27. *Va. Acts of Assembly*, 1972, ch. 728.
28. *Id.*, 1973, ch. 443.
29. *Id.*, 1976, ch. 710.
30. Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903.
31. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1313 (c) (1) (Cum. Supp. 1976).
32. *Va. Code Ann.*, sec. 62.1-44.15(3) (Cum. Supp. 1976).
33. *Id.*, sec. 62.1-44.15(a) (Cum. Supp. 1976).
34. *Id.*, sec. 62.1-44.24(1) (1973).
35. For more information concerning standards, consult "Water Quality Standards," containing standards adopted by the State Water Control Board on April 8, and June 9, 1970.
36. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1312 (Cum. Supp. 1976).
37. *Id.*, 33 *U.S.C.* 1342 (b).
38. "National Pollutant Discharge Elimination System Permit Program," 40 *F.R.* 20129 (1975).
39. *Va. Code Ann.*, sec. 62.1-44.15(5) (Cum. Supp. 1976).
40. *Id.*, sec. 62.1-44.18(1) (1973).
41. *Id.*, sec. 62.1-44.19(7) (Cum. Supp. 1976).
42. *Id.*, sec. 62.1-44.19(1) (Cum. Supp. 1976).
43. Virginia State Water Control Board, "NPDES Permit Manual" (1975).
44. *Va. Code Ann.*, sec. 62.1-44.19(2) (Cum. Supp. 1976).
45. *Id.*, sec. 62.1-44.19 (3,4) (Cum. Supp. 1976).
46. Virginia State Water Control Board, "NPDES Permit Manual," sec. B-1.2.12 (1975).
47. *Va. Code Ann.*, secs. 2.1-51.9, 2.1-51.15 (Cum. Supp. 1976).
48. *Id.*, sec. 62.1-44.16 (1973).
49. *Id.*, sec. 62.1-44.18(1) (1973).
50. *Id.*, sec. 62.1-44.3(11) (1973).
51. *Id.*, sec. 62.1-44.17 (1973).
52. *See* later subsection of this report on adoption of regulations.
53. *Va. Code Ann.*, secs. 62.1-44.16(2) (1973); 44.19 (5,6) (Cum. Supp. 1976).
54. *Id.*, sec. 62.1-44.15: (Cum. Supp. 1976).
55. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1342 (Cum. Supp. 1976).
56. *Va. Code Ann.*, sec. 62.1-44.15(8) (Cum. Supp. 1976).
57. *Id.*, sec. 62.1-44.15(10) (Cum. Sup. 1976).

58. Virginia State Water Control Board, Regulation No. 1, Adopted February 19, 1949.
59. Virginia State Water Control Board, Regulation No. 2, Adopted August 16, 1949.
60. Virginia State Water Control Board, Regulation No. 3, Adopted May 11, 1956.
61. Virginia State Water Control Board, Regulation No. 4, Adopted August 17, 1956.
62. Virginia State Water Control Board, Regulation No. 5, Adopted March 27, 1976.
63. *Va. Code Ann.,* sec. 62.1-44.33 (Cum. Supp. 1976).
64. Virginia State Water Control Board, Regulation No. 6, Adopted January 23-24, 1975.
65. Virginia State Water Control Board, Regulation No. 7, Adopted July 29, 1976.
66. *Va. Code Ann.,* sec. 62.1-44.15(7) (Cum. Supp. 1976).
67. *Id.,* sec. 62.1-44.15(14).
68. *Id.,* sec. 62.1-44.15:1.
69. Virginia State Water Control Board, Requirement No. 1, Adopted June 1, 1961.
70. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1311 (Cum. Supp. 1976).
71. *Id.,* 33 *U.S.C.* 1311(b)(1)(B).
72. *Id.,* 33 *U.S.C.* 1311(b)(2)(B).
73. *Id.,* 33 *U.S.C.* 1311(b)(1)(A).
74. *Id.,* 33 *U.S.C.* 1311(b)(2)(A)(i).
75. *Id.,* 33 *U.S.C.* 1312.
76. *Id.,* 33 *U.S.C.* 1316(a)(1).
77. *Va. Code Ann.,* sec. 62.1-44.15(12) (Cum. Supp. 1976).
78. Federal Water Pollution Control Amendments of 1972, 33 *U.S.C.* 1282(a) (Cum. Supp. 1976).
79. *Id.,* 33 *U.S.C.* 1284.
80. *Va., Code Ann.,* sec. 62.1-44.15(13) (Cum. Supp. 1976).
81. 18 *C.F.R.* 601.32, 33 (1971).
82. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1313 (e) (Cum. Supp. 1976).
83. *Id.,* 33 *U.S.C.* 1288.
84. *Id.,* 33 *U.S.C.* 1283.
85. Virginia State Water Control Board, Policies Concerning Sewerage Works (1971).
86. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1341 (Cum. Supp. 1976).
87. Letter from Linwood Holton, Governor of Virginia, to David Dominick, Commissioner, Federal Water Pollution Control Administration, June 25, 1970.
88. Letter from Andrew P. Miller, Attorney General of Virginia, to A. H. Paessler, Executive Secretary, Virginia State Water Control Board, February 5, 1971.
89. *Va. Code Ann.,* sec. 62.1-80 (1973).
90. *Id.,* sec. 62.1-82.
91. *Id.,* sec. 62.1-83.
92. *Id.,* sec. 62.1-44.6.

93. Letter from Andrew P. Miller, Attorney General of Virginia, to A. H. Paessler, Executive Secretary, Virginia State Water Control Board, February 5, 1971, p. 7.
94. *See* Federal Power Act, 16 *U.S.C.* 791(a) *et seq.* (1974).
95. River and Harbor Act of 1899, 33 *U.S.C.* 403 (1970).
96. *Va. Code Ann.,* sec. 62.1-3 (Cum. Supp. 1976) (*See* the Section of this report concerning the Marine Resources Commission).
97. *Id.,* sec. 62.1-44.15(4)(Cum. Supp. 1976).
98. *Id.,* sec. 62.1-44.15(6) (Cum. Supp. 1976).
99. *Id.,* sec. 62.1-44.21 (Cum. Supp. 1976).
100. *Id.,* sec. 62.1-44.15(11)(c) (Cum. Supp. 1976).
101. *Id.,* sec. 62.1-44.36 (1973).
102. *Id.*
103. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.0 (1974).
104. *Id.,* sec. 3.1.
105. *See* the sections of this report concerning these agencies.
106. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.2 (1974).
107. *Id.,* sec. 3.3.
108. *Id.,* sec. 3.4.
109. *Id.,* sec. 3.5.
110. *See* the section of this report concerning the Department of Health.
111. *Va. Code Ann.,* sec. 62.1-44.83 *et seq.* (Cum. Supp. 1976).
112. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.6 (1974).
113. *Id.,* sec. 3.7.
114. *See* the section of this report concerning the State Department of Health.
115. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1284 (Cum. Supp. 1976).
116. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.8 (1974).
117. *See* the section of this report concerning the Marine Resources Commission.
118. *Va. Code Ann.,* sec. 62.1-44.38 (1973).
119. Va. Dept. of Conservation and Economic Development, "New River Basin Comprehensive Water Resources Plan," Planning Bulletins 201-206 (1967).
120. *Va. Code Ann.,* sec. 62.1-44.41(1) (1973).
121. *Id.,* (2).
122. Watershed Protection and Flood Prevention Act. 16 *U.S.C.* 1001 *et seq.* (1974). For authority for Commission to act as spokesman, *see Va. Code Ann.,* sec. 21-10(7,8) (1975).
123. 16 *U.S.C.* 460-L-5 (1974). For authority to participate, *see* letter from Mills E. Goodwin, Jr., Governor of Virginia, to Edward C. Crafts, Bureau of Outdoor Recreation, April 24, 1967 and letter from Mills E. Godwin, Jr., Gov-

ernor of Virginia, to Elbert Cox, Director of Commission of Outdoor Recreation, May 26, 1967.

124. *See* the section of this report entitled "Other Agencies and Governmental Bodies."
125. *Va. Code Ann.,* sec. 62.1-44.37 (1973).
126. *Id.,* sec. 62.1-44.42 (1973).
127. *Id.,* sec. 62.1-44.83 (Cum. Supp. 1976).
128. *Id.,* sec. 62.1-44.95(a) (Cum. Supp. 1976).
129. *Id.,* sec. 62.1-44.95, 62.1-44.96 (Cum. Supp. 1976).
130. *Id.,* sec. 62.1-44.100(a) (Cum. Supp. 1976).
131. *Id.,* sec. 62.1-44.100(d,e) (Cum. Supp. 1976).
132. *Id.,* sec. 62.1-44.87 (Cum. Supp. 1976).
133. Letter from Andrew P. Miller, Attorney General of Virginia, to Thomas R. McNamara, Chairman, Virginia State Water Control Board, January 8, 1976.
134. *Va. Code Ann.,* sec. 62.1-44.93(b) (Cum. Supp. 1976).
135. *Id.,* sec. 62.1-44.99(e) (Cum. Supp. 1976).
136. *Id.,* sec. 62.1-44.99(f) (Cum. Supp. 1976).
137. *Ga. Code Ann.,* sec. 62.1-44.93(c) (Cum. Supp. 1976).
138. *Va. Code Ann.,* sec. 62.1-44.93(c) (Cum. Supp. 1976).
139. *Id.,* sec. 62.1-44.100(e) (Cum. Supp. 1976).
140. *Id.,* sec. 62.1-44.99(f) (Cum. Supp. 1976).
141. *Id.,* sec. 62.1-44.100(j) (Cum. Supp. 1976).
142. *Id.,* sec. 62.1-44,106(1-3) (Cum. Supp. 1976).
143. *Id.,* sec. 62.1-44.106(9)(Cum. Supp. 1976).
144. *Id.,* sec. 62.1-44.102 (Cum. Supp. 1976).
145. *Id.,* sec. 62.1-44.106(13)(b)(1,2) (Cum. Supp. 1976).
146. Virginia State Water Control Board, order of January 27, 1975.
147. *Va. Code Ann.,* sec. 62.1-104.1 (Cum. Supp. 1976).
148. National Flood Insurance Act of 1968, 42 *U.S.C.* 4001 (1973), *as amended* (Supp. 1976).
149. Va. House of Delegates, H.B. 767, 1976.
150. U.S. Geological Survey, "Water Resources Data for Virginia," p. 2 (1974).
151. *Va. Code Ann.,* sec. 62.1-44.39 (1973).
152. *Id.,* secs. 62.1-44.40, 62.1-44.38(b).
153. *Id.,* secs. 62.1-44.8, 62.1-44.9.

STATE DEPARTMENT OF HEALTH

I. Historical Development

The Department of Health had its origin in 1872 with the creation of the State Board of Health and Vital Statistics.[1] The Board originally was to consist of seven physicians appointed by the Governor for four year terms. The Board was to ". . . take cognizance of the interests of health and life among the citizens generally."[2] Other duties included the making of a variety of investigations and the recommendation of appropriate legislative action relative to its findings. The original legislation creating the Board provided that ". . . it shall not in any way be a charge upon the state."[3]

An act passed in 1896[4] made provision for state assumption of certain expenses of the Board and further delineated its powers. The Board was authorized to select a president and secretary from its membership. The act provided authority for the Board, county justices, and local boards of health to prescribe rules and regulations to prevent the spread of smallpox and other dangerous diseases.

New legislation was enacted in 1900[5] which expanded the duties of the Board and dropped the reference in its title to vital statistics. The Board was given authority to modify or annul any ruling of local health authorities affecting the public health beyond the geographic jurisdiction of the local authorities. Provision was made for the Board to act in an advisory capacity to the state in all hygienic and medical matters, especially with respect to the ". . . location, construction, sewerage, and administration"[6] of public institutions. The 1900 legislation also provided for the judge of each county or corporation court to appoint three licensed physicians to serve together with two officials of the local governing body as the local board of health for that political subdivision where provision for creation of such boards was not contained in town or city charters. The 1900 provision was modified in 1910 to provide for the Board to select the three appointed members of each town or city board of health in the absence of applicable charter provisions.[7]

Another act[8] in 1910 authorized the Board to adopt and enforce rules and regulations for the protection of the public health. It was given the specific power ". . . to regulate the method of disposition of garbage or sewage and any other refuse matter in or near any incorporated town, city, or unincorporated town or village of this State."[9] Violation of rules adopted by the Board pursuant to this act constituted a misdemeanor.

The Board in 1916 was given general supervision and control over all water supplies and water works within the state with respect to the sanitary and physical quality of water furnished. The statute provided that no individual, firm, institution, corporation, or municipal corporation could supply water to the public for drinking or domestic purposes without a written permit from the Board.[10]

Appointment by the Governor of a Health Commissioner to serve as the executive officer of the Board was required by the 1918 legislature. The Commissioner, a full-time official who by law could not be a Board member, was required to perform such duties as were prescribed by law or by the Board. Subject to such rules and regulations as were established by the Board, he was vested with all the authority of the Board when it was not in session.[11]

Since creation of the position of Health Commissioner, several responsibilities related to water resources management have been placed in the Department by various legislative acts. Authority to inspect shellfish grounds and packing houses and to prohibit the sale of shellfish unfit for market was transferred from the Dairy and Food Commissioner and the Commission of Fisheries[12] to the Health Commissioner in 1927.[13] In 1940 legislation was enacted permitting certain counties and cities to create mosquito control districts and to establish a three-member administrative body, of which one member was required to be a representive of the Health Department. [14] This legislation was later broadened to include all the counties and cities of the Commonwealth.[15] The Department was given joint supervisory responsibilities with the State Water Control Board over sewage treatment facilities by the State Water Control Law passed in 1946.[16]

In 1948, authority for the inspection of tourist camps, including campgrounds -- an authority previously vested in the State Department of Agriculture[17] -- was transferred to the Board of Health. Authority was also established for the Board to make rules and regulations for sanitary conditions and to provide for the issuance of authorizing permits for tourist camps.[18] Similar authority with regard to trailer camps was granted to the Board in another 1948 act.[19]

In 1964, the State Department of Health was given the added responsibility of acting as the "State Radiation Control Agency." Duties in this area included the inspection and licensing of sources of ionizing radiation.[20] Authority with respect to radioactive materials was expanded in 1968 to include acquisition of storage sites and assumption of responsibility for perpetual custody of radioactive materials.[21] This authority was further expanded in 1976.[22]

Most of the recent amendments to statutory authority have concerned the disposal of sewage and other wastes. The Board was empowered and directed in 1968 to adopt and promulgate all necessary rules and regulations establishing minimum requirements concerning the adequacy of sewerage facilities at marinas and other places where boats are moored.[23] In 1970, the provision originally enacted in 1910 regarding regulation of the disposal of sewage and other wastes was rewritten so that the powers to regulate sewage disposal and methods of disposition of solid wastes appeared as separate provisions. The new provision concerning solid wastes gave the Board greater authority in this area.[24] The provision relative to sewage disposal was left intact until it was expanded somewhat in 1972.[25]

Another 1972 act created the Division of Consolidated Laboratory Services and placed it administratively within the Department.[26] Various laboratory services previously conducted by other agencies were included in the Division.

The Groundwater Act of 1973[27] vested joint responsibility for its administration with the Department and the State Water Control Board, but no specific duties were placed with the Department.

In 1976, additional authority was conferred concerning toxic substances. Existing authority concerning the regulation of solid waste disposal was expanded to include disposal of toxic substances,[28] and new legislation was enacted requiring the Department to collect data concerning toxic substances.[29]

II. Functions of the Agency

The State Department of Health performs several functions directly related to water resource use and management. Activities included in this category are the control over public water supplies, regulation of sewage disposal, control of seafood sanitation, control over sources of radiation, regulation of disposal of solid wastes and toxic substances collection of data on toxic substances and mosquito control.

A. Control Over Water Supplies

The State Board of Health has ". . . general supervision and control over all water supplies and waterworks in the state insofar as the sanitary and physical quality of waters furnished for drinking or domestic purposes may affect the public health."[30] According to the statutory definition of "waterworks," this authority extends to all structures and appliances used in connection with the collection, storage, treatment, and distribution of domestic water to the public, to more than 25 individuals, or to more than 15 residential consumers. The term "water supplies" as used in the above quotation applies to all water contained in such waterworks, but does not include any water above the point of intake.[31] However, the source of the water supply is subject to Board approval.[32] Therefore, the Board can prohibit the use of a stream or other body of water as a source of supply even though it apparently has no authority to exercise further control over the water above the point of intake, with the exception of its regulatory powers over sewage disposal to be discussed later.

Waterworks under the authority of the Board as described above cannot be established or operated without a written permit from the Board. Such a permit authorizes a particular source or sources of water and the manner of storage or treatment to be employed. Utilization of a different source of supply or any change in the manner of storage or treatment requires an additional permit. The Board may amend a permit or revoke it when necessary for the protection of the public health. Actions of the Board regarding permits can be appealed to the courts.[33]

The Board is empowered to adopt rules and regulations governing waterworks and water supplies.[34] Existing regulations[35] contain requirements for administrative procedures; waterwork design and operation; development of water sources; and design of treatment, pumping, storage, and distribution systems. The principal impact of these regulations on the allocation and use of natural water supplies arises from the provision with regard to source development. Where surface sources are utilized, the regulations provide that the quantity be adequate for the water demand of the area to be serviced, including a reasonable surplus for anticipated growth, and that sanitary surveys be conducted to determine the quality of the source and the factors that may have a future effect on quality. Requirements concerning impoundments and intake structures are primarily aimed at the protection of water quality.[36] With regard to ground water sources of supply, restrictions are placed on well location, construction, and development. Provisions are also included with regard to protective measures for preserving the quality of water from underground sources.[37]

After approval of the operation of waterworks, the Board may issue orders to the owners of such systems requiring changes in the supply or facilities to be completed within a prescribed time.[38] In the case of imminent danger to the public health, the Health Commissioner is authorized to issue emergency orders for the immediate cessation of the operation of the works.[39] Emergency orders are effective for a period determined by the Commissioner but cannot exceed 60 days. The right of appeal exists for any party dissatisfied with any order by the Board or Commissioner.

In connection with underground sources of water supply, the Groundwater Act of 1973 provides that the Department has joint authority with the State Water Control Board for its administration and enforcement.[40] Responsibilities of the Health Department under the act are not specified in detail but appear to be limited to the safeguarding of public health. The Department's Waterworks Regulations[41] specify requirements for location, construction, and operation of public water supply wells. Authority for administering the regulatory aspects of the act concerning groundwater withdrawals is vested in the Water Control Board.

The Department of Health cooperates with the Water Supply Branch of the regional office of the U.S. Environmental Protection Agency (EPA) in the certification of water for drinking purposes furnished to interstate carriers. Federal certification of watering points is based on investigations by the Department concerning the sanitary conditions of water and water handling facilities.[42]

Federal authority with respect to control of public water supplies has been expanded greatly by passage in 1974 of the Safe Drinking Water Act[43] which provides comprehensive regulatory measures for public water systems having at least 15 service connections or regularly serving at least 25 individuals. The principal control contained in the act is the provision for the Administrator of EPA to establish primary drinking water regulations that set maximum levels for contaminants having a possible adverse

effect on health that can be monitored and require the use of specified techniques for those not amenable to monitoring. The administrator is also required to establish secondary drinking water regulations that pertain to contaminants related to taste, odor, or appearance problems.[44]

Under provisions of the act, the state can assume responsibility for enforcement of the act's requirements upon EPA approval. In order to obtain federal approval, a state must comply with the following conditions: (1) adoption of drinking water regulations no less stringent than those adopted by EPA; (2) adoption and implementation of adequate procedures for enforcement of regulations, including monitoring and inspection procedures; (3) compliance with EPA regulations concerning recordkeeping and reporting; (4) compliance with special provisions of the act where variances and exemptions from drinking water regulations are authorized, and (5) adoption of a plan that can be implemented to provide safe drinking water under emergency circumstances.[45]

Assumption of enforcement responsibility by the State of Virginia will require certain modifications in the existing program. One area that would require expansion concerns enforcement. In the past, the state program has relied heavily on education and persuasion rather than enforcement of regulations. Recordkeeping and reporting requirements under the act will require an expansion of current state procedures for data management. Thus assumption of enforcement responsibility by the state likely will require increased expenditures for the public water supply program.[46] The act provides for federal grants to cover up to 75 percent of the program costs.[47] Federal funds available at this time are not adequate for full implementation. Current Virginia expenditures in this program are more than adequate to match the projected federal share for the next fiscal year.

Another provision of the Safe Drinking Water Act of interest with regard to the state water supply program concerns protection of underground sources of drinking water. The principal control measure consists of the requirement that the EPA administrator establish regulations for state programs to control underground waste injection.[48] As discussed in the next section, the Department currently has joint responsibilities with the State Water Control Board concerning the regulation of sewage disposal but has no direct responsibility for industrial waste disposal.

B. Regulation of Sewage Disposal

Two legislative provisions serve as the basis for the Department's regulatory activities relating to sewage disposal:

> All sewerage systems and sewage treatment works shall be under the general supervision of the State Department of Health and the [State Water Control] Board jointly.[49]

> The Board [State Board of Health] may regulate and prescribe the method or methods of disposition of sewage in this state.[50]

Pursuant to this authority, the Department participates with the State Water Control Board in the NPDES permit program regarding discharges of sewage to surface waters and operates through the local health departments a permit program for the use of septic tanks.

The NPDES program has been described previously[51] and will not be further discussed except to emphasize the role of the Department in regulatory procedures. With regard to the first phase of the two-phase procedure for authorization of a sewage discharge, the Department's primary statutory responsibility is to ". . . advise the Board of the requirements necessary to protect public water supplies and shellfish beds."[52] The legislation does not explicitly condition the Board's action at this stage of the proceedings on approval by the Department, thereby indicating that the Department's position is not binding on the Board.

With regard to the second phase of the permit proceedings, which concerns review of the potential discharges plans, the Department traditionally has exercised primary responsibilities. However, the Board appears to have final authority to approve or disapprove plans. After the Department acts on the plans, the Board's responsibility is to ". . . review the plans and the report from the Department and make a ruling within 21 days approving or diapproving the plans and stating the grounds for conditional approval or disapproval."[53] This provision requires Board consideration of the Department's findings but does not appear to preclude final action in conflict with the Department's position.

Although the legislative provisions specifying the relative responsibilities of the Department and Board are not definitive and are subject to varying interpretations, the operating procedures developed between the two agencies generally have been satisfactory. The Department and the Board apparently have been in substantial agreement concerning the majority of applications. However, the possibility of differing interpretations of the law creates the potential for interagency conflict. This potential conflict is made more serious by the fact that the Department is within the jurisdiction of the Secretary of Human Affairs while the Board is under the Secretary of Commerce and Resources.[54] This administrative structure eliminates one mechanism for resolving conflicts since interagency affairs is a responsibility of each Secretary.

In addition to its responsibilities under the NPDES program, the Department also regulates disposal of sewage by methods not encompassed by the NPDES program. The primary method of disposal falling outside the NPDES program consists of septic tanks with a subsurface effluent discharge. Septic tank regulation has been a traditional area of Department authority and recent modifications in regulatory procedures

have not affected this responsibility. Neither the Federal Water Pollution Control Act Amendments of 1972[55] nor the Safe Drinking Water Act[56] applies to individual septic systems, thus leaving the long-standing state program intact.

Under existing regulations,[57] use of a septic tank requires a permit from the local health department of the political subdivision where the system is to be located. The permitting process is controlled by regulatory provisions that specify requirements for design, construction, and location of septic tanks and related drainfields.

Administration of septic tank controls is a difficult task because such regulations serve as a direct constraint on land use and development. Since septic tanks provide the only feasible system of domestic waste disposal in many areas, denial of a septic tank permit severely limits the potential for development. Thus the administrators of the permit program are generally under considerable pressure from development interests, and the question of permit issuance is likely to become a local political issue in locations where extensive areas are unsuitable for septic tank use. In consideration of the fact that existing septic tanks are one of the leading sources of groundwater pollution in areas that have undergone substantial development,[58] their control must be viewed as one of the most troublesome aspects of water quality management.

In addition to general authority to control the methods of sewage disposal, the State Board of Health has special authority with respect to sanitation at certain recreation developments. The State Board of Health is empowered to adopt rules and regulations concerning sewerage facilities at marinas and other places where boats are moored.[59] Regulations adopted pursuant to this authority specify minimum sanitary facilities and require an authorizing permit from the Department.[60] Legislation requires a permit from the Health Commissioner for the operation of summer camps,[61] and tourist camps are required to be open for inspection by employees of the Department.[62] The Board is authorized to make rules and regulations governing sanitary conditions at trailer camps, and statutory provisions require a permit from the Board for their operation.[63] A permit is also required for the construction of swimming pools in connection with lodging facilities,[64] and regulations governing all public pools have been adopted by the Board [65] pursuant to legislative authority.[66]

Although the Department's regulatory program for waste discharges does not encompass conventional liquid industrial wastes, the language of the State Water Control Law creates an ambiguity concerning the extent of the Department authority to control waste discharges. The provision from the law quoted at the beginning of this subsection gives the Department and the SWCB joint supervisory powers over "all sewerage systems," a term which is defined in the law to include ". . . pipelines or conduits . . . and appliances appurtenant thereto, used for conducting sewage or *industrial wastes* or other wastes to a joint of ultimate disposal [emphasis added]."[67] To date the Department has not elected to implement the provisions of this legislation and limits its involvement to systems for sewage disposal. In the case where

waste treatment facilities operated by an industry handle both industrial waste and sewage, control is exercised solely by the Water Control Board. The Health Department views such discharges as industrial and therefore does not exercise jurisdiction in light of its interpretation that its authority is limited to sewage treatment works.

C. Control of Seafood Sanitation

The Department exercises general control over sanitation in the seafood industry. The State Health Commissioner has the authority to make examinations and analysis of all fish and shellfish in the growing area, in packinghouses, or in other places, and of the growing areas themselves. Commercial packinghouses are subject to inspection of their plants, equipment, operations, and meat products, and they must be approved in order to legally conduct business. If the fish, shellfish, or crab meat is determined to be unfit for market, or if the packinghouse is unsanitary, sale of the products involved is prohibited.[68] In connection with its program of shellfish sanitation, the Department engages in a continuing shoreline survey program to determine possible sources of shellfish contamination. According to Departmental practice, pollution problems are referred to the Division of Local Health Services for correction or to the State Water Control Board where the pollution results from an operation requiring a certificate under the State Water Control Law.

Whenever an area used for growing shellfish fails to meet the conditions for an approved area, it is subject to condemnation. The Health Commissioner has authority to order such action whenever he determines conditions of the area to be such that shellfish from it are unfit for market. Growing areas may be condemned indefinitely, until sanitary conditions improve, seasonally, or conditionally. The conditional classification is applicable where the area is sanitary and open for use under normal conditions, but because of a potential pollution hazard, is subject to closing at any time without advance notice. Such closure is followed by a hearing on the matter held within a 30-day period. The Commissioner has emergency powers to close *any* shellfish growing area without hearing or investigation if he has substantial evidence of pollution. Ground closed under this emergency power must be either reopened within a 30-day period or subjected to an investigation to determine its condition.[69]

The primary effect of condemnation is to prohibit the direct harvesting of shellfish from the area involved. Condemned areas are designated by special markers and patrolled by the Marine Resources Commission. Provision is made in the law for removal of shellfish from condemned areas to approved ones for cleansing prior to harvesting. This relaying requires a permit and supervision from the Marine Resources Commission. The Department of Health issues permits allowing the relayed shellfish to be marketed after time and temperature requirements have been met.[70]

The present procedure for shellfish condemnation and shellfish sanitation in general has both desirable and undesirable features. On the negative side, it requires one a-

gency (the Marine Resources Commission) to enforce the orders of another (the Health Department), a situation not generally expected to promote efficiency. The entire procedure requires considerable interaction between the two agencies, suggesting the need for consolidation of responsibility by a transfer of authority and possibly personnel from one agency to the other. However, the attributes of the existing arrangement include efficient utilization of equipment (boats maintained by the Marine Resources Commission in connection with other responsibilities) and an independent review of the health aspects of the seafood industry by an agency with no direct interest in its promotion. Any consolidation to achieve simplicity of operation would necessarily eliminate one of these existing advantages.

Urbanization and industrialization of the lands adjacent to the shellfish growing areas of the state have resulted in a continuing increase in the acreage condemned for shellfish harvesting. Buffer zones established around all new sewage and certain industrial waste discharges are examples of continuing encroachment on shellfish grounds. The concept underlying these closed safety zones is explained by the following quotation from an Environmental Protection Agency technical bulletin:

> The closed safety zone is a designated portion of the shellfish waters adjacent to a source of contamination (such as an outfall) in which harvesting of shellfish would be prohibited. The closed safety zone is required by the NSSP Manual of Operations between conditionally approved growing areas and the source of pollution, and is subject to review and approval by environmental protection authorities and shellfish regulatory agencies. There is a two-fold objective in designating the closed safety zone. Both objectives are related to the time required for pollutants to travel from the source of pollution, through the closed safety zone, to the shellfish growing areas. One objective is to ensure public health is protected by preventing pathogen contamination of shellfish waters from normally operating treatment works. Mixing, dilution, and natural pathogen die off occur as the pathogens transverse the closed safety zone and the pathogen concentrations are decreased accordingly. The objective is achieved by defining the closed safety zone so that the pathogen concentrations beyond the zone are at acceptable levels under normal operating conditions. The second objective is to provide the time necessary for notification to cease harvesting in the shellfish growing waters following a malfunction in the wastewater treatment works.[71]

Thus, the factors to be considered in defining the buffer zone include travel time for flow from the discharge point, maximum concentrations of contaminants to be expected, rate of reduction in such concentrations, time needed for detection of treatment works malfunctions, and the reliability of the treatment works under consideration.[72]

In order to provide maximum protection for shellfish waters, EPA guidelines with regard to the federal construction grants program require special design considerations for projects that may affect shellfish areas. Such projects are placed within the highest reliability classification, and provision is made for even higher degrees of reliability under special conditions, to include such measures as " . . . increased disinfection contact time, larger holding basins, or equipment redundancy."[73] Since shellfish safety is directly enhanced by reduction in pathogenic micro-organisms, provision is also made for more stringent disinfection requirements.[74]

Since shellfish production and intensive use of the adjacent land area are incompatible to some degree, continued elimination of shellfish grounds appears an inescapable consequence of unrestricted development activity. It is generally recognized that urban development has a variety of external costs that are not fully considered in the developmental decisionmaking process, and elimination of shellfish grounds is a notable example. Since neither the owner of the grounds (the state) nor the shellfish industry receives compensation when additional areas are sacrificed, development is being directly subsidized. Although it may be argued that such an approach is in the best interest of the state, it has been adopted in the absence of an explicit policy decision based on a comprehensive assessment of the resource allocation and equity questions involved. In a general sense, this policy of allowing the uncompensated destruction of the seafood resource is inconsistent with state efforts to improve the seafood industry as illustrated by the programs of the Marine Resources Commission and the Virginia Institute of Marine Science. Of course, some compromise in opposing societal objectives is always necessary, but it is not apparent that full consideration has been given to the total range of implications associated with present explicit and implicit policies concerning waste disposal operations.

Another aspect of shellfish sanitation within the authority of the Health Department is the issuance of permits for the use of submerged platforms or floats utilized to cleanse shellfish of mud and sand.[75] Since this operation concentrates large numbers of shellfish into small areas, the Department attempts to assure the location of such facilities in water of better than the usual acceptable quality.

The Department's shellfish sanitation program is a cooperative effort between state and federal regulatory agencies. The program was initiated in 1925 after a major outbreak of typhoid fever in the United States attributed to sewage-polluted oysters. The relative responsibilities of the state and federal governments as reached by agreement are described in the following quotation:

1. Procedures to be followed by the State - Each shellfish-shipping State adopts adequate laws and regulations for sanitary control of the shellfish industry, makes sanitary and bacteriological surveys of growing areas, delineates and patrols restricted areas, inspects shellfish plants, and conducts such additional inspections, laboratory investigations, and control

measures as may be necessary to insure that the shellfish reaching the consumer have been grown, harvested, and processed in a sanitary manner. The State annually issues numbered certificates to shellfish dealers who comply with the agreed-upon sanitary standards, and forwards copies of the interstate certificates to the Public Health Service.

2. Procedures to be followed by the Public Health Service - The Public Health Service makes an annual review of each State's control program including the inspection of a representative number of shellfish-processing plants. On the basis of the information thus obtained, the Public Health Service either endorses or withholds endorsement of the respective State control programs. For the information of health authorities and others concerned, the Public Health Service publishes a semi-monthly list of all valid interstate shellfish-shipper certificates issued by the State shellfish control authorities.[76]

Since publication of these provisions, federal responsibilities in the program have been shifted to the U.S. Food and Drug Administration (FDA). The following quotation describes FDA activities with regard to shellfish sanitation:

> FDA's part in the Shellfish Sanitation Program is not only a continuation of the former PHS activities, but also a strengthening of the coordination and assistance given to a State program. The FDA field staff, headed by Regional Shellfish Consultants in the six HEW Regions that have coastal waters will continue to conduct annual evaluations of State control programs. Each review will include an analysis of the legal and general administrative procedures, inspection of a representative number of shellfish plants, and review of laboratory procedures and the effectiveness of closed area patrols. From the information thus obtained, Federal endorsement of a State program is either given or withheld, depending on the State program's degree of compliance with national program standards. This regulatory procedure is a strong incentive for the State control agencies and the shellfish industry to encourage and follow good sanitary practices and to comply with the Manuals of Recommended Practice, issued jointly with the National Shellfish Sanitation Program participants.
>
> Every 2 weeks, the FDA will be issuing the familiar national list of some 1,400 State-certified interstate shellfish shippers for the information of food control officials throughout the country. FDA would like to see a greater distribution and use of this list to assure that consumers get shellfish from certified sources.[77]

The primary mechanism of federal control under the existing voluntary arrangement arises from the capability to withhold endorsement of the state sanitary control program. The certification of individual shellfish shippers is a state responsibility, but FDA acts as a clearinghouse for information concerning the effectiveness of the state control programs. The principal means of information dissemination is the publication of a list of shellfish shippers certified for interstate marketing. Only those shippers certified by states having federally endorsed control programs are included on the list.

The procedure for state program endorsement involves a yearly appraisal of the state program, including prearranged field visits and periodic spot checks of state sanitation activities. The endorsement is based on an appraisal of the following program elements: general administrative procedures; laboratory procedures; growing area survey and classification; relaying, depletion, and depuration; control of harvesting from closed areas; evaluation of harvesting practices; and evaluation of shucking-packing practices. Endorsement requires at least a 70 percent rating in each of these areas. [78]

Due to the obvious weaknesses of a voluntary regulatory program, effort is currently underway to promulgate new regulations providing federal enforcement authority. Thus the future control of shellfish sanitation will see increased federal involvement.

D. Control Over Sources of Radiation

The State Department of Health is designated by statute as the State Radiation Control Agency and is vested with regulatory powers regarding sources of ionizing radiation. It is responsible for adopting rules and regulations and registration of sources of ionizing radiation, givng due regard to compatibility with federal regulatory programs.[79] Federal jurisdiction is limited to materials produced by nuclear reaction,[80] thus excluding radioactive materials such as radium and accelerator produced isotopes.

A potentially significant radiation control function of the Department with regard to water quality and environmental protection consists of the authority to acquire radioactive waste material sites and to assume responsibility for perpetual custody and maintenance of radioactive materials under certain conditions.[81] This authority has not been exercised, but the potential for such materials to produce surface and/or ground water pollution indicates the need for thorough coordination of this program with the state's water quality control program. The existence of separate authority for management of this type of waste may be justified because of its unique nature, but there is need for explicit coordination mechanisms. One existing mechanism is in the form of a radiation advisory board on which the State Water Control Board is represented that has the responsibility of reviewing and evaluating state radiation policies and programs.[82]

A 1976 addition to existing legislation created a radiation reclamation fund for restoring to a safe condition a site where ionizing materials have been abandoned. New requirements imposed on persons engaging in licensed activites include the posting of bond based on the potential for contamination and injury, the cost of disposal, and the cost of restoring the site to a safe condition. Licensees may also be required to deposit funds in a trust fund for perpetual care of radioactive materials.[83]

Authority exists for the Department, with the prior approval of the Governor, to enter into an agreement to assume certain federal responsibilities with respect to sources of ionizing radiation,[84] but state funds necessary for this operation have not been appropriated.

E. Regulation of Disposal of Solid Wastes and Toxic Substances

Legislation empowers the Board to regulate and prescribe the methods of disposition of garbage, refuse, and other solid wastes and of substances designated as toxic or potentially toxic by the Commissioner of Health.[85] Each locality is responsible for the proper disposal of its solid wastes, and state law requires that each county (including towns therein) and city not having previously submitted a solid waste disposal plan to the Board shall have provided the Board upon request a solid waste disposal plan by the beginning of 1974 which encompasses a 20-year period. Provisions of law concerning the scope of the plan require information to be included on cost, method of financing, sites to be used and anticipated changes during the 20-year period.[86]

Requirements concerning solid waste management plans were originally enacted in 1970[87] in response to the generally unsatisfactory management of solid wastes prior to that time. A planning study conducted by the Department in the late 1960's[88] states that 83 percent of the state's population was being served by inadequate solid waste disposal sites, many of which were open dumps. Most of these dumps have since been closed and usage of approved sanitary landfills is now the common practice in a large majority of the localities.

In addition to the direct health and nuisance problems associated with solid waste, water quality problems can also arise from improper disposal. Regulations of the Department applicable to disposal of solid waste provide that "[d]isposal of solid waste in state waters is specifically forbidden."[89] Of course the potential difficulties encompass more than just the direct deposition of solid wastes into surface bodies of water. Even the more acceptable methods of disposal involve potential effects requiring special precautionary measures.

One of the most widely used and accepted disposal methods is the sanitary landfill, but experience has indicated that this type of disposal can be a significant source of water quality problems. Site selection appears to be the basic safeguard against con-

tamination. Department requirements for landfill sites provide that "[t]he site shall be so located and the operation so designed as to prevent pollution of ground and surface waters,"[90] but the regulations leave the development of detailed procedures and controls to personnel at the operational level.

Department procedure for site evaulation involves a field investigation, which is a cooperative undertaking with the State Water Control Board. Guidelines developed for site evaluation[91] require consideration of a number of factors relating to water quality protection, including depth and type of soil and subsoil, distance to streams or tidal water, need for and practicality of diversion drainage, existence of springs in the immediate area, and depth of the water table.

Because of the potential long-range impact of landfill on water quality, coordination of applicable controls with the state's water quality management program is essential. Since regulation of landfill location is one of the most fundamental control measures, special consideration should be given to water quality implications of landfill proposals. Existing procedures for site evaluation appear to encompass the necessary degree of coordination between the Department and the State Water Control Board. However, this procedure is primarily the result of an informal interagency agreement, and consideration should be given to formalization of such coordination mechanisms to assure that solid waste management continues to be viewed as an integral aspect of the state's water pollution control program.

The power of the Board of Health to regulate the methods of solid waste disposal is restricted by other legislation for environmental protection. For example, ocean dumping is regulated by the Federal Water Pollution Control Act Amendments of 1972,[92] and disposal by incineration is subject to state[93] and federal[94] statutes with regard to air quality. Thus the methods of disposal prescribed by the Board must be consistent with these external restrictions.

The recent amendment of legislation granting the Department's regulatory authority concerning solid waste disposal provides that the Department may regulate disposal of substances designated by the Health Commissioner as toxic or potentially toxic to humans, aquatic organisms, or other animals.[95]

F. Collection of Data on Toxic Substances

The Department has the responsibility of collecting, cataloging, and disseminating information relating to toxic substances, which are defined as substances that have the capacity to pose a substantial risk of death or impairment to the normal functions of humans, aquatic organisms, or other animals. Owners or operators of commercial establishments that manufacture or emit toxic substances are required to report to the Department information about the substance, its effects, the extent to which it is being emitted, and protective measures being taken. The Department has the responsi-

bility of disseminating information to state agencies and the public, and it is required to report annually on the status of toxic substance control in the Commonwealth.

The Department's toxic substance program is assisted by an advisory council whose duty is to review and evaluate state policies and programs and make recommendations to the Department. The council is made up of representatives of 13 state agencies and five citizens appointed by the Governor from the fields of agriculture, medicine, labor industry, and local government.[96]

G. Mosquito Control

The Department's vector control program relates to water resources management most directly in connection with its mosquito control operations. These activities primarily consist of assistance and guidance to the mosquito control districts in the state. Districts can be created by the governing bodies of counties, cities, and towns, and there are presently about 26 such organizations concentrated in the southeastern part of the state. The administrative body of each of these districts must consist of a three-member commission, one of whom is required by law to be the State Health Commissioner or his representative.[97] This representative of the Department is designated the ex officio chairman of the commission. Presently the Director of the Department's Division of Solid Waste and Vector Control serves on all the existing commissions.

The mosquito control commission has the authority "to do any and all things deemed necessary or desirable by it for the control and elimination of all species of mosquitoes in the district."[98] It is specifically authorized and empowered "to dig canals, ditches, and drains, to fill depressions, lakes, ponds or marshes, which are breeding places for mosquitoes."[99] These powers are all subject to private property rights, but the district commissions have the power to eminent domain. Funds for the operation of the districts can be obtained through a special property tax levied by the governing body of the political subdivision involved. The State Board of Health is authorized to contribute annually up to 25 percent of the amount obtained by taxation or appropriation from a political subdivision, subject to a $10,000 maximum.[100]

The programs and activities of the district commissions are restrained to some extent by other legislation. Many of the activities to eliminate and control mosquitoes have environmentally adverse side-effects and therefore are subject to state control. For example, the drainage, filling, or other alteration of marshes may be subject to the provisions of the Wetlands Act.[101] The act exempts governmental activity on wetlands owned or leased by the Commonwealth or one of its political subdivisions, [102] a category into which certain operations may fall, but marsh alteration on private land would apparently require compliance with the permitting procedure[103] established by the Act. Application of insecticides is also constrained by federal and state controls.[104]

III. Organization

The State Department of Health operates under the administrative authority of the State Board of Health and the State Health Commissioner. The Board consists of nine members appointed by the Governor for a maximum of four-year terms. Two Board members must be members of the Medical Society of Virginia, one must be a member of the Virginia Pharmaceutical Association, and one a member of the State Dental Association.[105]

The State Health Commissioner is also appointed by the Governor for a four-year term. The Commissioner must be a physician, be a graduate of an approved medical college, possess skills and experience in the administration of public health duties, and be versed in sanitary science. The Commissioner serves as the executive officer of the Board but is not a member thereof. Legislation specifies that the Commissioner, in addition to duties assigned by law, shall perform such duties as the Board may require. When the Board is not in session, the Commissioner is vested with all its authority, subject to such rules and regulations as may be prescribed by the Board.[106]

The State Department of Health is organized administratively into six divisions subdivided into bureaus and sections. The divisions include Local Health Services, Medical and Hospital Services, Special Health Services, Dental Health, Engineering,and Consolidated Laboratory Services. Three of these divisions, Local Health Services, Engineering, and Consolidated Laboratory Services, perform functions directly affecting water resource use. Although these divisions perform other functions, the basic water resource responsibilities are set forth in the following sections.

A. Division of Local Health Services

The Division consists of the following bureaus: Environmental Health, Tourist Establishment Sanitation,Shellfish Sanitation,Public Health Nursing,and Home Health and Medical Clinic Services, three of which have water resource related responsibilities. The Division through the Bureau of Environmental Health reviews proposed statewide environmental health legislation and assists in the development of legislative environmental health safeguards. It receives and reviews applications for proposed small sewage treatment system plans from the local health department prior to their transmission to the Division of Engineering. It develops and publishes uniform standards related to environmental health programs, and provides consultative and advisory services to local health departments in the administration of their programs, including those related to individual sewage disposal and water supplies.

The Division also assists the local health departments by reviewing proposed local ordinances involving environmental health to determine and resolve any conflicts with state law, Board of Health rules and regulations, and Department policies. The Division also assists the localities by coordinating environmental health survey programs

to determine problem areas relative to water supply and sewage disposal. The Division reviews all health hazards determinations as they relate to the State Water Control Board grant program to localities for wastewater treatment facilities.

The Division through the Bureau of Shellfish Sanitation is responsible for various activities regarding environmental health and sanitation in the shellfish program. It carries out all necessary inspections, conducts necessary laboratory analysis, and issues all required permits.

B. Division of Engineering

This division includes the Bureaus of Sanitary Engineering, Solid Waste and Vector Control, and Industrial Hygiene. The activities of all these bureaus have some relationship to the state's water resources program.

The Bureau of Sanitary Engineering is responsible for implementing provision of law and the rules and regulations of the State Board of Health regarding water supply and sewage disposal. Decisions regarding applications for permits to operate waterworks or sewage treatment plants are made in this bureau or at the Division level.

The Bureau of Solid Waste and Vector Control makes surveys and gives advice regarding disposal of solid wastes and the control of insects and rodents, and it provides direction to the mosquito control districts in the state.

The Bureau of Industrial Hygiene determines the adequacy of health conditions in industrial and commercial establishments, supervises the registration of sources of ionizing radiation, and conducts radiation surveillance programs.[107]

C. Division of Consolidated Laboratory Services

Although administratively within the Health Department, this Division is unique in that it is under the operational control of a separate board, the Consolidated Laboratory Services Operational Board, consisting of the Commissioner of the Department of Agriculture and Commerce, the Commissioner of the Department of Health, the Executive Director of the State Water Control Board, the Executive Secretary of the State Air Pollution Control Board, the Director of the Department of Conservation and Economic Development, the Chairman of the Alcoholic Beverage Control Board, the Secretary-Treasurer of the State Board of Pharmacy, the Superintendent of the Department of State Police, and the Director of the Division of Justice and Crime Prevention.[108] The Division is dependent on the Department for such administrative services as purchasing and personnel.

The activities of the Division encompass a variety of laboratory services. Of primary interest in the area of water resources is its Environmental Science Bureau whose

operations include laboratory services related to pollution control, public water supply, and radiological health.

FOOTNOTES

1. *Va. Acts of Assembly*, 1871-72, ch. 91.
2. *Id.*, sec. 2.
3. *Id.*, sec. 5.
4. *Id.*, 1895-96, ch. 612.
5. *Id.*, 1899-1900, ch. 1146.
6. *Id.*, sec. 4.
7. *Id.*, 1910, ch. 340.
8. *Id.*, ch. 179.
9. *Id.*, sec. 1.
10. *Id.*, 1916, ch. 360.
11. *Id.*, 1918, ch. 106, sec. 2.
12. *See e.g. id.*, 1916, ch. 46.
13. *Id.*, 1927, ch. 116.
14. *Id.*, 1940, ch. 98.
15. *Id.*, 1950, ch. 72.
16. *Id.*, 1946, ch. 399, sec. 1514-b15.
17. *Id.*, 1940, ch. 165, sec. 3(b).
18. *Id.*, 1948, ch. 527.
19. *Id.*, ch. 255.
20. *Id.*, 1964, ch. 158.
21. *Id.*, 1968, ch. 314.
22. *Id.*, 1976, ch. 652.
23. *Id.*, 1968, ch. 594.
24. *Id.*, 1970, ch. 645.
25. *Id.*, 1972, ch. 775.
26. *Id.*, 1972, ch. 741.
27. *Id.*, 1973, ch. 443.
28. *Id.*, 1976, ch. 624.
29. *Id.*, 1976, ch. 627.
30. *Va. Code Ann.*, sec. 62.1-46 (1973).
31. *Id.*, sec. 62.1-45(b) (1973).
32. *Id.*, sec. 62.1-50 (1973).
33. *Id.*, secs. 62.1-50, 62.1-55, 62.1-58 (1973).
34. *Id.*, sec. 62.1-47 (1973).
35. Virginia Department of Health, Bureau of Sanitary Engineering, "Waterworks Regulations," adopted by the State Board of Health (1974).
36. *Id.*, sec. 8.02.

37. *Id.*, sec. 8.03.
38. *Va. Code Ann.*, sec. 62.1-53 (1973).
39. *Id.*, sec. 62.1-62 (1973).
40. *Id.*, sec. 62.1-44.83, *et seq.* (Cum Supp. 1976).
41. Virginia Department of Health, "Waterworks Regulations" (1974).
42. 42 *C.F.R.* 72.201 (1975).
43. Safe Drinking Water Act, 42 *U.S.C.A.* 300f *et seq.* (Supp. 1976).
44. *Id.*, sec. 300g-1.
45. *Id.*, sec. 300g-2.
46. Oscar H. Adams, Director, Division of Engineering, Virginia Department of Health, "Public Law 93-523 Safe Drinking Water Act and Its Impacts on the Commonwealth of Virginia." unpublished paper (not dated).
47. 42 *U.S.C.A.* 300j-2 (Supp. 1976).
48. *Id.*, sec. 300h.
49. *Va. Code Ann.*, sec. 62.1-44.18(1) (1973).
50. *Id.*, sec. 32-9 (1973).
51. *See* the section of this report concerning the State Water Control Board.
52. *Va. Code Ann.*, sec. 62.1-44.19(2) (Cum Supp. 1976).
53. *Id.*, sec. 62.1-44.19(4) (Cum Supp. 1976).
54. *Id.*, secs. 2.1-51.9(e); 2.1-51.15 (Cum. Supp. 1976).
55. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.A.* 1251 *et seq.* (Supp. 1976).
56. Safe Drinking Water Act, 42 *U.S.C.A.* 300f *et seq.* (Supp. 1976).
57. Virginia Department of Health, "Rules and Regulations of the Board of Health, Commonwealth of Virginia Governing the Disposal of Sewage" (1974).
58. David W. Miller, Frank A. De Luca, and Thomas L. Tessier, "Ground Water Contamination in the Northeastern States" (Environmental Protection Series EPA-660/2-74-056) (1974).
59. *Va. Code Ann.*, sec. 32-63.1 (1973).
60. Commonwealth of Virginia, State Department of Health, "Rules and Regulations of the Board of Health, Commonwealth of Virginia, Governing Sanitary and Sewerage Facilities at Marinas and Other Places Where Boats are Moored," (1969).
61. *Va. Code Ann.*, secs. 35-44, 35-45 (1973).
62. *Id.*, sec. 35-56 (1973).
63. *Id.*, secs. 35-73, 35-74 (1973).
64. *Id.*, sec. 35-16.1 (1973).
65. Commonwealth of Virginia, State Department of Health, "Regulations of the Board of Health, Commonwealth of Virginia, Governing Tourist Establishment Swimming Pools, and Other Public Pools, " effective March 1, 1962.
66. *Va. Code Ann.*, sec. 35-16.1 (1973).
67. *Va. Code Ann.*, sec. 62.1-44.3(11) (1973).
68. *Va. Code Ann.*, secs. 28.1-175, 28.1-176 (1973).
69. *Va. Code Ann.*, secs. 28.1-177, 28.1-178 (1973).

70. *Id.,* sec. 28.1-179 (1973).
71. U.S. Environmental Protection Agency, Office of Water Programs, "Protection of Shellfish Waters," (EPA 430/9-74-010), pp. 3-4 (1974).
72. *Id.,* pp. 4-5.
73. *Id.,* p. 5.
74. *Id.,* p. 6.
75. Commonwealth of Virginia, State Department of Health, "Major Activities of the Virginia State Department of Health" (not dated).
76. U.S. Department of Health, Education, and Welfare, Public Health Service, "National Shellfish Sanitation Program, Manual of Operation, Part I., Sanitation of Shellfish Growing Areas," p. 1 (1965).
77. U.S. Department of Health, Education, and Welfare, "FDA Papers" (1969).
78. U.S. Department of Health, Education, and Welfare, Public Health Service, "National Shellfish Sanitation Program Manual of Operations, Part III, Public Health Service Appraisal of State Shellfish Sanitation Programs" (1965).
79. *Va. Code Ann.,* sec. 32-414.1 to 32-414.7 (1973), *as amended* (Cum Supp. 1976).
80. 42 *U.S.C.A.* 2011 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
81. *Va. Code Ann.,* sec. 32-414.4(e) (1973).
82. *Id.,* sec. 32-414.5 (1973).
83. *Va. Code Ann.,* secs. 22-414.4:1,2 (Cum Supp. 1976).
84. *Va. Code Ann.,* sec. 32-414.12 (1973).
85. *Va. Code Ann.,* sec. 32-9.1 (Cum Supp. 1976).
86. *Id.*
87. *Va. Acts of Assembly,* 1970, ch. 645.
88. Commonwealth of Virginia Department of Health, Bureau of Solid Wastes and Vector Control, "Virginia Solid Waste Management Plan" (not dated).
89. Commonwealth of Virginia Department of Health, "Rules and Regulations of the Department of Health-Chapter XXVIII. Disposal of Solid Waste," part III, art. 2 (1971).
90. *Id.,* part IV, art. 1, section D.
91. Commonwealth of Virginia Department of Health, Bureau of Solid Waste and Vector Control, "Refuse Disposal Site Evaluation Guide" (not dated).
92. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.A.* 1251 *et seq.* (Cum. Supp. 1976).
93. *Va. Code Ann.,* secs. 10-17.9:1 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
94. 42 *U.S.C.A.* 1857 *et seq.* (1969), *as amended* (Cum. Supp. 1976).
95. *Va. Code Ann.,* sec. 32-9.1 (Cum. Supp. 1976).
96. *Id.,* sec. 32-433 (Cum. Supp. 1976).
97. *Id.,* sec. 32-279 (1973).
98. *Id.,* sec. 32-383 (1973).
99. *Id.*
100. *Id.,* sec. 32-386 (Cum Supp. 1976).
101. *Id.,* secs. 62.1-13.1, *et seq.* (1973), *as amended* (Cum Supp. 1976).

102. *Id.,* sec. 62.1-13.5(3) (i) (Cum Supp. 1976).
103. *Id.,* sec. 62.1-13.5(4) (Cum Supp. 1976).
104 *See* the section of this report concerning "Other Agencies and Governmental Bodies" for a discussion of pesticide controls administered by the Department of Agriculture and Commerce.
105. *Id.,* sec. 32-1 (Cum. Supp. 1976).
106. *Id.,* secs. 32-23 to 32-28 (1973).
107. Commonwealth of Virginia, State Department of Health, "Major Activities of the Virginia State Department of Health," pp. 27-44 (not dated).
108. *Va. Code Ann.,* secs. 32-31.2, 32-31.3 (1973).

VIRGINIA SOIL AND WATER CONSERVATION COMMISSION

I. Historical Development

The agency with the present title of "Virginia Soil and Water Conservation Commission" first came to exist in 1938 as the State Soil Conservation Committee. The original committee was created by the Soil Conservation Districts Law[1] which had been recommended for enactment by the Virginia Advisory Legislative Council in a 1938 report.[2] The impetus for the soil conservation movement on the state level was provided by the federal government. The act passed by the 1938 Virginia General Assembly was of substantially the same form as a model act drafted by the United States Department of Agriculture designed to encourage state legislation to complement federal programs.[3]

A basic provision of the Soil Conservation Districts Law concerned the establishment of special political subdivisions, known as soil conservation districts, to carry out programs of soil conservation activities. The law created the Soil Conservation Committee to control the formation of these districts and to assist and coordinate their operation.

The original legislation was primarily agricultural in scope, with the main intent of the law being the reduction of soil erosion damage to the farmlands of the state. The program involved both land treatment measures and control of flooding through flow regulating structures. However, emphasis in water resource projects was on the agricultural aspects of water management.

This law has been substantially broadened in scope with respect to management of water resources. Consistent with an expansion of purpose in federal soil conservation legislation, the state law was amended in 1964[4] to reflect an intent to manage soil and water resources for both agricultural and non-agricultural purposes. Accordingly, the name of the act was changed to the Soil and Water Conservation Districts Law. Soil conservation districts became soil and water conservation districts, and the State Soil Conservation Committee became the Virginia Soil and Water Conservation Commission.

The responsibilities of the Commission were expanded by two legislative actions in 1972. One act gave the Commission the administrative leadership for accelerating state soil survey and mapping activities.[5] A second act vested in the Commission the responsibility for coordination of shore erosion control programs in the state and created a staff position for a shore erosion engineer.[6] However, funding to fill this position has not been provided.

In 1973, further expansion occurred with the passage of the Erosion and Sediment Control Law.[7] The law establishes a statewide program of erosion and sediment con-

trol to be implemented by the state's cities, towns, counties, or soil and water conservation districts, with the Commission to assist and coordinate implementation. The Commission is also given the responsibility of establishing standards and guidelines for controlling soil erosion and sediment deposition.

II. Functions of the Agency

The Commission exercises general supervision over the state's soil and water conservation program. Many of the responsibilities for implementation of this program are delegated to special districts and other political subdivisons, but the Commission exercises certain direct controls and is responsible for various forms of coordination and assistance with regard to implementation operations at the local level. Areas of responsibility can be classified as follows: erosion and sediment control; soil mapping; shore erosion control; creating and assisting soil and water conservation districts; control of federally-assisted small watershed projects; and coordination of non-point pollution control.

A. Erosion and Sediment Control

The Erosion and Sediment Control Law[8] makes provisions for establishment of control programs to regulate "land-distrubing activities," which are defined as follows:

> (a) 'Land-disturbing activity' shall mean any land change which may result in soil erosion from water or wind and the movement of sediments, into State waters or onto 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: (i) such minor land-disturbing activities as home gardens and individual home landscaping, repairs and maintenance work; (ii) individual service connections and construction or installation of public utility lines; (iii) septic tank lines or drainage fields unless included in an overall plan for land-disturbing activity related to construction of the building to be served by the septic tank system; (iv) surface or deep mining, neither shall it include tilling, planting, or harvesting of agricultural, horticultural, or forest crops; (v) construction, repair or rebuilding of the tracks, right-of-way, bridges, communication facilities and other related structures and facilities of a railroad company; (vi) preparation for single-family residences separately built, unless in conjunction with multiple construction in subdivision development; (vii) 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; (viii) installation of fence and sign posts or telephone and electric poles and other kinds of posts or poles; (ix) 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; (x) 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.[9]

A basic element of this program is the establishment of guidelines for the regulation of such activities, a responsibility vested in the Commission. The following statutory provisions require that the guidelines shall:

(1) Be based upon relevant physical and developmental information concerning the watersheds and drainage basins of the State, including, but not limited to, data relating to land use, soils, hydrology, geology, size of land area being disturbed, proximate water bodies and their characteristics, transportation, and public facilities and services;
(2) Include such survey of lands and waters as may be deemed appropriate by the Commission or required by any applicable law to identify areas, including multijurisdictional and watershed areas, with critical erosion and sediment problems; and
(3) Contain conservation standards for various types of soils and land uses, which standards shall include criteria, techniques, and methods for the control of erosion and sediment resulting from land-disturbing activities.[10]

In the establishment of guidelines, the Commission is directed by statute to seek the advise of the State Water Control Board and is authorized to seek advice from other appropriate state and federal agencies. In addition, the Commission is directed to name an advisory board representative of certain interests, including residential development and construction, nonresidential construction, agriculture, and local government.[11] The original guidelines[12] published by the Commission have been prepared with the assistance of an advisory board and a special technical committee whose members represent a number of state, local, and federal agencies, including the Department of Conservation and Economic Development, Department of Highways and Transportation, Virginia Polytechnic Institute and State University, Division of State Planning and Community Affairs, State Water Control Board, Division of Engineering and Buildings, Virginia Soil and Water Conservation Commission, Fairfax Department of County Development, and the Soil Conservation Service of the U.S. Department of Agriculture.

The guidelines handbook currently in effect contains standards and specifications for a variety of erosion and sediment control practices for use on disturbed areas. including both vegetative and mechanical practices. The handbook also contains detailed

procedural provisions for compliance with the terms of the law. Since administration of the law is intended to be a local responsibility, the handbook sets forth requirements for operation of local control programs.

Although the erosion and sediment control program is designed for local administration, provision exists for direct Commission involvement in certain situations. One such case concerns a land-disturbing project undertaken by a state agency.

> "(f) Any State agency that undertakes a project involving a land-disturbing activity shall file specifications or a conservation plan with the Commission for review and written comments. The Commission shall have sixty days in which to comment and such comment shall be binding on the State agency or the private business hired by the State agency. Individual approval of separate projects is not necessary when approved specifications are followed."[13]

Another case arises where land-disturbing activities involve lands under the jurisdiction of more than one local control program. At the option of the applicant, the erosion and sediment control plan may be submitted to the Commission for review and approval rather than to each jurisdiction concerned.[14]

The procedure for commission review and disposition of applications for approval of erosion and sediment control plans is specified by statute.[15] The Commission must review the plan within a forty-five day period and give its approval if the plan is adequate in terms of state and any local guidelines involved. Where the plan is found to be inadequate, the agency is directed to specify the terms and conditions necessary for approval. Failure of the Commission to act on an application within the specified time period constitutes approval, and the applicant can proceed with the proposed activity. Approved plans can be modified by agreement between the Commission and the party responsible for carrying out the plan.

In addition to development of guidelines for local control programs, the Commission is responsible for developing the local program itself where the appropriate district or local governmental unit fails to act within a specified period of time. However, provision is made for any such program to be carried out by the appropriate political subdivision and not by the Commission.[16] Thus the Commission's direct administration of controls is limited to the two specific cases described previously. The Commission is authorized to request the Attorney General to take legal action to compel local governments to carry out program provisions.[17]

The Commission has authority to review local decisions in connection with an erosion and sediment control program where administered by a soil and water conservation district, provided an appeal is filed within thirty days of the decision.[18] No provisions are included in the law with regard to parties authorized to appeal such decisions. It

appears that the right of appeal would be available to a party whose application was disapproved, but a question may exist as to whether the right extends to a party not having a direct financial interest in the project under consideration. This issue is potentially significant to anyone who opposes a project on such grounds as its general environmental impact. The review powers of the Commission do not encompass decisions of counties, towns, or cities under the law. Such actions can be appealed to the local court of record.[19] The authority to review district decisions has not become a significant Commission responsibility since existing erosion and sediment control programs to date have been adopted by the state's cities, towns, and counties rather than by districts.

Although the provisions of the Erosion and Sediment Control Law are most likely to be viewed as restrictions on land-disturbing projects, the law also offers a certain measure of legal protection to the party responsible for such activities. The following provision limits the liability for erosion and sediment damages in cases of compliance with the law:

> "(d) Compliance with the provisions of this article shall be prima facie evidence in any legal or equitable proceeding for damages caused by erosion, siltation or sedimentation that all requirements of law have been met and the complaining party must show negligence in order to recover any damages." [20]

Liability for such damages may already be limited to cases of negligence in some jurisdictions, but other theories of liability offering an increased possibility of recovery for damage may be available in certain situations. The issue concerning the rights of individuals whose property is damaged by erosion or sediment does not appear to have been considered by the Virginia Supreme Court of Appeals.

The State Water Control Law provides an interesting contrast with the provisions of the statute limiting liability to situations involving negligence. The Water Control Law provides that acquisition of an authorizing certificate from the State Water Control Board ". . . shall not constitute a defense in any civil action involving private rights."[21] This language suggests than any private right of action is continued without modification by the Water Control Law. Thus the impact of governmental regulation on the private right of action is considerably greater where sediment control is involved than in the case of control of direct waste discharge to water. This variation in approach apparently reflects a basic philosophical difference in the manner of viewing restrictions on the use of land and those related to water use.

B. Soil Mapping

The Commission has the ". . . duty and responsibility to take the administrative leadership in the program for accelerating the Virginia portion of the National Co-

operative Soil Survey, to complete the inventory of Virginia's soil resource by nineteen hundred ninety, and to make necessary coordination therefore."[22]

This function is dictated by the need for soil information in making land use decisions as indicated by the following quotation:

> The soils of the Commonwealth of Virginia are one of its most precious natural resources, and detailed knowledge of soil capability and adaptability is essential to making wise land use decisions, to preparing plans for cities, towns, counties, planning commissions, farmers, industrial developers, soil and water conservationists, residential developers; for location and design of buildings, highways, reservoirs, sanitary facilities, recreation areas; and to protecting our most productive forest and agricultural lands; . . . .[23]

The Commission's role in the soil mapping program is primarily one of coordination, with the actual mapping operations conducted by the Agronomy Department of Virginia Polytechnic Institute and State University and the Soil Conservation Service of the U.S. Department of Agriculture. At present, approximately one-third of the state has been covered by the program. Under current rates of mapping as determined by the level of appropriations, the program will not be completed until several years after the 1990 deadline.

C. Shore Erosion Control

The General Assembly has recognized shore erosion as an environmental quality problem that affects all the citizens of the state and has declared a state policy of effecting solutions to the problem.[24] Property encompassed within the policy declaration includes all land bordering a large body of water, with specific application to ". . . all tidal rivers in Virginia, the Virginia portion of the Chesapeake Bay shoreline, and the Virginia portion of the Atlantic Ocean shoreline."[25]

The functions of the Commission in this program are specified in the following statutory provision:

> In addition to the other duties and responsibilities conferred by this chapter, the Virginia Soil and Water Conservation Commission shall have the duty and responsibility to make the necessary coordination of shore erosion control programs of all State agencies and institutions and to secure the cooperation and assistance of the United States and any of its agencies to protect waterfront property from destructive erosion; to evaluate the effectiveness and practicability of current programs; and to explore all facets of the problems and alternative solutions to determine if other practical and economical methods and practices may be devised to control shore erosion. Such co-

ordination shall not restrict the statutory authority of the individual agencies having responsibilities relating to shore erosion control.[26]

With regard to implementation of shore erosion control responsibilities, the General Assembly has authorized the Commission to employ a shore erosion engineer.[27] However, funds for filling this position have not been appropriated. Therefore the scope of the Commission's activities in this area has been limited.

D. Duties with Respect to Soil and Water Conservation Districts

A basic responsibility of the Commission concerning soil and water conservation districts relates to their creation.[28] These districts may be either local or regional in extent since they can include parts of one or several counties and cities. The process of district creation is initiated when a petition is presented to the Commission by a majority of the members of the governing body of each political subdivision involved or by a number of registered voters equal to at least 25 percent of the vote cast in the last general election.[29] The Commission has the authority to approve or disapprove the petition. If approval is given, a public hearing is held to determine the desirability and necessity of the creation of the district.[30] Based on its determination of need and administrative practicability and feasibility, the Commission decides whether to proceed with the organization of the district.[31] At present all the counties of the state except Arlington are included in the 41 existing soil and water conservation districts, and the creation of additional districts will in most cases involve subdivision of existing ones. Any changes in boundary of existing districts requires approval of the Commission.[32]

When a new district is created, the Commission appoints two directors, who together with at least three elected members, serve as the governing body of the district and exercise all powers given to the district.[33] These powers encompass a variety of activities in connection with soil and water conservation, including the power to conduct surveys and investigations;[34] to conduct demonstration projects;[35] to carry out preventive and control measures on certain lands;[36] to furnish financial aid to land occupiers within the district;[37] to make material and equipment available to land occupiers;[38] to acquire, improve and dispose of property and structures;[39] to develop comprehensive plans and programs;[40] to act as agent for the federal or state government and administer projects undertaken by these governments;[41] to enact ordinances containing land use regulations under special conditions;[42] to administer local erosion and sediment control programs;[43] and to establish special small watershed improvement districts within the soil and water conservation districts.[44]

These powers include activities and programs to be undertaken directly by the district and also the regulation of certain types of land use activities undertaken on private lands. Actions undertaken directly by the district are limited in scope primarily by the district's financial capabilities. This restriction is likely to be significant

since the districts have no taxing authority. This limitation can be overcome in special areas through the establishment of small watershed improvement districts which are authorized to levy a real estate tax under certain conditions, including the approval of the directors of the parent soil and water conservation district(s).[45] Such districts can be established by a process similar to that for creation of soil and water conservation districts, with the exception that the directors of the parent district(s) are involved rather than the Commission. Subject to approval by the Commission, the directors may appoint three landowners from the watershed improvement district as trustees to exercise such administrative powers and duties as may be delegated by the directors.[46]

The Commission administers a special revolving fund from which it is authorized to offer several types of financial assistance to the districts as well as other political subdivisions. One form of assistance is the purchase of lands and easements for soil and water conservation and flood control needs under certain specified conditions, one of which is that the district or its cosponsors must have obtained a minimum of 75 percent of the necessary lands and easements.[47] Another authorized form of assistance is the purchase and maintenance of machinery and equipment which can be made available to the districts upon terms prescribed by the Commission.

The fund can also be used for facilities to store additional water in flood prevention projects or to store water in sites not feasible for flood prevention programs under certain conditions.[48] Loans can be made for these purposes to counties, cities, towns, or other political subdivisions having the legal capacity for raising revenues to repay such loans.[49] The lack of taxing authority or other mechanism for raising revenues would preclude the districts themselves from acquiring such loans from the Commission. Loans to date have been made to one city and one county.

Where localities fail to do so themselves, the Commission itself is authorized to invest funds in facilities for storage of additional water, in facilities creating the potential to store additional water, or in potential storage facilities where impoundment projects are being developed to less than full potential.[50] This latter type of investment would encompass such actions as the strengthening of dam foundations to allow enlargement at a later date. Investments in water storage facilities have not been undertaken by the Commission but are under consideration in connection with a district project. Expenditures by the Commission for such purposes cannot exceed $500,000 for any one facility without the written approval of the Governor.[51]

It is the intent of the legislation authorizing Commission investment in storage facilities that such facilities be conveyed at a later date to a local political body. However, the Commission is authorized to contract with certain types of political subdivisions for the sale of stored water, provided generally that an understanding exists concerning future acquisition of the facilities by the locality. The Commission may also lease

such facilities for recreational purposes which will not impair use for future water supply.[52]

In addition to the authority of the districts to undertake soil and water conservation activities within their own capabilities as assisted by the Commission, the districts can also effect their programs through regulation of private practices. One of the principal regulatory functions of the soil and water conservation district directors is the enactment of land use regulation ordinances. Statutory provisions provide that these regulations can include the following:

> (1) Provisions requiring the carrying out of necessary engineering operations, including the construction of terraces, terrace outlets, check dams, dikes, ponds, ditches, and other necessary structures;
> (2) Provisions requiring observance of particular methods of cultivation including contour cultivating, contour furrowing, lister furrowing, sowing, planting, strip cropping, seeding, and planting of lands to water-conserving and erosion-preventing plants, trees and grasses, forestation, and reforestation;
> (3) Specifications of cropping programs and tillage practices to be observed;
> (4) Provisions requiring the retirement from cultivation of highly erosive areas or of areas on which erosion may not be adequately controlled if cultivation is carried on;
> (5) Provisions for such other means, measures, operations, and programs as may assist conservation of soil resources and prevent or control soil erosion in the district, having due regard to the legislative findings set forth in Section 21-2.[53]

Enactment of land-use regulations cannot be accomplished without approval of the proposed ordinance by a two-thirds referendum vote.[54]

Whenever land use regulations are adopted by a soil and water conservation district, the law requires the appointment of a three member board of adjustment by the Commission with the advice and approval of the directors of the district.[55] Any land occupier may file a petition with this board stating that there is great practical difficulty or unnecessary hardships in carrying out the strict letter of the land-use regulations.[56] After a public hearing at which the directors of the district and other land occupiers may appear, the board has the power to authorize variance from the terms of the regulations if it determines that such difficulties or hardships exist. The variance may relieve any existing inequities as long as the result is not contrary to the public interest and the spirit of the land use regulations.[57] The decision of the board is subject to judicial review.[58]

The law provides considerable protection for the land occupier who is brought to court for violation of the terms of land-use regulations. No judgment for costs can

be allowed that will result in the confiscation of the land and improvements thereon, and costs in excess of the value of the improvements to the property are prohibited. In addition, the governing body of the county or city wherein the land is situated must certify in its opinion that the landowner does not have a reasonable objection and that he is financially able to pay. Otherwise, the costs of performing the work must be paid for by the parties doing the work or from other sources.[59]

In addition to the enactment of land use regulations, the districts are authorized to regulate land use by means of administration of the state's Erosion and Sediment Control Law under certain conditions.[60] However, the state's counties, cities, and towns can pre-empt this authority by adopting the necessary controls themselves, and to date the districts have not assumed administrative responsibilities.

After adoption of the local program, any person proposing to engage in a land-disturbing activity subject to the Erosion and Sediment Control Law is required to first submit an erosion and sediment control plan to the appropriate authority for review.[61] The law prohibits any agency responsible for issuing grading, building, or other permits from issuing any such permit for an activity subject to the provisions of the Erosion and Sediment Control Law where the applicant does not have an approved erosion and sediment control plan.[62] Initiation of such land-disturbing activities without the approval of the administering authority is a misdemeanor punishable by a fine and/or imprisonment, and the plan-approving authority, the permit-issuing agency, or the Commission may apply to the courts for injunctive relief to enjoin an actual or threatened violation.[63]

E. Duties Regarding Federally Assisted Projects

Assistance for planning and construction of certain types of projects under provisions of federal law is available to the soil and water conservation districts as well as other local public entities. The principal legislation authorizing such assistance is the Watershed Protection and Flood Prevention Act[64] which provides for the Soil Conservation Service of the U.S. Department of Agriculture to assist local undertakings for ". . . (1) flood prevention (including structural and land treatment measures), (2) the conservation, development, utilization, and disposal of water or (3) the conservation and proper utilization of land. . . ."[65] Projects that can be included within the provisions of the act are restricted to those involving watershed areas not exceeding 250,000 acres and not including any single structure which provides more than 12,500 acre-feet of floodwater detention capacity nor more than 25,000 acre-feet of total capacity.[66] Other federal legislation[67] also exists which provides similar assistance to local soil and water conservation projects in the watershed of the Potomac River only.

The principal forms of assistance under the Watershed Protection and Flood Prevention Act consist of planning and direct financial participation in project design and

construction. Under the provisions of the Act, the federal government assumes all of the cost of installing works for flood prevention and a share of the costs of works for ". . . the agricultural phases of the conservation, development, utilization, and disposal of water or for fish and wildlife development, recreational development, ground water recharge, water quality managment, or the conservation and proper utilization of land. . . ."[68] The federal share is determined by the Secretary of Agriculture ". . . to be equitable in consideration of national needs and assistance authorized for similar purposes under other Federal programs. . . ."[69] Acquisition of land necessary for project purposes is generally a local responsibility, but the federal government under certain conditions is authorized to bear up to one-half of the land costs and public health facility costs in connection with recreational aspects of projects.[70] In addition to direct federal assumption of costs, the act also contains provisions for federal advancements and loans for financing the local share of costs.[71]

Authorization of federally assisted projects under the Watershed Protection and Flood Prevention Act is a complex process involving both state and federal governments. In Virginia, the Soil and Water Conservation Commission is the primary state spokesman. The process of project authorization is initiated when the local sponsor makes application for federal planning assistance. Prior to SCS action on the application, the Commission has 45 days in which to review the proposal, and disapproval by the Commission at this stage terminates further consideration.

If given state approval, the state SCS office makes the decision on the basis of its preliminary investigations whether to request planning authorization from the office of the SCS Administrator. If planning authority is granted, a work plan is prepared by SCS with input from other federal, state, and local agencies.[72] An external control which facilitates input from other agencies with regard to projects under the act is provided by the project notification and review process established by the U.S. Office of Management and Budget and administered at the state level by the Department of Intergovernmental Affairs.[73] This process allows interested agencies to comment on the proposal and provides for consideration of such comments by the body responsible for funding approval, thus broadening the project review process.

Participation of other state agencies in the planning of water resource development projects receiving federal assistance is a necessity if Virginia is to maintain a coordinated water resources management program. The scope of the development aspects and the possible external consequences of these projects requires that they be planned and implemented in a manner that is consistent with overall optimal use of the water resource. Although once limited to flood control and agricultural water management, these projects now can be multi-purpose in nature and encompass such water uses as recreation and water supply. Optimization of project design requires participation by all agencies with responsibilities in related areas.

In addition, project planning must encompass the environmental consequences that have an impact beyond the project itself. External controls on the planning process are designed to assure consideration of these effects. One such control is the requirement in the Federal Water Pollution Control Act Amendments of 1972 that the State Water Control Board must certify that the impoundment's operation will not result in violation of water quality or effluent standards.[74] Other external controls of a broader nature consist of the requirements under the National Environmental Policy Act of 1969[75] and the Principles and Standards for Planning Water and Related Land Resources[76] developed by the U.S. Water Resources Council pursuant to the Water Resources Planning Act of 1965.[77] These procedures require identification of adverse environmental impacts and evaluation of alternative courses of action where certain projects involve federal funding or regulation. Certain projects constructed under the Watershed Protection and Flood Prevention Act such as drainage projects are likely to have adverse environmental consequences not reflected in the traditional project evaluation. Therefore, identification of such effects for consideration in the project evaluation process is essential for determination of the overall desirability of any particular proposal.

The procedure for reaching a final decision regarding authorization of a proposed project depends on its magnitude. In any case where the estimated federal contribution to construction costs for a watershed area exceeds $250,000 or where a project includes a structure with a total capacity in excess of 2,500 acre-feet, approval requires congressional action. For projects including no single structure with more than 4,000 acre-feet of total capacity, the act provides that federal appropriations cannot be made unless the plan has been approved by the Committee on Agriculture and Forestry of the Senate and the Committee of Agriculture of the House of Representatives. For projects with single structures having more than 4,000 acre-feet of total capacity, approvals are required from the Senate and House Committee on Public Works.[78] In those cases where projects do not require individual congressional approval, the final decision regarding authorization is made within SCS. Final approval at the state level is the responsibility of the Governor, with the Commission serving in an advisory capacity.

F. Coordination of Non-Point Source Pollution Control

The Commission has been designated by Virginia's Secretary of Commerce and Resources as the lead agency in the state's Non-Point Source Pollution Coordinating Committee. Other agencies on the committee include the Department of Agriculture and Commerce, Department of Conservation and Economic Development, Department of Labor and Industry, Extension Division of Virginia Polytechnic Institute and State University, and the State Water Control Board. The duties of the committee are as follows:

> It shall be the responsibility of the Coordinating Committee to deal with all aspects of the non-point source pollution. The Committee will report to the Secretary of Commerce and Resources on the following: (1) a protocol for dealing with non-point source pollution showing the time frame, (2) how the Committee plans to address itself to the Federal and State laws relating to NPSP, and (3) policy issues that ought to be addressed.[79]

This responsibility is a natural outgrowth of the Commission's involvement in the state's erosion and sediment control program, but its placement with this agency tends to fragment the state's water quality management program, which is under the primary direction of the State Water Control Board. The Board is responsible for non-point source control planning[80] and possesses regulatory authority applicable to non-point sources of pollution. For example, the Attorney General of the Commonwealth in 1971 determined "... that the deposit of excessive and unnatural quantities of sediment in State waters would constitute pollution for the purposes of the State Water Control Law."[81] The Attorney General indicated that total control of the sedimentation problem would likely exceed the resources and authority of the Board, but the Board does possess at least limited regulatory authority in this area. The Board's exercise of basic regulatory and planning responsibilities concerning non-point pollution complicates the Commission's lead role in the coordinating committee.

III. Organization of the Commission

The Virginia Soil and Water Conservation Commission consists of eleven voting members and may include the State Conservationist of the Soil Conservation Service, United States Department of Agriculture, as an advisory non-voting member. Seven members are appointed by the Governor and the other four are ex officio. Six of the appointed members are required by law to be farmers selected from a list submitted jointly by the Executive Committee of the Virginia Association of Soil and Water Conservation Districts and the Virginia Soil and Water Conservation Commission. The ex officio membership consists of the Director of Conservation and Economic Development; the Director of the State Cooperative Extension Service; the Director of Agriculture and Life Sciences, Virginia Polytechnic Institute and State University; and the State Commissioner of Agriculture and Commerce.[82]

The ex officio membership facilitates the interchange of information and promotes coordination of soil and water conservation activities. It would appear that greater benefits of this type would be achieved if the ex officio membership were expanded to include representation of the State Water Control Board since certain activities of the two agencies are closely related. For example, sediment control is the responsibility of the Commission, but this program is directly related to water quality management for which the Board has primary responsibility. Another area requiring coordination concerns planning and development of water resources. The Board is responsible for comprehensive river basin planning while the Commission possesses authority with regard to approval and design of water resource development projects.

These functional interrelationships require a high degree of coordination between the two agencies, and addition of the Board to the ex officio membership of the Commission is one mechanism for achieving this result.

Statutory provision is made for the Commission to designate its chairman,[83] create an executive committee, and employ an administrative officer and other necessary employees.[84] The chairman of the Commission, like the other commissioners, is not a full time employee and receives no salary.[85] There is no executive committee functioning currently. According to the terms of a contractual agreement between the Commission and the Virginia Department of Agriculture and Commerce,[86] the Department previously designated one of its employees as Director of the Commission to serve as its administrative officer and made provision for certain administrative services to the Commission. The contract is still in effect with regard to certain services, but the Director is now appointed by the Commission itself.

FOOTNOTES

1. *Va. Acts of Assembly,* 1938, ch. 394.
2. *Virginia House Journal and Documents,* 1938, H.D. No. 3.
3. *Id.,* p. 4.
4. *Va. Acts of Assembly,* 1964, ch. 512.
5. *Id.,* 1972, ch. 557.
6. *Id.,* 1972, ch. 855.
7. *Id.,* 1973, ch. 486.
8. *Va. Code Ann.,* sec. 21-89.1, *et seq.* (1975).
9. *Id.,* sec. 21-89.3(a) (1975).
10. *Id.,* sec. 21-89.4(b) (1975).
11. *Id.,* sec. 21-89.4(a) (1975).
12. Virginia Soil and Water Conservation Commission, "Virginia Erosion and Sediment Control Handbook," April 1974.
13. *Va. Code Ann.,* sec. 21-89.6 (f) (1975).
14. *Id.,* sec. 21-89.6(a). (1975).
15. *Id.,* sec. 21-89.6 (1975).
16. *Id.,* sec. 21-89.5(d) (Supp. 1976).
17. *Id.,* sec. 21-89.11(c) (1975).
18. *Id.,* sec. 21-89.10 (1975).
19. *Id.,* sec. 21-89.10(a) (1975).
20. *Id.,* sec. 21-89.11(d) (1975).
21. *Id.,* sec. 62.1-44.22 (1973).
22. *Id.,* sec. 21-5.2 (1975).
23. *Id.,* sec. 21-5.1 (1975).
24. *Id.,* sec. 21-11.16 (1975).

25. *Id.*, sec. 21-11.17 (1975).
26. *Id.*, sec. 21-11.18 (1975).
27. *Id.*, sec. 21-11.19 (1975).
28. *Id.*, sec. 21-12.1 (1975).
29. *Id.*, sec. 21-12.2 (1975).
30. *Id.*, sec. 21-14 (1975).
31. *Id.*, sec. 21-17., 21-20 (1975).
32. *Id.*, sec. 21-12.1 (1975).
33. *Id.*, sec. 21-27 (1975).
34. *Id.*, sec. 21-54 (1975).
35. *Id.*, sec. 21-55 (1975).
36. *Id.*, sec. 21-56 (1975).
37. *Id.*, sec. 21-57 (1975).
38. *Id.*, sec. 21-59 (1975).
39. *Id.*, sec. 21-58, 21-60 (1975).
40. *Id.*, sec. 21-61 (1975).
41. *Id.*, sec. 21-62 (1975).
42. *Id.*, sec. 21-66 to 21-80 (1975).
43. *Id.*, sec. 21-89.5 (Cum. Supp. 1976).
44. *Id.*, secs. 21-112.1 to 21-112.4; 21-112.6 to 21-112.8 (1975) *as amended* (Cum. Supp. 1976).
45. *Id.*, secs. 21-112.11, 21-112.12 (1975), *as amended* (Cum. Supp. 1976).
46. *Id.*, sec. 21-112.9 (1975).
47. *Id.*, sec. 21-11.14 (1975).
48. *Id.*, sec. 21-11.3(4) (1975).
49. *Id.*, sec. 21-11.3(1) (1975).
50. *Id.*, sec. 21-11.3(2) (1975).
51. *Id.*, sec. 21-11.9 (1975).
52. *Id.*
53. *Id.*, sec. 21-79 (1975).
54. *Id.*, sec. 21-75 (1975).
55. *Id.*, sec. 21-90 to 21-93 (1975).
56. *Id.*, sec. 21-100 (1975).
57. *Id.*, sec. 21-104 (1975).
58. *Id.*, sec. 21-105 (1975).
59. *Id.*, sec. 21-88 (1975).
60. *Id.*, sec. 21-89.5 (Supp. 1976).
61. *Id.*, sec. 21-89.6 (1975).
62. *Id.*, sec. 21-89.7 (1975).
63. *Id.*, sec. 21-89.11 (1975).
64. Watershed Protection and Flood Prevention Act, 16 *U.S.C.A.* sec. 1001 *et seq.* (1974).
65. *Id.*, sec. 1002 (1974).
66. *Id.*

67. Act of Dec. 22, 1944, Pub. L. No. 78-534, sec. 10, 58 stat. 887.
68. 16 *U.S.C.A.* sec. 1004(2)(A) (1974).
69. *Id.*
70. *Id.*, sec. 1004(1) (1974).
71. *Id.*, sec. 1004(1), 1006a (1974).
72. Soil Conservation Service, U.S. Department of Agriculture, "Planning Process P.L.-566 Watershed Projects" (1974).
73. *See* the section of this report entitled "Other Agencies and Governmental Bodies."
74. Federal Water Pollution Control Act Amendments of 1967, 33 *U.S.C.A.* 1341 (Supp. 1976).
75. National Environmental Policy Act of 1969, 42 *U.S.C.A.* 4321 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
76. Water Resources Council, "Principles and Standards for Planning Water and Related Land Resources," *Federal Register,* Vol. 38, No. 174, Part III, Sept. 10, 1973.
77. Water Resources Planning Act of 1965, 42 *U.S.C.A.* 1962 *et seq.* (1974), *as amended* (Supp. 1976).
78. Watershed Protection and Flood Prevention Act, 16 *U.S.C.A.* 1002 (1974).
79. "Memorandum: Establishment of a Non-Point Source Pollution Coordinating Committee," from Earl J. Shiflet, Virginia Secretary of Commerce and Resources, March 10, 1976.
80. Letter from Linwood Holton, Governor of Virginia, to Daniel J. Snyder, III, Regional Administrator, U.S. Environmental Protection Agency, November 21, 1973.
81. Letter from Andrew P. Miller, Attorney General of Virginia, to A. H. Paessler, Executive Secretary of the Virginia State Water Control Board, August 31, 1971.
82. *Va. Code Ann.*, sec. 21-6 (1975).
83. *Id.*, sec. 21-8 (1975).
84. *Id.*, sec. 21-7 (1975).
85. *Id.*, sec. 21-8 (1975).
86. Agreement between the Virginia Soil and Water Conservation Commission and the Virginia Department of Agriculture and Commerce, March 28, 1969.

MARINE RESOURCES COMMISSION

I. Historical Development

The state's first efforts at regulation and management of its marine resources were directed toward utilization of fisheries. Early legislation to regulate fisheries activities did not establish an agency responsible for administration and enforcement, although provisions were made in some cases for inspectors to insure compliance. For example, an act passed in 1795 specified that the justices of the state's county and corporation courts appoint inspectors to examine the package of fish for sale or exporation.[1]

One of the first steps toward the development of a management agency came in 1875 when legislation was passed authorizing the Governor to appoint three competent persons for two-year terms as Commissioners of Fisheries. These commissioners were given responsibilities concerning fish propagation and culture and were to stock all the waters of the state with suitable food fish. No regulatory duties were bestowed by the legislation. Passage of the act was based on the successful experience of other states with similar programs and the appointment by the United States of a Commissioner-General of Fisheries to cooperate in such state efforts. The Virginia Commissioners were instructed to communicate with the Commissioner-General and with other states regarding their programs.[2] An 1877 enactment amended the 1875 legislation to provide for the Governor to appoint one competent person as Commissioner of Fisheries of Virginia for a two-year term or until a replacement was named.[3]

The first agency to possess regulatory powers was the Board on the Chesapeake and its Tributaries created by an 1884 act for the preservation of oysters and for the obtaining of revenues. The Board consisted of the Governor, the First Auditor of Public Accounts, and the Treasurer of the Commonwealth. It was charged with the responsibility of acquiring, equipping, and staffing vessels for the execution of the provisions of the act, and it was given authority for adopting rules and regulations for policing activities. Other provisions of the 1884 legislation included assignment of oyster grounds; registration of tongers; seasons and other restrictions concerning oyster harvesting; and the appointment of inspectors by county and corporation courts, to be compensated by a 10 percent commission of fees and fines collected.[4]

The agency eventually to become the Marine Resources Commission was formed in 1898 with the transfer of the duties of the Fish Commissioner and the Board on the Cheseapeake and its Tributaries to the newly created Board of Fisheries of Virginia. The Board consisted of five persons appointed by the Governor for four-year terms, two of whom were required to have a knowledge of the oyster and fish industry and be from Tidewater. One of the Tidewater members was to be designated by the Governor as chairman of the Board and chief inspector; the other was to serve as secretary and assistant chief inspector. The remaining three members were to be from other

sections of the state. Duties of the Board included enforcement of all laws regarding oysters, clams, fish, crabs, and terrapin, and included the appointment and supervision of inspectors. Appropriations for agency operations were provided from the state oyster fund.[5]

A 1916 act of the General Assembly produced changes in the Board of Fisheries. The title "Commission of Fisheries" replaced "Board of Fisheries," and provision was made for one of the Tidewater members to be designated by the Governor as the "Commissioner of Fisheries." The Commissioner was made ex officio chairman and chief inspector of the Commission. The previous position of secretary was designated as the shellfish commissioner, assistant commissioner of fisheries, assistant chief inspector, and ex officio secretary of the Commission. Duties of the Commission included law enforcement, operation of hatcheries, and the appointment of inspectors.[6]

Another 1916 act, creating the Department of Game and Inland Fisheries, made the Commissioner of Fisheries ex officio Commissioner of Game and Inland Fisheries. Additional duties assigned to the Commissioner included law enforcement with respect to fish above Tidewater, dogs, forestry, and wild animals and birds; and the appointment and supervision of game wardens.[7]

The 1927 reorganization of state government produced further change in the Commission of Fisheries. The reorganization provided for twelve administrative departments of government, one of which was the Department of Conservation and Development. The Commission was made a part of this department, along with the State Commission on Conservation and Development and the Commission of Game and Inland Fisheries. All provisions of law with respect to the Commission of Fisheries and the other two component agencies were retained, except for the name change of the former *Department* of Game and Inland Fisheries.[8]

Further legislation in 1942 designated a departmental committee on cooperation and coordination to consist of the Commissioner of Fisheries and the chairman of the other two commissions, but no actual merger of the three agencies was ever effected.[9]

Another reorganization in 1948 resulted in deletion of the provision for incorporation of the three independent agencies into one department. New provisions for the Department of Conservation and Development were enacted, and the Commission of Fisheries and the Commission of Game and Inland Fisheries were continued as separate agencies under their own legislation.[10]

The title of the Commission of Fisheries was changed in 1968 to Commission of Marine Resources. This change was intended to reflect a broadening of the agency's purpose to encompass all segments of marine resource management. Provision was made for the membership of the Commission to represent all segments of the users

of the state's marine resources.[11] Actually, no expansion of specific functions was accomplished. The Commission had already possessed authority extending beyond fisheries' considerations, and the change in title and purpose of the agency gave recognition to this evolvement and served to prepare the Commission for more comprehensive management of marine resources in the future.

The Commission's management functions were expanded in 1972 by the enactment of wetlands legislation. The Commission was given review authority with respect to decisions of local wetlands boards and direct responsibilities for the administration of the law's provisions in any county, city, or town until it enacts the wetlands ordinance and establishes a wetlands board.[12] The Commission was also given authority to prosecute violations of wetlands legislation and regulations of the Commission or any wetlands board.

II. Functions of the Agency

The Marine Resources Commission has ". . . jurisdiction over all commercial fishing and all marine fish, marine shellfish, and marine organisms . . ."[13] in the state's tidal waters. The Commission exercises a number of responsibilities relative to the management of the state's marine resources. Included are adoption of regulations concerning marine fisheries; enforcement of laws and regulations pertaining to marine fisheries; control over use of subaqueous beds; wetlands responsibilities; recreational management of marine resources; and representation of the state in certain federal relations and on special interstate commissions.

A. Adoption of Regulations

Legislation provides authority for the Commission to make such regulations ". . . as it deems necessary to promote the general welfare of the seafood industry and to conserve and promote the seafood and marine resources of the state, including regulations as to the taking of seafood, which regulations do not conflict with the provisions of statutory law."[14] A regulation cannot be promulgated without a public hearing held in accordance with statutory guidelines.[15] Provision is made for the adoption of regulations without a public hearing in emergency situations where such regulation ". . . is necessary for the immediate preservation of the public peace, health, safety, welfare, protection of the seafood industry, or natural resources or marine animals. . . ."[16] Emergency regulations are effective for a maximum of thirty days unless a public hearing is held. The validity of any regulation may be determined upon petition for a declaratory judgment by any person adversely affected. Provision is made for any regulation of the Commission to be nullified by resolution of the General Assembly.[17]

Since the Commission's regulations cannot conflict with the provisions of statutory law, the detailed nature of this law considerably restricts the Commission's regulation-

making authority. Statutory provisions concerning the taking of fish and shellfish specify harvesting seasons, licensing requirements, taxes, minimum sizes, equipment and methods to be employed, and use of state-owned subaqueous beds.[18] The Commission has expressed the view that comprehensive statutory control does not provide sufficient flexibility for the efficient management of a constantly changing industry. Annual sessions of the General Assembly have reduced the problem, but it is still felt that a combination of general statutory control and detailed regulation by the Commission would be preferable.

> The Commission has always felt, and the Governor's Management Survey concurs, that basic responsibilities and authorities should be granted the Commission, leaving the details to be promulgated via the Commission's regulatory power. Conditions in the industry change too rapidly for statutory laws to be effective. To produce oysters you must plant and harvest according to the dictates of the environment and not laws. We hope that this opinion is widespread enough, and that the Commission has engendered the confidence of industry, in order to allow some substantive changes to be made.[19]

B. Enforcement of Law and Regulations

The agency enforces statutory law and its own regulations concerning commercial fishery and sportfishing operations in the state's tidal waters. It is authorized to divide the territory within its jurisdiction into the smallest number of inspection districts commensurate with efficient enforcement. Provision is made for appointment of one or more inspectors for each district.[20]

A fleet of 20 boats and vessels is used for enforcement purposes. Twenty of these vessels exceed 30 feet in length and are normally assigned to certain areas, but can be sent to other areas as dictated by enforcement needs. The Commission also operates its own airplane for patrol and aerial survey purposes.[21]

C. Management of Submerged Beds

The state owns and controls all the beds of its tidal waters beyond mean low-water mark except for those which have been specifically granted to private individuals.[22] The state allows use of these beds for a variety of purposes through a permit system operated by the Commission.

Perhaps the most extensive use of the beds of tidal waters involves the planting and propagation of shellfish, particularly oysters. Individuals or companies can be assigned portions of these beds for their exclusive use as shellfish growing areas by making proper application and paying an annual rent. The Commission is responsible for accepting and processing applications, surveying and resolving all questions regarding

boundary lines, maintaining maps showing the location of leases and vacant grounds, collecting rent, and handling transfers of leases between parties.[23] An all-time high in oyster leases was reached in 1963 when 135,000 acres were included. The total leased acreage has declined since that time primarily because of elimination from service of previously productive areas by the oyster disease MSX.[24]

Excluded from leasing are approximately 240,000 acres[25] of subaqueous beds which are defined by law as public grounds. These public grounds cannot be reserved for any party's exclusive use[26] and are subject to special legislative provisions concerning such matters as harvesting seasons and methods.[27]

The public oyster grounds excepted from leasing are legally classified as natural oyster beds, rocks, or shoals, but the Commission is engaged in a program of rehabilitation to improve the natural condition of these grounds. With the invasion of the Chesapeake Bay in 1959 by the disease MSX, the normally prosperous oyster industry began to decline. In an effort to counteract this trend, the Commission began a rehabilitation program in 1963 consisting of planting oyster shells and seed oysters on the public grounds. Shells for planting have been obtained from mining submerged reef shells and from commercial packing houses, and have totaled over 19 million bushels through the 1971 planting season,[28] with additional plantings in fiscal years 1972-73 totaling nearly 3 million bushels.[29] Funds for the shell planting project have included federal aid in the amount of 50 percent under the Commercial Fisheries Research and Development Act.[30] State expenditures are partially covered by the Public Oyster Rocks Replenishment Fund, consisting of a special tax on oysters taken from the public grounds and other assessments on the users of certain marine resources.[31]

The rehabilitation program of the Commission initially produced encouraging results, with the decline in oyster production bottoming out in 1969 and an increase noted in the next two years. However, tropical storms occurring in 1972 dealt the industry a severe blow in the form of salinity modifications which resulted in high oyster mortality. The Commission remains optimistic with regard to the long-range rehabilitation of the industry due to the increase in production noted in the 1970-71 period.[32]

Within the limitations of statutory law, the Commission controls the taking of oysters from the public grounds. It may close any area or restrict the manner of taking oysters for purposes of repletion or rehabilitation, with the right to reopen at any time. A special public ground in the James River is established as a "clean cull" area, and the Commission has the authority to specify how, when, and where oysters shall be culled and the size which may be harvested therefrom. When emergency conditions arise, the Commission may harvest and transplant within the James River any oysters in the Deep Water Shoals area of the James. It may authorize the harvesting of marketable oysters or the transplanting of seed oysters anytime during the year from areas where it has planted seed or culch.[33]

The Commission has indicated that the existence of extensive public grounds reserved from commercial use and subject to special controls with regard to oyster harvesting is detrimental to commercial shellfish interests.

> Much of the bottoms set aside by the Baylor Survey is barren today for many reasons. Oysters from these Baylor Grounds are still caught with hand tongs just as they were in the 1890's. The average oyster tonger who works these grounds is much older than formerly and few young men are going into this business. Oysters on leased bottoms are caught generally with a much more efficient oyster dredge. The Marine Resources Repletion Department plants some of the Baylor Grounds but this department does not have funds at its disposal to plant shells and seed oysters on anything but a very small area of this Public Ground. Only the very best of the Public Ground is used for this purpose, and thus, much of the Baylor Survey is unused.
>
> Any change in the Public Grounds will have to come about by action of the Virginia General Assembly.
>
> A study is being made to see if some changes can be made to take some of this Public Ground and make it available to private oyster planters without interfering with the oyster tonger. It is thought that in the years to come, that this will be the only way to insure sufficient quantities of oysters to meet the demands of the modern world.
>
> The planting and propagating of oysters and possibly clams must take on a more scientific approach as well as modern methods to catch and process the oysters and clams for a large and distant market as well as local markets. Modern mechanical methods of harvesting and processing are urgently needed to keep the produce in a reasonable consumer price range."[34]

In addition to the restriction on commercial utilization of tidal beds for oyster production imposed by the existence of public oyster grounds, another increasingly significant limitation on this use arises from statutory provisions for the assignment of exclusive oyster rights to the owners of waterfront property.[35] The Commission has expressed concern over the impact of these provisions.

> One-half acre . . . [oyster rights] are assigned to the property itself and pass with the highland property to subsequent owners. If there is an existing oyster planting ground lease at the location of the riparian application, the lease is reduced accordingly and the riparian applicant pays all fees involved. No rents are collected for the riparian rights and the revenue the State might have received for the ground is irrevocably lost. In many areas of the State experiencing excessive growth in population, especially through subdivisions, commercial oyster planting ground leases are constantly being reduced to

accommodate the riparian owners who want to exercise their privilege of having a riparian oyster right assigned to their property. Approximately 25 percent of all applications received in the Engineering Department are for riparian rights. Not only does this practice eliminate the possibility of revenues to the State, but, in many cases, the commercial planter loses oyster-producing ground to a property owner. In view of the decrease in available productive ground because of disease and pollution, this practice also has an adverse effect upon the commercial aspect of the oyster business.

A more affluent economy has resulted in increased buying of waterfront property for summer homes. Consequently, more applications for riparian oyster rights are being submitted. Charges made by the Engineering Department for surveying are prescribed by Statute. The fees set out in the law cover only a small percentage of the actual cost and we strongly recommend that the fees for surveying riparian rights should be increased by the legislature to bring the cost to the applicant more in line with the actual cost to the Commonwealth."[36]

Another significant problem referred to in the above statement is the loss of productive shellfish grounds because of water pollution. Increasing urbanization and development of the Tidewater area of the state has resulted in an almost continuous increase in the acreage condemned for direct harvesting of shellfish. Even when waste treatment facilities are adequate to prevent contamination of shellfish under normal conditions, a buffer zone must be condemned to offer protection in the event of facility malfunction. Buffer zones are also required around most marinas and certain other facilities because of the potential for waste discharge. If current practices continue, additional reduction in the amount of shellfish growing area appears to be inescapable. The Commission has commented on the seriousness of the problem in this manner:

Contamination of our natural waters by primary and secondary pollution is one of the major problems confronting the seafood industry. . . . The Department of Health is compelled to restrict additional acreage of both public and private oyster grounds each year. . . .

Of paramount concern at the present is the problem of municipal sewage. Few sewage treatment facilities in current operation are designed to handle even the average demands placed upon them, and almost none are capable of caring for any appreciable increase in load. Consequently, after a normal rainfall, evidence of by-passing occurs and raw sewage is put into our waters. This causes an immediate condemnation of the area and all harvesting of shellfish must cease. The obvious loss of production combined with the on-and-off nature of such condemnation is dealing a crippling blow to many a hardworking independent waterman. The Commission prays to

> the General Assembly to hear the plea of an endangered industry and to act with courage and decisiveness in providing the impetus for swift corrective action in this area.[37]

The water quality problems affecting the shellfish industry are partially due to specific point discharges of municipal and other wastes, but other more diffuse sources of contamination which are less subject to control also contribute to the problem. A report prepared by the State Water Control Board summarizes the status of the individual condemned areas and lists a variety of such reasons for condemnation, including septic tank failures, solid waste disposal activities, marina operations, recreational and commercial boating activities, agricultural practices, and general "people activity" associated with intensive development and land utilization. Some previously condemned areas have been returned to use through improvements in water quality resulting from controls over certain of these activities. A program to control livestock operations has been a key factor. Regulation of waste disposal from boats is another program having an impact on shellfish sanitation. However, other of these activities contributing to conditions responsible for condemnation are not subject to effective control, and alleviation of the conditions leading to condemnation does not appear feasible.

The Commission is responsible for marking and patrolling those areas of the tidal waters condemned for shellfish harvesting by the Health Commissioner because of unsanitary conditions. Removal of shellfish from such areas for marketing or other direct use is prohibited by law. Transfer to non-polluted waters for cleansing can be accomplished under license and the direct supervision of the Commission. Harvesting of the shellfish after cleansing cannot be undertaken without authorization by the Health Department.[38]

Enforcement of these provisions requires considerable interaction and coordination between the Commission and Department. The potential benefits of a simplified operational structure appear to suggest consolidation of all related responsibilities within the jurisdiction of a single agency. One means of accomplishing this simplification would be to make the Health Department responsible for all enforcement and approvals associated with condemnation of shellfish, thereby eliminating the situation wherein one agency is responsible for enforcing the regulations and orders of a second agency. However, the Commission is the logical choice for enforcement and patrolling duties since it maintains boats and personnel capable of performing these duties in addition to the primary functions of the agency. The other method of accomplishing single agency responsibility would be to transfer the shellfish sanitation authority of the Health Department and its Bureau of Shellfish Sanitation to the Marine Resources Commission. This change, however, does not appear desirable because it would vest somewhat inconsistent responsibilities in the Commission. This agency's duties traditionally have been oriented toward improving and promoting the shellfish industry, responsibilities somewhat inconsistent with the duty of rigid

enforcement of health provisions which may prohibit the marketing of shellfish products. Therefore, the inherent advantages of the existing situation concerning efficient equipment utilization and the independent overview of health aspects appear to offset the disadvantages of divided responsibility.

In addition to their use for shellfish growing, the subaqueous beds beneath the state's tidal waters are subject to a variety of other uses. Utilization of the beds of waters which are the property of the Commonwealth must be specifically authorized by statute or by permit from the Commission. Actions specifically exempted from the permit requirement include:

> . . . (1) the erection of dams, the construction of which has been authorized by proper authority, (2) the uses of subaqueous beds authorized under the provisions of Title 28.1 of the Code, (3) the construction and maintenance of congressionally approved navigation or 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, [Items 4, 5, 7, and 8 omitted by amendment] (6) fills by riparian owners, opposite their property to any lawfully established bulkhead line, provided that such owners have been granted, prior to July one, nineteen hundred seventy-two, a certificate of assurance from the State Water Control Board pursuant to 21 (b) of the Water Quality Improvement Act of 1970, (9) piers, docks, marine terminals and port facilities owned or leased by or to the Commonwealth or a political subdivision thereof (10) the placement of private piers for non-commercial 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 (11) causing the removal of silt and other waste material inside any lawfully established bulkhead line by riparian owners opposite their property incident to the construction and use of any graving dock, drydock or other shipbuilding facilities, where such owners have obtained prior to July one, nineteen hundred seventy-two, a certificate of assurance from the State Water Control Board pursuant to 21 (b) of the Water Control Improvement Act of 1970.[39]

The Commission has the authority to issue permits for all other reasonable uses of these beds. It should be noted that the exemptions included in Items 6 and 11 in the above quotation contain an important qualification. This limitation—the necessity of having obtained a certificate of assurance prior to July 1, 1972, from the State Water Control Board concerning the potential effect of the project on water quality standards—means that much future construction by riparian owners inside bulkhead lines will require permits, thus extending control to a large category of activities heretofore unregulated by the state.

In its deliberations concerning permits, statutory provisions require the Commission to be guided by the provisions of the Constitution relative to conservation of natural resources and environmental quality. Other specified considerations include:

> . . . 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 has been or will be determined under the provisions of chapter 2.1 (section 62.1-13.1 et seq.) of this title [the Wetlands Act], 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.[40]

The Commission is required to consult with other state agencies when the application relates to or affects their activities.[41] After a site inspection, the Commission forwards the application and related information to the Virginia Institute of Marine Science, State Water Control Board, State Department of Health, Commission of Outdoor Recreation, and the District Planning Commission, and to the State Department of Highways and Transportation and the State Corporation Commission in cases where projects would involve these agencies. Adjacent landowners are also notified. If controversies cannot be resolved by individual discussions, a hearing is set before the Commission at which all interested parties may appear.[42]

In the case of certain projects involving encroachment upon state-owned beds, the review process can be considerably narrower in scope. Notice is required only to the Virginia Institute of Marine Science when all the following criteria are met:

(a) The total cost of the project does not exceed ten thousand dollars;
(b) The application is not protested by any citizen or objected to by any state agency;
(c) The project is not a part of any project that will involve another Marine Resources Commission permit, and
(d) The project constitutes a shore erosion control project recommended by the Soil and Water Conservation District in which the project is located.[43]

If the Commission approves an application for use of subaqueous beds, fees and royalties are collected, and the permit is forwarded to the Governor and Attorney General for final approval where royalties are involved. All royalties collected are creditied to the Public Oyster Rock Replenishment Fund.

The Commission must coordinate its permit program for authorizing use of subaqueous beds with permit responsibilities under wetlands legislation to be discussed

in another section. Certain construction will likely require both types of permits, and the Commission plans to view such projects in a comprehensive manner so that the permit decision concerning subaqueous work will be consistent with its wetlands permit or with the position to be taken by the Commission in review of local wetlands board action.

In addition to granting permits for construction, the Commission is authorized to grant easements in and lease state-owned beds, excluding public oyster grounds, with the approval of the Attorney General and the Governor. Such easements and leases, not to exceed a period of five years, may authorize such rights as the prospecting for and taking of oil, gas, and other minerals. All related rents or royalties are credited to the Public Oyster Rock Replenishment Fund.[44]

An exception to the power of the Marine Resources Commission to control state-owned submerged lands exists in the case of Back Bay. The Commission of Game and Inland Fisheries has the authority to control these lands and may regulate or prohibit drilling, dredging, or other operation designed to recover minerals or other substances. Protection of the area as a habitat for fish and wildlife is a primary concern of legislation establishing this authority.[45]

The concurrence of the Marine Resources Commission is necessary whenever the State Highway and Transporation Commission desires to remove materials from publicly owned subaqueous beds.[46] This requirement notifies the Commission of potential harm to marine resources and allows such damage to be avoided or mitigated.

Since tidal waters are navigable waters of the United States, construction involving use of their beds requires approval of the U.S. Army Corps of Engineers. Corps regulatory jurisdiction traditionally has been limited to the high water mark, but legal authority has recently undergone major expansion and now encompasses wetlands as well as areas below the high water mark.[47]

According to established procedure, the Corps usually issues permits only in those cases where the state has given its consent to a project.[48] Although the Marine Resources Commission permit constitutes official state permission for construction in tidal waters, it is not the sole expression of state position regarding projects for which the Corps issues public notice. Under the administrative procedure that became effective July 1, 1976, the official state position is formulated by the Council on the Environment[49] on the basis of the comments of state agencies notified under the Corps public notice procedure.

Since the state position is a concensus of views, it is conceivable that it may be opposed to a project authorized by the Commission. The potential for such conflicting decisions is directly dependent on the similarity of the criteria for project evaluation used in the two decisionmaking processes. It would be expected that the project

analysis undertaken by the Council would, in most cases, consider a somewhat broader scope of project consequences than would the Commission's review, but the degree of difference in viewpoint may not be significant in most situations. The Commission is now under legislative mandate to include a wide range of factors, including the view of other state agencies,[50] before acting on a permit request. These are primarily the same agencies whose comments will be considered by the Council on the Environment in its formulation of an official state response to the Corps. It therefore appears that the decision reached by the Commission regarding a permit request is likely to be consistent with the official expression of state position.

If the Corps exercises its discretion not to issue public notice in connection with a minor project, the state reiew process coordinated by the Council on the Environment is eliminated. In this case, state approvals such as the Marine Resources Commission permit and State Water Control Board certification concerning water quality effects are handled on an individual basis. However, it has been reported that cases have existed where the Commission was not aware of projects prior to Corps authorization and project initiation.[57] This situation represents at least a partial bypass of state jurisdiction and reduces protection of the state's interests. This situation apparently is not viewed as a problem at present.

Other mechanisms exist for Commission response on applications for federal license in addition to the Corps public notice procedure. Federal law provides for comment from the Fish and Wildlife Service and from state fish and wildlife agencies,[52] thereby including the Commission, to become a part of license applications. Another opportunity for response exists where the Corps issues an environmental impact statement (EIS)[53] in connection with a proposed project. Of course, minor projects having little environmental impact would not require an EIS, but larger projects would evoke this requirement.

Management of subaqueous lands has taken on a new dimension due to the current interest in oil exploration and development on the outer continental shelf off the Virginia coast. However, the proposed activity is located beyond the traditional three mile state jurisdictional limit, and the U.S. Supreme Court has determined that ownership and control is vested in the federal government[54] and not in the Atlantic coastal states. The 1975 General Assembly passed legislation[55] to control exploration and development on the outer continental shelf contingent on the then-pending Supreme Court decision being favorable to the states. This now defunct legislation would have vested administrative and regulatory responsibilities in the State Corporation Commission, with the role of the Marine Resources Commission limited to review of environmental impact statements.

D. Wetlands Responsibilities

Noting the consequences of continuing wetlands destruction, the General Assembly

has declared their preservation to be the public policy of the Commonwealth, with provision to accommodate necessary economic development in a manner consistent with such preservation.[56] The wetlands act specifies that development in "Tidewater Virginia," defined to include 31 counties and 16 cities,[57] ". . . shall be concentrated in wetlands of lesser ecological significance, in wetlands which have been irreversibly disturbed before July 1, 1972, and in areas of Tidewater Virginia apart from wetlands."[58] As used in the act, the term "welands" generally includes all land contiguous to mean low water and bounded by an upper elevation 1.5 times the applicable mean tide range above mean low water *and* upon which certain specified vegetation is growing on or after July 1, 1972. In the case of Back Bay, the North Landing River, and their tributaries, the definition applies to all marshes subject to regular or occasional tidal flooding and upon which certain vegetation is growing.[59]

The mechanism for wetlands protection exists in the form of a wetlands zoning ordinance[60] which may be adopted by any county, city, or town. Although the quotation in the previous paragraph concerning development of wetlands made reference to "Tidewater Virginia," a term limited to specific counties and cities as used in the act, no such specific geographical restriction applies to adoption of the ordinance. The applicability of the statute will be determined by the existence of physical conditions contained in the definition of "wetlands."

The wetlands zoning ordinance recommended in the legislation provides that nonexempted use or development of wetlands requires approval in the form of a permit to be granted by a wetlands board created by the governing body of any county, city, or town enacting the ordinance. Such boards are to consist of five residents appointed for five-year terms (after an initial period of varying terms to achieve staggering of expiration dates). Appointees cannot hold public office in their respective counties or cities (towns are not mentioned in the statute) except that they may be members of local planning or zoning commissions, directors of Soil and Water Conservation Boards, or of local boards of zoning appeals.[61]

The following uses of wetlands are allowed without permit if otherwise permitted by law:

> (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 nature contour of the marsh;
> (b) The cultivation and harvesting of shellfish and worms for bait;
> (c) Noncommercial outoor 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;
(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. [62]

Certain other projects on which action has been initiated are exempted from the permit requirement. Any project commenced prior to July 1, 1972, is not affected by the act, but any expansion or enlargement of such a project after that date would be subject to control. Projects also are exempted where plans have been filed prior to this date with appropriate agencies of the federal or state government or with either the planning commission, board of supervisors, or city council having jurisdiction over the project. Projects to be located in areas in which an interest has been authorized to be conveyed by the General Assembly prior to July 1, 1972, constitute a third category of exempted developments.[63]

Application for a permit to use or develop wetlands other than for those activities set out above is made to the wetlands board, with copies being sent to the Marine Resources Commission and the Virginia Institute of Marine Science. The application must contain a detailed description of the proposed work and be accompanied by a $25 processing fee. A decision regarding the application cannot be made prior to a public hearing. The board must base its decision on testimony concerning the project and the impact of the development on the public health and welfare as expressed by the policy of preserving wetlands. The board grants the permit if it finds ". . . that the anticipated public and private benefit of the proposed activity exceeds the anticipated public and private detriment and that the proposed activity would not violate or tend to violate the purposes and intent of [wetlands legislation]. . . ." [64]

Control over wetlands has been formulated as a zoning ordinance because the land involved lies above mean low water and therefore is in private ownership.[65] Any attempt to regulate use must give consideration to property rights as protected by the Constitution. Zoning responsibilities have traditionally been delegated to the localities in the Commonwealth, and this trend has been followed in this situation. However, provision is made for state administration of the wetlands zoning ordinance prior to its enactment by the localities in the event that a particular political subdivision does not assume this responsibility.

The Commission has indicated that most localities have chosen to adopt the ordinance and exercise control over the use of their own wetlands. Information published in 1973 indicates the existence of 22 local boards by July 1, of that year, while applications had been processed without the existence of local boards in three localities, including Norfolk, Portsmouth, and Westmoreland. Data concerning the type of action taken on applications processed by that date shows that a large majority was approved. However, the Commission has stated that few of these permits have authorized the destruction of marshland and that in most cases, applications have been amended to lessen the adverse environmental effect of the proposed project.[66]

Guidelines[67] have been developed by the Commission on the basis of studies conducted by the Virginia Institute of Marine Science to assist localities in regulation of wetlands use. These guidelines classify wetlands by type and set forth the environmental consequences of their alteration. Factors used in the evaluation process consisted of vegetative production and detritus availability, waterfowl and wildlife utilization, erosion buffering, water quality control, and flood buffering. Twelve types of wetlands are evaluated in accordance with these factors and grouped into five classifications based on total environmental value. With regard to alteration of wetlands, general and specific criteria are presented which are designed to reduce the adverse environmental impact associated with such alteration.

In addition to continuing responsibilities with regard to guidelines for wetlands use, a principal role of the Marine Resources Commission involves review of decisions by the wetlands board in the situation where the wetlands zoning ordinance is adopted by a county, city, or town. The Commission reviews board decisions under the following conditions:

> (1) An appeal is taken from such decision by the applicant for a permit or by the county, city or town where the wetlands are located; or
> (2) The Commissioner requests such review. The Commissioner shall request such review only when he reasonably believes that the policy and standards of this chapter have not been adequately achieved or that any guidelines which may have been promulgated by the Commission have not been reasonably accommodated. In order to make such a request, the Commissioner must notify the board and the applicant and the county, city, or town where

the wetlands are located within ten days of receipt of notice to the Commissioner of the decision of the board.

(3) Twenty-five or more freeholders of property within the county, city, or town in which the proposed project is located sign and submit a petition to the Commission, provided, such petition must include a statement of particulars setting forth those specific instances wherein the petitioners do allege that the board did fail to follow the policy, standards, or guidelines of this chapter.[68]

The Commission may affirm, modify, or reverse the decision of the wetlands board, with an appeal to the courts available.

Parties who are authorized to request review of the actions of a local wetlands board are limited to applicants, governing bodies of political subdivisions where the wetlands are located, and property owners within the governmental subdivision where the wetlands are located. No provision is made for the intervention of interested individuals or organizations from the state as a whole. It should be recognized that wetlands are a very unique resource, the destruction of which is an irreversable decision. The fact that the General Assembly has declared the preservation of this resource to be the policy of the Commonwealth emphasizes the broad-based concern for wetlands. It therefore appears that provision should be made for others in addition to those in the immediate area to appeal decisions of the local board.

The Commission is directly responsible for the administration of wetlands zoning ordinances in any county, city, or town until the ordinance is adopted. A person who proposes to conduct an activity requiring a permit must make application directly to the Commission in this situation.[69]

The Commission has the authority to prosecute violations of wetlands legislation and regulations of the Commission or of any wetlands board. Violations constitute misdemeanors and, following conviction, every day of continuing violation constitutes a separate offense.[70]

E. Recreational Marine Resources Management

The Commission's major area of activity is commercial fisheries, but it does exercise certain responsibilities concerning recreational utilization of marine resources. Included are the areas of sportfishing, boating, and the prohibition of littering.

The Commission has expressed interest in requests from sportfishing groups concerning greater involvement of the agency in sportfisheries management and has endorsed the establishment of the position of Sportfishing Resources Manager within the agency.[71] The Commission has exercised law enforcement activities for several years, but statutory provisions concerning sportfishing in tidal waters have been limited in

scope. The extensive licensing and other requirements applicable in the state's inland waters are absent with respect to waters within the Commission's jurisdiction, with the principal enforcement duty relating to statutory limits on sizes and number of certain species of fish which may be taken legally.[72] A recently initiated activity undertaken by the agency involves attempts to improve sportfishing through establishment of artificial reefs to attract fish.

The Commission is also active in the area of pleasure boating. It cooperaties with the United States Coast Guard by making equipment and personnel available for search and rescue operations. Boating safety laws[73] are enforced,[74] apparently by virtue of a statutory provision allowing enforcement of these laws by all law-enforcement officers.[75] Primary responsibility for enforcement is vested in the Commission of Game and Inland Fisheries,[76] and no specific reference to the Commission of Marine Resources is made.

Enforcement of a statute which prohibits littering of the waters of the state[77] is also carried out by the Commission. Enforcement is aided through education of the public by means of posters produced by the Commission.[78]

F. Federal Relations and Interstate Commission Involvement

The Commission is authorized to receive federal grants for fisheries projects. The Commercial Fisheries Research and Development Act[79] provides funds on a matching basis for state projects involving conservation of fishery resources and strengthening of the economic status of the fishing industry. Allotment of these funds is carried out by the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce. These allotments are based on the size of the commercial landings of fish and shellfish in the state. The National Marine Fisheries Service also allots matching funds for jellyfish research under the Jellyfish Act.[80] The Anadromous Fish Act[81] (referring to fish migrating up rivers from the sea to breed in fresh water) authorizes federal appropriations on a matching basis for conservation, development, and enhancement of anadromous fish resources. Funds under this act are allotted by the National Fisheries Service and the Bureau of Sport Fisheries on the basis of the commercial landings *and* the magnitude of the sport fishery.

Two federally assisted projects are administered directly by the Commission, including the shell planting project for the rehabilitation of the oyster industry and a fishery statistics and library program. A number of other projects involving matching funds are subcontracted by the Commission to other organizations. For example, the Virginia Institute of Marine Science has provided matching state funds and has been responsible for research related to production of disease resistant oysters, study of clam resources, various projects involving anadromous fish, and jellyfish studies.

The Virginia Seafood Council, formerly the Greater Tidewater Seafood Marketing Association, is responsible for activities for the promotion of seafood through education and market development. The Commission currently is providing matching funds for the seafood promotion project.[82]

Virginia is a member of two interstate commissions interested in fisheries. The Potomac River Fisheries Commission[83] consists of six members, with three chosen from the membership of the Marine Resources Commission and three from the Commission's sister agency in Maryland. This commission has complete authority to regulate the fisheries of the Potomac River within prescribed boundaries. Enforcement of its regulations and orders is a joint effort of the law-enforcement agencies and officers of Maryland and Virginia. The engineering office of the Marine Resources Commission also assists the Potomac River Fisheries Commission with technical problems.

The Atlantic States Marine Fisheries Commission[84] consists of three representatives from each of the Atlantic seaboard states. The compact creating this commission requires one of the representatives to be the executive officer of the state's administrative agency charged with conservation of the fisheries resources (Marine Resources Commission in Virginia), the second to be a member of the state legislature, and the third to be a citizen with knowledge of and interest in fisheries problems. This commission is not regulatory in nature but provides advisory services and makes recommendations concerning fisheries matters.

III. Organization

The Marine Resources Commission consists of a chairman and six members, all of whom are appointed by the Governor. The chairman, who serves as the Commissioner of Marine Resources, must be an experienced administrator with knowledge of seafood and marine affairs. The composition of the Commission must be representative of the various segments of the users of the marine resources of the state.[85] The Commissioner and two of the associate members serve at the pleasure of the Governor while four associate members are appointed for four-year terms. No person except the Commissioner is eligible to serve for more than two consecutive terms.

The Commissioner, with a few exceptions, is wholly responsible for the enforcement of marine fish and shellfish laws and for the appointment and control of all employees.[86] One such exception[87] is the appointment of a conservation and repletion officer, which is the responsibility of the Commission. Legislation provides that all other powers conferred on the agency are to be exercised jointly by the Commissioner and the associate members.[88]

The Commission's employees are divided functionally into administration, enforcement, survey engineering, environmental engineering and conservation and repletion.

Enforcement personnel consist of district inspectors, patrol boat captains and mates, and the airplane pilot and co-pilot who are under the supervision of a law enforcement chief and four supervisors. The engineering department is headed by a chief engineer and consists additionally of three surveyors, two surveyor's aids, and two clerical personnel. Permits for use of subaqueous beds and those issued under wetlands legislation are handled by the environmental department, which consists of a chief environmental officer, two marine resource engineers, an office manager, and four clerical personnel.[89] The conservation and repletion officer is in charge of the shellfish repletion program.[90]

FOOTNOTES

1. *Va. Rev. Code,* 1803, ch. 197.
2. *Va. Acts of Assembly,* 1875, ch. 248.
3. *Id.,* 1877, ch. 132.
4. *Id.,* 1884, ch. 254.
5. *Id.,* 1898, ch. 225.
6. *Id.,* 1916, ch. 501.
7. *Id.,* 1916, ch. 152.
8. *Id.,* 1927, ch. 33, sec. 19.
9. *Id.,* 1942, ch. 390.
10. *Reorganization Provisions of the Code of Virginia,* title 10 (1948).
11. *Va. Acts of Assembly,* 1968, ch. 746.
12. *Id.,* 1972, ch. 711.
13. *Va. Code Ann.,* sec. 28.1-3 (1973).
14. *Id.,* sec. 28.1-23 (1973).
15. *Id.,* sec. 28.1-24., 28.1-26 (1973).
16. *Id.,* sec. 28.1-25 (1973).
17. *Id.,* sec. 28.1-29 (1973).
18. *Id.,* secs. 28.1-47 through 28.1-174 (1973).
19. *See, e.g.,* Virginia Resources Commission, "Seventy-Fourth Annual Report," p. 16 (fiscal year ending June 30, 1973).
20. *Va. Code Ann.,* sec. 28.1-13, 37, 39 (1973).
21. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," p. 8-9 (fiscal years ending June 30, 1972 and June 30, 1973).
22. *Va. Code Ann.,* sec. 62.1-1 (1973).
23. *Id.*
24. Virginia Marine Resouces Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," p. 12 (fiscal years ending June 30, 1972 and June 30, 1973).
25. *Id.,* p. 14.
26. *Va. Constitution,* Art. IX, Sec. 3; *Va. Code Ann.,* sec. 28.1-111 (1973).
27. *Va. Code Ann.,* secs. 28.1-82 to 28.1-85 (1973).

28. Virginia Marine Resources Commission, "Seventy-Second and Seventy-Third Annual Reports," p. 18 (fiscal years ending June 30, 1970 and June 30, 1971).
29. *Id.,* "Seventy-Fourth and Seventy-Fifth Annual Reports," pp. 49, 51 (fiscal years ending June 30, 1972 and June 30, 1973).
30. 16 *U.S.C.A.* 779 (1974).
31. *Va. Code Ann.,* secs. 28.1-93 (1973); 62.1-3 (Cum. Supp. 1976).
32. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," pp. 24, 27 (fiscal years ending June 30, 1975 and June 30, 1973).
33. *Va. Code Ann.,* sec. 28.1-85, 28.1-85.1 (1973).
34. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," pp. 14-15 (fiscal years ending June 30, 1972 and June 30, 1973).
35. *Va. Code Ann.,* sec. 28.1-108 (Cum. Supp. 1976).
36. Virginia Marine Resources Commission, "Seventy-Second and Seventy-Third Annual Reports," p. 11 (fiscal years ending June 30, 1970 and June 30, 1971).
37. *Id.,* p. 24.
38. *Va. Code Ann.,* sec. 28.1-179 (1973).
39. *Id.,* sec. 62.1-3 (Cum. Supp. 1976).
40. *Id.*
41. *Id.*
42. Virginia Marine Resources Commission, "Procedure of the Marine Resources Commission for Issuance of Permits Pursuant to Section 62.1-3 of the *Code of Virginia"* (not dated).
43. *Va. Code Ann.,* sec. 62.1-3.02 (Cum. Supp. 1976).
44. *Id.,* sec. 62.1-4 (1973).
45. *Id.,* sec. 62.1-5 (1973).
46. *Id.,* sec. 33.1-117 (1970).
47. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.A.* 1344 (Supp. 1976); 33 *C.F.R.* 209 (1976).
48. 33 *C.F.R.* sec. 209.120(f)(3) (1975).
49. *See* the section of this report concerning the Council on the Environment.
50. *Va. Code Ann.,* sec. 62.1-3 (Cum. Supp. 1976).
51. Richard Kingham and David Steuber, "Analysis of Five Federal-State Administrative Review Procedures Designed to Protect the Environment of Virginia," Prepared for the Governor's Council on the Environment, August 17, 1971, pp. vi-vii.
52. Fish and Wildlife Coordination Act of 1958, 48 Stat. 401, *as amended,* 16 *U.S.C.* 661 *et seq.* (1970).
53. National Environmental Policy Act of 1969, sec. 102(2)(c), 42 *U.S.C.* 4332(2)(c) (1973).
54. *United States* v. *Maine,* 420 U.S. 515 (1975).
55. Virginia Outer Continental Shelf Act of 1975, S.B. No. 788 (approved February 22, 1975).
56. *Va. Code Ann.,* sec. 62.1-13.1 (1973).

57. *Id.,* sec. 62.1-13.2(d) (Cum. Supp. 1976).
58. *Id.,* sec. 62.1-13.3 (1973).
59. *Id.,* sec. 62.1-13.2(f) (Cum. Supp. 1976).
60. *Id.,* sec. 62.1-13.5 (Cum. Supp. 1976).
61. *Id.,* sec. 62.1-13.6 (1973).
62. *Id.,* sec. 62.1-13.5(3) (Cum. Supp.1970).
63. *Id.,* sec. 62.1-13.20 (Cum. Supp. 1976).
64. *Id.,* sec. 62.1-13.5(9)(b) (1973).
65. *Id.,* sec. 62.1-2 (1973).
66. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," p. 17 (fiscal years ending June 30, 1972 and June 30, 1973).
67. Virginia Marine Resources Commission, "Wetlands Guidelines," (1974).
68. *Va. Code Ann.,* sec. 62.1-13.11 (1973).
69. *Id.,* sec. 62.1-13.9 (1973).
70. *Id.,* sec. 62.1-13.16 (Cum. Supp. 1976); secs. 62.1-13.17 to 13.18 (1973).
71. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy Fifth Annual Reports," pp. 27-28 (fiscal years ending June 30, 1972 and June 30, 1973).
72. *Va. Code Ann.,* sec. 28.1-49.1, 28.1-50 (1973).
73. *Id.,* sec. 62.1-166 to 62.1-186 (1973).
74. Virginia Resources Commission, "Seventieth and Seventy-First Annual Reports," (including fiscal years ending June 30, 1968 and June 30, 1969).
75. *Va. Code Ann.,* sec. 62.1-184 (1973).
76. *Id.,* sec. 62.1-168 (1973).
77. *Id.,* sec. 62.1-194 (Cum. Supp. 1976).
78. Virginia Marine Resources Commission, "Seventieth and Seventy-First Annual Reports," p. 27 (including fiscal years ending June 30, 1968, and June 30, 1969).
79. 16 *U.S.C.A.* 779 *et seq.* (1974).
80. 16 *U.S.C.A.* 1201 *et seq.* (1974).
81. 16 *U.S.C.A.* 757 *et seq.* (1974), *as amended* (Cum. Supp. 1976).
82. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," p. 32 (including fiscal years ending June 30, 1972, and June 30, 1973).
83. *See: Va. Code Ann.,* sec. 28.1-203 (1973).
84. *Id.,* sec. 28.1-202 (1973).
85. *Id.,* secs. 28.1-4,5.
86. *Id.,* sec. 28.1-9 (Cum. Supp. 1976); secs. 28.1-12,13 (1973).
87. *Id.,* sec. 28.1-20 (1973).
88. *Va. Code Ann.,* sec. 28.1-9 (Cum. Supp. 1976).
89. Virginia Marine Resources Commission, "Seventy-Fourth and Seventy-Fifth Annual Reports," pp. 7-16 (including fiscal years ending June 30, 1972, and June 30, 1973).
90. *Va. Code Ann.,* sec. 28.1-20 (1973).

COMMISSION OF GAME AND INLAND FISHERIES

I. Historical Development

The Commission of Game and Inland Fisheries first came to exist under its present title in 1927.[1] Before this date, the agency had gone through a considerable period of evolution. Early state laws for protection of game were independent of inland fisheries laws. The earliest game protection laws restricted hunting practices but did not place the responsibility for their administration and enforcement with any particular state agency.[2] An act[3] passed in 1903 was of broader scope than previous legislation and included provisions for the mandatory appointment of game wardens by the circuit and corporation courts. This act established open and closed hunting seasons, but county boards of supervisors were given authority to shorten the prescribed open seasons. Hunting licenses were required for all non-resident hunters, with proceeds to go toward payment of game warden salaries and game propagation to the extent that salaries were exceeded. No duties were placed on the wardens with regard to protection of fish. Management and regulation of inland fisheries was originally a part of the commercial fisheries program having its emphasis on the tidal waters.[4]

A separate agency known as the Department of Game and Inland Fisheries was created by legislation[5] passed in 1916 and was granted authority related to game, inland fisheries, and dogs. The Commissioner of Fisheries was made, ex officio, Commissioner of Game and Inland Fisheries and was given authority to appoint game wardens for each county and city. The 1916 act required the purchase of hunting licenses by the residents of the state, the proceeds from which were established as the game protection fund to be used for departmental purposes.

The agency was made independent of the Commission of Fisheries in 1926 and was reorganized under a commission of five members appointed by the Governor. The Governor also was given the responsibility of designating the chairman of the commission, who served as the administrative head of the Department.[6]

The Reorganization Act of 1927[7] changed the name of the agency to Commission of Game and Inland Fisheries and incorporated it into the Department of Conservation and Development. Also included in this new department was the Commission of Fisheries and the State Commission on Conservation and Development (now the Department of Conservation and Economic Development). However, this merger was essentially nominal, and the commission remained an independent agency. Legislation[8] enacted in 1942 designated a departmental committee on cooperation and coordination consisting of the chairmen of the three commissions included. Legislation incorporating the three commissions into one department was deleted by another governmental reorganization[9] in 1948, and the Commission of Game and Inland Fisheries was continued as a separate agency.

Shortly after its creation, the Commission was given broad powers to make its own regulations for the protection of fish and game. In 1928, the legislature removed the previously existing power of the boards of supervisors to prescribe local regulations for the protection of game.[10] Most of the special and local regulation which had been enacted was repealed by the General Assembly in 1930,[11] and the Commission was given its regulation-making authority at that time.[12] However, the Commission has not been free of all restraint in making regulations. Special legislation has continued to be inacted at various times, and a provision requiring the Commission to enact local regulations on the request of the governing body of a political subdivision existed as late as 1970 until repealed by the General Assembly.[13]

The number of commissioners making up the governing board of the agency has been increased since its creation. The original number of five members was increased to seven by the 1930 legislation, which also made other changes, as previously indicated. The early statutes did not require the commissioners to be appointed on a geographical basis. A legislative study commission appointed by the 1938 General Assembly [14] recommended an increase to nine members, one from each of the nine congressional districts existing at that time. This procedure of appointing commissioners was intended to give equal representation to the various geographical divisions of the state. This provision was subsequently enacted into law, and the number of commissioners increased to 10 with the corresponding increase in congressional districts.

II. Functions of the Agency

The Commission of Game and Inland Fisheries has several major responsibilities with respect to the administration and enforcement of legislation concerning game, inland fisheries, dogs, and boating. These responsibilities can be broken down into the following categories: scientific management of game and inland fisheries; adoption of regulation concerning hunting, fishing, and trapping; ownership and management of lands and waters for outdoor recreation; replenishment of native stocks and introduction of new species of game and fish; enforcement of laws concerning boating; education of the public regarding game and fish conservation; and enforcement of dog laws under certain conditions.

A. Scientific Management of Game and Inland Fisheries

Most of the responsibilities of the Commission relate to the management of game and fisheries resources, but the more obvious functions of the agency such as the regulation of hunting and fishing practices and operation of outdoor recreation facilities is based on a more fundamental program of biological and behavioral studies of individual game and fish species. This program is not detailed in existing enabling legislation for the Commission's operations, but is encompassed by the general authority ". . . to exercise such other powers and to do such other things as it may deem

advisable for the conservation, protection, replenishment, propagation of and increasing the supply of game birds, game animals and fish and other wildlife of the State."[15]

B. Adoption of Fishing, Hunting, and Trapping Regulations

Another basic responsibility of the Commission is the adoption of regulations concerning hunting, fishing, and trapping. This power is granted the Commission in specific statutory terms.

> . . . the Commission is hereby vested with the necessary power to determine when to what extent, if at all, and by what means it is desirable to restrict, extend or prohibit in any degree the provisions of law obtaining in this state or any part thereof for the hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any wild bird, wild animal, or fish from inland waters and may upon its own motion or upon written petition of one hundred licensed resident landowners of any county propose regulations for such purpose.[16]

The primary intent of the provision is to grant to the Commission authority to adopt and alter regulations, but the choice of language referring to the alteration of "provisions of law" is unfortunate as it conceivably could be interpreted to encompass statuatory law. This interpretation is unlikely, however, and the Commission does not view the provision as granting authority for the alteration of legislation. Indeed, any such broad interpretation would likely raise questions as to the unlawful delegation of legislation authority by the General Assembly. Clarity would be promoted if the language were changed to reflect the apparent restriction of the Commission's authority to the alteration of regulations.

Statutory law concerning the taking of game within the state and fish from its inland waters is mostly of a general nature. Certain statutes specify various licensing requirements[17] for hunting, fishing and trapping; and other acts place certain restrictions on methods to be employed in these activities.[18]

The procedure by which a regulation can become effective is specified by legislation. The primary requirement in effectuating regulations consists of a public hearing at which all interested parties may be heard.[19] It is the practice of the Commission to hold two such hearings annually. New proposals of the Commission are presented at the first hearing, and interested parties are allowed to make recommendations which can then be given full consideration in the preparation of final regulations. At the second hearing, reactions to proposals arising from the initial hearing are obtained before final disposition.

The Commission, in acting on these proposed regulations, must balance the desires of special interest groups and governing bodies of political subdivisions with the find-

ings of its own fish and game management specialists. The Commission is not bound by the views of special groups or political subdivisions and can adopt any proposed regulation where it is satisfied that such regulation is desirable. However, the Commission traditionally appears to have given considerable weight to the views of the governing bodies of the state's political subdivisons.

The regulations adopted by the Commission provide detailed control over hunting, fishing, and trapping. The utilization of a procedure wherein specific controls are decided by regulatory action provides a framework for prompt action to meet changes in conditions affecting the abundance of fish and wildlife. Examples of detailed control prescribed by regulation include seasons and bag limits for the taking of fish and game.[20] Commission regulations are given the effect of law, and their violation consitutes a misdemeanor.[21] All regulations together with applicable legislative provisions are published annually in the form of a pamphlet.[22]

Not all regulations of the Commission are uniform throughout the state. At present, the most diversity exists with respect to hunting seasons for certain game animals. Due to the differing climatic and topographic conditions across the state, complete uniformity may not be practical or feasible.

Seasons, bag limits, and other regulations applicable to migratory game birds must be adopted in accordance with federal law.[23] Control by the federal government is necessary because of the interstate, and sometimes international, movement of these birds. The United States is a party to several international treaties regarding the latter situation and therefore must regulate hunting of the species of birds involved in accordance with these obligations. However, the Commission does have some freedom of choice in these cases. For instance, two alternate methods of controlling the harvest of a specific species might be offered by the federal government, with one combining a relatively long open season with a small bag limit, and the other a shorter season with a larger daily bag limit.

C. Enforcement of Laws and Regulations for Fishing, Hunting, and Trapping

The commission has the authority to enforce statutory fish and game laws on all inland waters and lands within the state.[24] Its jurisdiction includes lands owned by the United States, subject to the rights and powers of the federal government therein, as well as all impounded water areas resulting from power development.[25] The jurisdiction of the Commission to enforce fish laws is limited to inland waters, which are defined to include ". . . all waters above tidewater and the brackish and freshwater streams, creeks, bays, including Back Bay, inlets, and ponds in the tidewater counties. . . ."[26] This jurisdiction may overlap to some extent with that of the Marine Resources Commission which extends ". . . to the fall line of all tidal rivers and streams. . . ."[27] The question of jurisdictional dividing line has been resolved by cooperative agreement between the two agencies.

Enforcement responsibilities are exercised primarily through game wardens which the Commission is authorized to appoint.[28] In addition to the regular wardens, all peace officers of the state are ex officio wardens.[29]

D. Ownership and Management of Recreational Lands

The Commission has the authority to acquire ownership or a lesser interest in land and to develop such property for the improvement of game and fish, including the construction of lakes and ponds.[30] The Commission in 1976 owned 23 wildlife management units comprising some 165,000 acres; 2,070 acres of public fishing lakes, with an additional 1,097 acres under construction; and 124 public water access areas.[31]

In addition, the Commission manages another 1,900,000 acres which it does not own.[32] Lands managed by the Commission but not under its ownership consist of property owned by other state agencies, federal agencies, and private companies and individuals. The Commission's management program encompasses the National Forests of the state, military lands, and the major impoundments within the state. The Commission has specific legislative authority[33] to control land owned by the Commonwealth that underlies Back Bay and its tributaries, and the North Landing River from the North Carolina line to North Landing Bridge. Commission authority includes regulation or prohibition of drilling, dredging, or other operation recovering shell or other substance. The principal emphasis of this control measure is the protection of the area for fish and wildlife.

Legal authority exists for the Commission to regulate recreational use of private lands leased to the Department of Conservation and Economic Development and the Commission as forest, game, fish, and recreation reserve.[34] The enabling legislation for the creation of these reserves allows any owner of land suited to the growth of timber to offer the land for lease to the department and the exclusive hunting, fishing, and recreation rights for lease to the Commission. If the land is accepted, it becomes the duty of the State Forester and the various divisions of the department to aid in the development and protection of timber resources on the property. The Commission has the duty of propagating and protecting game and fish[35] and is authorized to sell hunting, fishing, and limited recreational privileges on any such land.[36] A specified portion of the proceeds from such sales is to be used for payment of real estate taxes on the land involved. Provision is made for deferment of payment on real estate taxes until the timber is marketed (up to a maximum of 40 years), provided the county wherein the land is located gives its consent.[37]

The primary purpose for which the Commission acquires and manages land is for provision of improved public hunting and fishing opportunities. This emphasis is dictated by the traditional mission of the agency and by constraints on the use of funds. As a condition for receiving federal aid for fish and wildlife restoration projects, the

state has passed legislative provisions requiring that funds from hunting and fishing licenses be restricted to administration of the Commission and to fish and wildlife-related purposes.[38]

In order to broaden the outdoor recreation opportunities in connection with Commission-owned areas, the Commission of Game and Inland Fisheries and the Commission of Outdoor Recreation have initiated a cooperative program within which supplemental funds are made available for general recreation activities at hunting and fishing areas.[39]

Another land management function has been proposed for the Commission in connection with the scenic rivers program. The Virginia Scenic Rivers Act[40] provides for designation of a state agency to administer any stream included in the scenic river proposal, and the Commission of Game and Inland Fisheries has been recommended as the appropriate agency to serve in this capacity in certain cases.[41] Due to the above mentioned restriction on use of funds, special provisions to meet the administrative expenses involved will likely be necessary.

Since most of the land in the Commonwealth is in private ownership, the Commission also provides assistance for the management of game and fish on such lands. Information and technical assistance is provided in the preparation of management plans and in improving food and habitat for wildlife. Information is also provided with respect to the design and maintenance of fish ponds by the private landowner.

E. Stocking of Game and Fish

The Commission has the authority ". . . [t] o acquire and introduce any new species of game birds, game animals or fish on the lands and within the waters in the State. . ." and ". . . to restock, replenish and increase any depleted native species of game birds, game animals, or fish. . . ."[42] This authority has been exercised in several cases involving birds, animals, and fish. Often, the stocking has involved transfer of the desired species from one place in the state where an abundant population exists to another locality where there is an absence or relative scarcity. Whitetail deer and wild turkey have been stocked in this manner.

In cases where non-native species are involved, sources outside the state must be utilized, and mutually beneficial exchanges have been negotiated with other states. For instance, muskellunge have been obtained from Pennsylvania in exchange for Virginia's striped bass. The state also raises fish in captivity for future release, with the various trout hatcheries being the most obvious examples. The most extensive stocking program of a continuing nature is the trout stocking program carried out in the western part of the state. The 1974 Virginia Outdoors Plan noted that the Commission stocked a total of 600 miles of streams.[43]

F. Enforcement of Boating Laws

The Commission is responsible for the enforcement of laws relating to boating and water safety.[44] Here, the Commission's jurisdiction encompasses all public waters within the territorial limits of the state, including tidal waters over which the Commission has no authority to enforce fish laws. The United States Coast Guard has concurrent jurisdiction over these navigable waters; however, by agreement, the Coast Guard assumes major responsibility for tidal waters while the Commission largely confines its activities to inland waters. Boating safety laws are also enforced in tidal waters by the Marine Resources Commission under a provision of the law authorizing enforcement by all state law enforcement officers.[45]

Three members of the Commission serve as the Motorboat Committee and place special emphasis on the administration and enforcement of motorboat laws.[46] These laws require that boats, with a few specific exceptions, must be registered with the state and must display a proper identification number.[47] Statutes also specify lights and other equipment for boats of various sizes.[48] Certain aspects of boat operation are also controlled by statute,[49] and the Commission may promulgate special regulations for the operation of boats within specific political subdivisions.[50]

G. Educational Activities

The Commission has a direct statutory authority"... to have educational matter pertaining to wildlife published and distributed; to hold exhibits throughout the State for the purpose of interesting school children, agriculturists and other persons in the preservation and propagation of the wildlife of this state; to employ speakers and lecturers to disseminate information concerning the wildlife of the State and the protection, replenishment and propagation thereof. . . ."[51]

In response to this mandate, the Commission engages in a variety of educational activities. It publishes *Virginia Wildlife,* a monthly magazine containing outdoors articles by a variety of authors and regular features such as editorials and current news items. The Commission also makes available a number of other publications and maps, and a film loan service is maintained.[52] Much of the Commission's information dissemination program is directed toward hunting, fishing, and boating, but emphasis is also placed on natural resource conservation and environmental quality in general.

H. Enforcement of Dog Laws

Although the Commission once had primary responsibility for dog law enforcement, this duty now generally rests with the localities under legislative provisions authorizing the appointment of dog wardens.[53] Creation of this position removes the locality involved from the Commission's jurisdiction with regard to dog laws. An incentive

for local enforcement is provided in the form of an increase in the revenues from dog license fees that can be retained by the locality.[54]

III. Organization

The Commission consists of one member from each of the state's ten congressional districts. The commissioners are appointed by the Governor, subject to confirmation by the General Assembly, to no more than two successive terms.[55] The Commission elects one member as chairman and appoints an executive director who is not a member of the Commission but who is its principal administrative officer and who is responsible for seeing that its orders and regulations are carried out.[56] Statutory law is not explicit as to the powers and duties of the executive director, but provides for him to exercise such powers and duties as may be conferred or imposed on him by the Commission.[57]

The Commission may employ as many persons as are necessary to carry out its operations.[58] Employees are organized into the following divisions: game, fish, law enforcement, education, and administrative services. Although some of these personnel are stationed in the central office in Richmond, the majority are scattered throughout the state at various stations and field locations.

The game and fish divisions are responsible for game and fish development projects and stocking programs; and the biologists in these divisions provide technical expertise upon which scientific game and fish management can be based.

The enforcement division enforces statutory laws and the Commission's regulations concerning hunting, fishing, trapping, boating, and dogs. Enforcement of these laws and regulations is accomplished by a force of regular game wardens and additional special wardens. Game wardens have statewide jurisdiction but gnenerally function within a specified area. The state is divided into six districts, each headed by a supervisor,[59] and into 28 patrol units consisting of two to four counties each. Each of these units normally consists of four wardens, one of whom is the area leader having the responsibility of coordinating the work of the other three.

The education division serves primarily to disseminate information concerning the state's wildlife resources. This information generally relates to the conservation of wildlife and related resources. Hunting safety is another subject of educational activities.

The administrative services division is responsible for the financial affairs of the Commission. The Commission is somewhat unique among state agencies in that no money from the state general fund is used to meet its expenses. Salaries of employees and other operating expenses incident to carrying out the provisions of the hunting, trapping, inland fish, and dog laws are paid from the game protection fund. This fund is

maintained separately in the state treasury and includes fees from the sale of hunting, fishing, and trapping licenses and a portion of dog license fees.[60] All expenses for the administration and enforcement of motorboat laws must be met from revenues resulting from the boat numbering system.[61]

The Commission also receives certain federal funds. The state has enacted the required statutory provisions[62] prohibiting use of fishing and hunting license fees for purposes other than the operation of the Game Commission and therefore qualifies for appropriations from the Federal Aid to Fish Restoration Fund[63] and the Federal Aid to Wildlife Restoration Fund.[64] Up to three-fourths of the cost of approved projects may be met from this source. The Commission also receives money from the Land and Water Conservation Fund[65] which has been used for capital outlay.

FOOTNOTES

1. *Va. Acts of Assembly,* 1927, ch. 33, sec. 19.
2. *See, e.g., Rev. Code of Va.,* ch. 252, 256 (1819).
3. *Va. Acts of Assembly,* 1903, ch. 227.
4. *See, Id.,* 1877, ch. 212.
5. *Va. Acts of Assembly,* 1916, ch. 152.
6. *Id.,* 1926, ch. 295.
7. *Id.,* 1927, ch. 33, sec. 19.
8. *Id.,* 1942, ch. 390.
9. *Reorganization Provisions of the Code of Virginia,* title 10 (1948).
10. *Va. Acts of Assembly,* 1928, ch. 220.
11. *Id.,* 1930, ch. 247.
12. *Id.*
13. *Va. Acts of Assembly,* 1970, ch. 148.
14. *See,* H. J. Res. No. 13, H. D. Doc. No. 4 (1940).
15. *Va. Cod Ann.* sec. 29-11 (1973).
16. *Id.,* sec. 29-125 (1973).
17. *Id.,* secs. 29-51 to 29-92 (1973), *as amended* (Cum. Supp. 1976).
18. *See, e.g., Id.,* secs. 29-140, 29-144.2 (Cum. Supp. 1976).
19. *Va. Code Ann.,* sec. 29-129 (Cum. Supp. 1976).
20. *Id.,* sec. 29-129.1 (1973).
21. *Id.,* sec. 29-129 (1973).
22. Required by *Id.,* sec. 29-128.1 (1973).
23. *Va. Code Ann.,* sec. 29-137 (1973).
24. *Id.,* sec. 29-13 (1973).
25. *Id.,* sec. 29-12 (1973).
26. *Id.,* sec. 29-13.(1973).

27. *Id.*
28. *Id.*, 29-24 (1973).
29. *Id.*, sec. 29-29 (1973).
30. *Id.*, sec. 29-11 (1973).
31. Letter from James F. McInteer, Jr., Assistant Director, Commission of Game and Inland Fisheries, to William R. Walker, June 9, 1976.
32. *Id.*
33. *Va. Code Ann.*, sec. 62.1-5 (1973).
34. *Id.*, sec. 10-22 *et seq.* (1973).
35. *Id.*, sec. 10-24 (1973).
36. *Id.*, sec. 10-25 (1973).
37. *Id.*, sec. 10-26 (1973).
38. *Id.*, sec. 29-1.1, 29-2 (Cum. Supp. 1976).
39. *See,* Virginia Commission of Outdoor Recreation, "The Virginia Outdoors," Vol. 5, No. 2, p. 1 (Nov. 1974).
40. *Va. Code Ann.*, sec. 10-167 *et. seq.* (1973).
41. *See, e.g.* Virginia Commission of Outdoor Recreation, "Staunton River: A Scenic River Report to the Governor and General Assembly," p.23 (1973).
42. *Va. Code Ann.*, sec. 29-11 (1973).
43. Commonwealth of Virginia, Commission of Outdoor Recreation, "The Virginia Outdoors Plan 1974," p. 67 (1974).
44. *Va. Code Ann.*, sec. 62.1-166 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
45. *Id.*, sec. 62.1-184 (1973).
46. *Id.*, sec. 62.1-168 (1973).
47. *Id.*, secs. 62.1-169, 62.1-173 (1973).
48. *Id.*, secs. 62.1-172, 62.1-175 (1973).
49. *Id.*, sec. 62.1-176 (1973).
50. *Id.*, sec. 62.1-182 (1973).
51. *Id.*, sec. 29-11 (1973).
52. A publications list and film catalogue are available from the Commission.
53. *Va. Code Ann.*, sec. 29-184.2 (Cum. Supp. 1976).
54. *Id.*, sec. 29-184.5, 29-184.6 (1973).
55. *Id.*, sec. 29-3 (Cum. Supp. 1976).
56. *Id.*, sec. 29-8 (1973).
57. *Id.*, sec. 29-6 (1973).
58. *Id.*, sec. 29-15 (1973).
59. *Va. Code Ann.*, sec. 29-24 (1973) provides that not more than six supervisors shall be appointed.
60. *Va. Code Ann.*, sec. 29-20 (1973).
61. *Id.*, sec. 62.1-168 (1973).
62. *Id.*, secs. 29-1.1, 29-2 (Cum. Supp. 1976).
63. 16 *U.S.C.* 777 *et seq.* (1974).
64. 16 *U.S.C.* 669(a) *et seq.* (1974).
65. 16 *U.S.C.* 460 l-5 (1974).

STATE CORPORATION COMMISSION

I. Historical Development

The Constitution of 1902 provided that "A permanent commission, to consist of three members, is hereby created, which shall be known as the State Corporation Commission."[1] The Commission was put into operation by a 1903 enactment of the General Assembly relating to the appointment and organization of the Commission and its jurisdiction, powers, functions, and duties.[2] This new agency took over the powers, duties, and functions of the previously existing Board of Public Works which had also been a creation of the Constitution.[3] The Board had consisted of the Governor, the Auditor of Public Accounts, and the Treasurer of the Commonwealth.[4]

The Constitution of 1902 provided for the Commission to be the department of government to issue charters for domestic corporations and licenses for foreign corporations. It was given the power of supervising, regulating and controlling all transportation and transmission companies doing business in the state, where "transmission company" was defined to include telegraph and telephone companies. This authority included the enforcement against such companies of reasonable rates, charges, classifications of traffic, rules and regulations. The Commission was also empowered to require such companies to provide all such public service facilities and conveniences as were reasonable and just.[5] The aforementioned regulatory powers granted to the State Corporation Commission extended only to transportation and transmission companies, all gas, electric light, heat and power companies, and all persons authorized to exercise the right of eminent domain, or to use or occupy any street, alley, or public highway". . . in such a manner not permitted to the general public. . . ."[6]

No specific authority with respect to the regulation of such corporations was enunciated in the 1902 Constitution or in the 1903 Acts of Assembly which statutorily implemented the Constitution.[7] Regulatory authority with regard to such operations was not bestowed until 1914. The Commission was given the authority to fix rates and impose regulations where the practices of any public utility was found to be unjust, unreasonable, or discriminatory. The term "public utility" was established as coming within the meaning of "public service corporation" and was specifically defined to ". . . embrace every corporation (other than a municipality), company, individual, or association of individuals, their lessees, trustees, or receivers, appointed by any court whatsoever, that now or hereafter may own, operate, manage, or control any plant or equipment . . . for the conveyance of telephone messages or for the production, transmission, delivery, or furnishing of heat, light, water or power either directly or indirectly to or for the public."[8] This definition was restricted in 1918 to exclude hotels.[9] It was broadened in 1950 to include sewerage facilities[10] and in 1966 to include facilities for chilled air and chilled water.[11] It was again restricted in 1954 to exclude corporations created under Title 13 of the Code of Virginia (now Title 13.1)[12] relating to domestic stock corporations.[13]

In 1950 the General Assembly enacted the Utility Facilities Act[14] which required public utilities to obtain state consent to operate in the form of a certificate of convenience and necessity from the Commission. However, the requirement does not apply to those companies in existence on July 1, 1950, the effective date of the act. The original definition of "public utility" contained in this act included all companies for the generation, transmission, or distribution of electric energy for sale; for the production, transmission, or distribution of gas (except when in enclosed portable containers) for sale, for heat, light, or power; or for the furnishing of telephone service or water. This definition was later revised to include sewerage facilities but exempted companies furnishing sewerage facilities or water to less than fifty customers.[15] Other minor exceptions were enacted in 1970.[16]

Water and sewerage systems not regulated as public utilities were coverd by legislation enacted in 1954. All such systems furnishing service to 50 or more subscribers for compensation were made subject to investigation by the Commission upon complaint of 50 or more of the subscribers.[17] This enactment is still in effect in its original form.[18]

A 1965 enactment required corporations that furnish water or sewerage facilities to the public to incorporate as public service companies.[19] A 1970 amendment specified that this requirement extended only to water and sewer companies who serve more than 50 customers.[20]

The major water resource responsibility of the Commission is the result of a 1928 enactment of the General Assembly vesting in the Commission the authority of the Commonwealth to regulate and control water power development. The act originally required a license for the construction of a dam in or across "waters of the state" as defined in the act.[21] It was amended in 1932 to encompass all hydroelectric dams in addition to dams in "waters of the state." This amendment also authorized any person, firm, association or corporation, planning to construct any dam for non-hydroelectric purposes or on waters which were not within the definition of "waters of the state," to voluntarily apply for a license from the Commission.[22] The applicant was thus availed of the public hearing and expanded eminent domain powers granted by the act.

Legislation concerning the number and appointment of Commissioners to the State Corporation Commission has been amended on several occasions since the creation of the agency. The original Constitutional provision called for three members, and the original manner of selection was by appointment by the Governor, subject to confirmation by the General Assembly in joint session.[23] This procedure was changed in 1918 when the General Assembly, by virtue of authority contained in the Constitution, enacted a statute providing for the election of the members by the qualified voters of the state.[24] In 1926, this statute was repealed and the power to appoint was again vested in the Governor.[25] A constitutional amendment ratified in 1928

provided for election of the Commissioners by the General Assembly.[26] The current Constitution provides for a three-member Commission to be elected by the General Assembly and authorizes, upon a majority vote of the members of the Assembly, the expansion of the Commission to no more than five members.[27] This authority has not been exercised.

II. Functions of the Agency

The responsibilities of the State Corporation Commission are established by the Constitution and by enactments of the General Assembly. The Constitution sets forth the general provision that the Commission, subject to the Constitution and the requirements of law, ". . . shall be the department of government through which shall be issued all charters . . . of domestic corporations and all licenses of foreign corporations to do business in this Commonwealth."[28] The Constitution also grants the duty of ". . . regulating the rates, charges, and services and except as may be otherwise authorized by this Constitution or by general law, the facilities of railroad, telephone, gas and electric companies."[29] In any proceeding before the Commission, interests of the consumers of the Commonwealth. Provision is made for other powers and duties not inconsistent with the Constitution to be prescribed by law.[30]

Most of the Commission's specific authority has been bestowed by the General Assembly pursuant to Constitutional provisions. Two basic responsibilities relative to water resource use conferred in this fashion concern the regulation of water supply and sewer companies, and the licensing of dams under the water power development act.

A. Regulation of Water and Sewer Companies

Under existing law, any water or sewer company proposing to serve more than fifty customers is required to incorporate as a public service company. However, this provision does not apply to water and sewer companies incorporated before January 1, 1970.[31] Also excluded are municipal corporations, other political subdivisions, and public institutions owned or controlled by the state.[32]

Statutory provisions state that the Commission ". . . shall have the power, and be charged with the duty, of supervising, regulating and controlling all public service companies doing business in this state, in all matters relating to the performance of their public duties and their charges therefore, and of correcting abuses therein."[33] The Commission is charged with the duty of conducting an annual review of the rates of all public utilities.[34] If such rates are "found to be unjust, unreasonable, insufficient or unjustly discriminatory, the State Corporation Commission shall have the power to fix and order substituted therefore such rate or rates . . . as shall be just and reasonable."[35] The books, papers, and documents of such companies are at all times subject to inspection by the Commission.[36]

Although not all water and sewer companies are regulated as public utilities, those that serve more than 50 customers are subject to special controls under certain conditions. Upon application by a majority of its customers or by such company itself, the Commission may hold a hearing and order improvements or rate changes. When such action is taken, the water or sewer system remains subject to the Commission's regulatory authority in the same manner as a public utility for such reasonable period as the Commission directs.[37]

Another provision establishes a procedure for the Commission to investigate complaints against water and sewer companies not regulated as public utilities when 50 or more customers are served.[38] This procedure requires the Commission to initiate an investigation if 50 or more subscribers (each from a different household) who have contracts with the company file a petition alleging inadequate service. The Commission does not have the power to determine and adjudicate the rights of the parties,[39] but its opinion is admissible in evidence in any proceedings concerning applicable contracts.[40]

It should be noted that the authority exercised by the Commission with respect to water and sewer companies primarily concerns relations between the companies and their customers. The Commission does not control or regulate the acquisition of water rights or the rights of waste disposal. The companies involved are subject to other statutes and the jurisdiction of other agencies with regard to these matters.

B. Regulation of Dam Construction

The Commission's most significant direct water resource responsibility consists of its regulatory powers regarding construction of dams in certain waters of the Commonwealth. Statutory language provides that "[t]he control and regulation on the part of the State of the development of the waters of the State shall be paramount, and shall be exercised through the agency of the State Corporation Commission. . . ."[41] Although this language refers to the control over the "development of the waters of the State," it is obvious from the other provisions of the act that powers of control vested in the Commission are restricted to development involving dam construction.

The primary feature of this control is the requirement that certain dams cannot be constructed without a license from the Commission.[42] Included are (1) all dams for the generation of hydroelectric energy for use or sale in public service and (2) dams across or in the "waters of the State,"[43] a term encompassing four specific categories:

> (a) Any stream or that portion of any stream in this State which prior to June twenty-first, nineteen hundred thirty-two has been declared navigable by any unrepealed statute of this State or
> (b) any stream or that portion of any stream in this State, the bed of which is owned by the Commonwealth, or

(c) those parts of streams or other bodies of water in this State which either in their natural or improved condition, notwithstanding interruptions between the navigable parts of such streams or waters by falls, shallows, or rapids, compelling land carriage, or used or suitable for use for the transportation of persons or property in interstate or foreign commerce, including therein all such interrupting falls, shallows or rapids, and also any stream or part thereof in this State other than those above mentioned in this subdivision in which the construction of any dam or works as authorized by this chapter would effect the interests of interstate or foreign commerce, or

(d) that portion of any river or stream flowing between the high-water mark on the Virginia shore and the low-water mark when such low-water mark constitutes the boundary line between Virginia and another state."[44]

The Virginia Supreme Court of Appeals has interpreted the meaning of this definition in two situations. In an early case, it was held that subdivision (c) quoted above was limited to water-borne traffic in interstate or foreign commerce. The necessity of relocating highways on which land-borne traffic in interstate or foreign commerce moved was not sufficient to cause the stream involved to be classified as within the meaning of "waters of the State."[45] In a more recent case, the court held that a stream to be impounded in connection with a nuclear electricity-generating project was a "water of the State" since the plan for interstate transmission of the electricity involved would affect the interests of interstate or foreign commerce.[46]

Statutory provisions specify the matters to be included in the Commission's deliberations regarding an application for a dam construction license. Since the statute was enacted before protection of the environment was a significant concern, no language of this type is included; however, the following passage suggests an intent for broad considerations by the Commission:

> Before acting upon any application, the Commission shall weigh all the respective advantages and disadvantages from the standpoint of the State as a whole and the people thereof and shall make such investigation as may be appropriate as to the effect of the proposed construction upon any cities, towns and counties and upon the prospective development of other natural resources and the property of others.[47]

A license to construct a dam is to be granted by the Commission only when the following conditions are met: (1) the plans of the applicant provide for the greatest practicable extent of utilization of the waters of the state for which the application is made, (2) the applicant is financially able to construct and operate the proposed dams and works, and (3) the general public interest is promoted thereby.[48]

The third condition listed above would appear to be the most important considera-

tion but is also likely to be the most difficult determination. The Commission as presently organized and staffed does not appear to have the capacity to undertake this determination internally. This type of activity is somewhat unique from the Commission's other operations, and the infrequent nature of applications for such licenses precludes the maintenance of a permanent unit to handle such requests. As a result, the Commission is forced to rely at least partially upon external evaluations such as consultants' studies and the reports of other state agencies. While thorough review of such development proposals is desirable, the lack of an "in house" evaluation would appear to compromise the Commission's effectiveness in exercising the authority vested by the act.

The water power development act makes limited provisions for external review of project applications. The applicant for a license under the act is required to file a copy of the applicaiton with the Director of Conservation and Economic Development within 10 days after filing with the Commission.[49] This requirement apparently is intended only to give the Director notice of the proposal since no formal comment by him is specified by statue. The question arises as to whether this authority should have been transferred to the State Water Control Board with the 1972 transfer of water resource responsibilities to the Board from the Department of Conservation and Economic Development.[50] The only other statutory mechanism for review of such proposals is in the form of a required public hearing. Notice of the hearing is required once each week for four successive weeks prior to the hearing in a newspaper or newspapers of general circulation in the city or county of the proposed construction, and adjoining or connecting county or city affected, and every other county downstream from such development through which the stream involved runs to its mouth.[51] As a matter of policy, the Commission also notifies other interested agencies and requests their comments. This procedure is a voluntary one because of the absence of a formal notification and review process at the state level. Establishment of such a formal procedure would appear to be merited in the interests of uniformity and efficiency.

The Commission has the authority to impose terms and conditions on the applicant in granting a license. These conditions may relate to the character of construction, operation, and maintenance of the project in the interest of public safety. The Commission also determines what provisions are to be made by the licensee to prevent the unreasonable interference with stream flow.[52] The authority to prevent unreasonable interference with stream flow has been determined by the Attorney General to be superior to the authority of the State Water Control Board to specify flow releases in connection with water quality control. The opinion notes that the Commission's decision should reflect consideration of the Board's recommendations, but that the final determination is left to the Commission.[53]

Construction of certain dams is also within the jurisdiction of federal licensing agencies. Pursuant to the River and Harbor Act of March 3, 1899,[54] the U.S. Army Corps

of Engineers administers a permit program in connection with construction in navigable waters.[55] Private, state, or municipal dams in navigable waters for the purpose of navigation or the utilization of water power are also subject to licensing provisions of the Federal Water Power Act[56] administered by the Federal Power Commission (FPC).

The recipient of a State Corporation Commission license must also obtain any applicable federal permits before the project can be constructed. Thus, a state approved project may be prohibited or have additional restrictions placed on it through exercise of the supreme federal authority by either the Corps or FPC. If the state license is denied, any applicable Corps permit would also be refused because of Corps policy requiring state authorization as a condition for federal permission.[57]

The following provision of the Federal Water Power Act concerning state requirements in regard to projects within the Act's jurisdiction appears to condition FPC licenses on state consent:

> Each applicant for a license hereunder shall submit to the [Federal Power] commission—
> . . . (b) Satisfactory evidence that the applicant has complied with the requirements of the laws of the state or states within which the proposed project is to be located with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes. . . .[58]

However, in a case involving an Iowa project where it was contended that this provision created a system of dual control such that applicable state permits were mandatory prerequisites to the federal license, the United States Supreme Court stated:

> The securing of an Iowa state permit is not in any sense a condition precedent or an administrative procedure that must be exhausted before securing a federal license. It is a procedure required by the State of Iowa in dealing with its local streams and also with the waters of the United States within that State in the absence of an assumption of jurisdiction by the United States over the navigability of its waters. Now that the Federal Government has taken jurisdiction of such waters under the Federal Power Act, it has not by statute or regulation added the state requirements to its federal requirements.
>
> . . . [Section 802(b) of the Federal Power Act] does not itself require compliance with any state laws. Its reference to state laws is by way of suggestion to the Federal Power Commission of subjects as to which the Commission may wish some proof submitted to it of the applicant's progress. The evidence required is described merely as that which shall be 'satisfactory' to the Commission.

> . . . The detailed provisions of the Act providing for the federal plan of regulation leave no room or need for conflicting State controls.[59]

Although exercise of Federal Power Commission jurisdiction supercedes action by the State Corporation Commission, it appears that those constructing impoundment projects to the present have made applications for licenses to both agencies when such projects are within the jurisdiction of both.[60] Thus, the situation has not arisen wherein the FPC approved a project over the objections of the Commission.

III. Organization

The agency's governing body consists of three Commissioners elected by joint vote of the two houses of the General Assembly for staggered 6-year terms.[61] Two of the Commissioners constitute a quorum for the exercise of the judicial, legislative, and discretionary functions; but a quorum is unnecessary for the exercise of its administrative functions.[62] Provision is made for the election of a chairman.[63] Existing practice involves rotation of the chairmanship among the Commissioners annually.

The Commissioners and their subordinates and employees are prohibited from having a pecuniary interest in or holding a position with any corporation under the agency's jurisdiction. The private practice of law is also prohibited.[64] One of the Commissioners must have the qualifications for the judge of a court of record.[65]

The employees of the Commission are organized into the Clerk's Office, Bureau of Insurance, Bureau of Banking, Transportation Divison, Division of Public Utilities, Accounting Division, Securities Division, Division of Aeronautics, Public Utilities Taxation Division, Division of Motor Carrier Taxation, and the Enforcement Division, Uniform Commercial Code Division, State Fire Marshal Division, and Personnel and Purchase Division.[66] For administrative purposes, each division is under the supervision of one of the Commissioners.

The functions of the Commission concerning water resources are handled by the Division of Public Utilities. This Division is headed by a Director of Public Utilities. Only a small portion of the time of this Division is devoted to consideration of water resource development projects becaue of the relative infrequency of applications for permits.

FOOTNOTES

1. *Va. Constitution,* art. XII, sec. 155 (1902).
2. *Va. Acts of Assembly,* 1903, ch. 147.
3. *Va. Constitution,* art. XII, sec. 156(d) (1902).

4. *See, e.g., Va. Constitution,* art. IV, sec. 17 (1869).
5. *Va. Constitution,* art. XII, sec. 153-156 (1902).
6. *Id.,* sec. 153.
7. *Va. Acts of Assembly,* 1903, ch. 147, sec. 1.
8. *Id.,* 1914, ch. 340 (sec. 2).
9. *Id.,* 1918, ch. 235.
10. *Id.,* 1950, ch. 308.
11. *Id.,* 1966, ch. 620.
12. *Va. Code Ann.,* sec. 13.1 *et seq.* (Cum. Supp. 1975).
13. *Va. Acts of Assembly,* 1954, ch. 525.
14. *Id.,* 1950, ch. 327.
15. *Id.,* 1954, ch. 354.
16. *Id.,* 1970, ch. 265.
17. *Id.,* 1954, ch. 669.
18. *Va. Code Ann.,* sec. 56-265.10 (1974).
19. *Id.,* 1956, ch. 428, sec. 13.1-50.
20. *Id.,* 1970, ch. 127.
21. *Id.,* 1928, ch. 424.
22. *Id.,* 1932, ch. 346.
23. *Va. Constitution,* art. XII, sec. 155 (1902).
24. *Va. Acts of Assembly,* 1918, ch. 55.
25. *Id.,* 1926, ch. 37.
26. *Id.,* 1928, ch. 205.
27. *Va. Constitution,* art. IX, sec. 1 (1971).
28. *Id.,* sec. 2.
29. *Id.*
30. *Id.*
31. *Va. Code Ann.,* sec. 13.1-50 (Cum. Supp. 1976).
32. *Id.,* sec. 56-1 (1974).
33. *Id.,* sec. 56-35.
34. *Id.,* sec. 56-234.2.
35. *Id.,* sec. 56-235.
36. *Id.,* sec. 56-36.
37. *Id.,* sec. 13.1-50 (Cum. Supp. 1976).
38. *Id.,* sec. 56-265.10 *et seq.* (1974).
39. *Sydnor Pump and Well Co.* v. *Taylor,* 201 Va. 311, 110 S.E. 2d 525 (1959).
40. *Va. Code Ann.,* sec. 56-265.12 (1974).
41. *Id.,* sec. 62.1-82 (1973).
42. *Id.,* sec. 62.1-85.
43. *Id.,* sec. 62.1-83.
44. *Id.,* sec. 62.1-81.
45. *Garden Club* v. *Virginia Pub. Serv. Co.,* 153 Va. 659, 151 S.E. 161 (1930).
46. *Vaughan* v. *Virginia Elec. and Power Co.,* 211 Va. 500, 178 S.E. 2d 682 (1971).
47. *Va. Code Ann.,* sec. 62.1-88 (1973).

48. *Id.,* sec. 62.1-89.
49. *Id.,* sec. 62.1-85.
50. *Id.,* sec. 62.1-44.35.
51. *Id.,* sec. 62.1-86.
52. *Id.,* sec. 62.1-91.
53. Letter from Andrew P. Miller, Attorney General of Virginia, to A. H. Paessler, executive Secretary, State Water Control Board, February 5, 1971. For more information regarding the opinion of the Attorney General, *see* the section of this report concerning the State Water Control Board, certification of projects requiring federal licenses.
54. 33 *U.S.C.* 401 (1970).
55. "Navigability" traditionally has been a question of fact to be determined by the courts *(The Daniel Ball,* 10 Wall (77 U.S.) 557 (1870). Prior to 1972, streams that had been held to be navigable included those that can be made navigable by reasonable improvements *(United States* v. *Appalachian Electric Power Co.,* 311 U.S. 377 [1940]); those that have at some past period been navigable *(Oklahoma ex. rel. Phillips* v. *Guy F. Co.,* 313 U.S. 508 [1941]); and those that, although non-navigable themselves, affect the navigable capacity of a navigable stream *(United States* v. *Grand River Dam Authority,* 363 U.S. 229 [1960]). This already broad definition was significantly expanded in 1972 by amendments to water quality legislation (33 *U.S.C.* 1251 *et seq.* [Supp. 1976]) that defined "navigable waters" to include all waters of the United States, thereby effectively removing all dependence on actual physical suitability for navigation.
56. 16 *U.S.C.* sec. 797 (e) (1974).
57. 33 *C.F.R.* sec. 209.120(F)(3) (1975).
58. 16 *U.S.C.* sec. 802(b) (1974).
59. *First Iowa Hydro-Elec. Coop.* v. *Federal Power Commission,* 328 U.S. 152, 170, 178-79, 181 (1945).
60. A recent (1969) controversial project involving a Virginia Electric and Power Company project on the North Anna River was not within FPC jurisdiction.
61. *Va. Code Ann.,* sec. 12.1-6 (1973).
62. *Id.,* sec. 12.1-8.
63. *Id.,* sec. 12.1-7.
64. *Id.,* sec. 12.1-10
65. *Id.,* sec. 12.1-9.
66. *Report of the State Corporation Commission—Virginia: Rules of Practice and Procedures,* p. 5 (1973).

COUNCIL ON THE ENVIRONMENT

I. Historical Development

As the newest of the state's administrative agencies having responsibilities related to water resources management, the Council's developmental history is brief. The agency was first created in 1970 by virtue of executive order of the Governor.[1] The Council was reestablished in 1972 by the Virginia Environmental Quality Act,[2] enacted in furtherance of provisions of the revised state constitution effective in 1971.[3] The membership of the Council established by the 1972 Act was substantially reduced as compared to the original structure. The duties of the Council were expanded in 1973 to include evaluation of the environmental impact of certain state construction projects.[4] Legislation enacted in 1974 expanded the membership of the Council to include representation of a wider range of environmental agencies and granted additional authority with respect to coordination of the environmental management programs of the state.[5] Responsibilities of the Council with regard to coordination of environmental permit processes were expanded in 1976.[6]

II. Functions of the Agency

The basic function of the Council is to implement the policy of the Commonwealth to protect and improve environmental quality. Toward this goal, the Council has the four following specific responsibilities: (1) to make an assessment of environmental conditions and choices; (2) to coordinate and evaluate the state's environmental management program, including budget preparation and permitting procedures; (3) to coordinate environmental impact analysis procedures, and (4) implementation of environmental education programs.

A. Assessment of Environmental Conditions and Choice

A basic responsibility of the Council is an annually updated assessment of environmental conditions in the Commonwealth. Provision is made for broad-based citizen input to the assessment through the mechanism of public hearings held throughout the state. On the basis of each annual assessment, the Council is required to prepare a report indicating the state of the environment, the environmental choices confronting the state, and any protective measures necessary that are consistent with the achievement of a balance between environmental protection and economic well-being.[7]

B. Coordination and Evaluation of Environmental Management

Coordination of managerial activities and evaluation of the effectiveness of the environmental management program is a primary duty of the Administrator of the Council. Powers and duties of the Administrator in this area include the following:

1. Developing uniform management and administrative systems which will assure coherent environmental policies and which will facilitate provision of environmental services to the public;
2. Taking necessary steps to promote the efficiency of management and coordinate administrative practices within and among the boards and agencies of the Council, including the effective use of personnel resources among the agencies;
3. [Repealed].
4. Coordinating the preparation of a joint environmental agencies's budget, containing sub-budgets, each of which shall be approved by the appropriate board or agency and thereafter submitted to the administrator who shall convey without change said budget or budgets to the Secretary and Governor for approval;
5. Preparing and submitting annually, with the cooperation of the boards and agencies, an environmental and management report to the Governor and the General Assembly in which he shall assess in detail:
   a. The Council's success in achieving the purposes of the enabling legislation.
   b. The reasons for any failure to achieve those purposes.
   c. Any changes in legislation that the Council believes necessary to better achieve those purposes.
   d. Management actions taken in support of the enabling legislation.
   e. New environmental programs to be considered for legislative action.
   f. New environmentally related programs which should be considered by the General Assembly for transfer to another board or agency or to the jurisdiction of the administrator.[8]

The Council's evaluation of governmental operations to date has placed considerable emphasis on water resources management. In addition to studies currently in progress, an example of this emphasis is given by the Council's 1971 annual report[9] which indicated a variety of deficiencies in the then-existing management program. The most fundamental needs identified consisted of a revision of water law and a reorganization of water-related agencies to provide a coordinated approach to management.

The revision of water law was viewed as essential because of the prohibition against interbasin transfers of water which exists under present law in the form of the riparian doctrine. Such transfers were seen as necessary for alleviation of future regional shortages. No change in basic water law has been effected to date.

Administrative reorganization was proposed to remedy the fragmentation of management responsibility among several independent agencies. One specific solution suggested in the report consisted of the merger of the Division of Water Resources of the Department of Conservation and Economic Development and the State Water Control Board to form an agency possessing all the authority previously exercised

by the two agencies as well as new authority to be granted. The Division has been absorbed by the Board, but the additional managerial authority contemplated has not been granted.

The authority contained in the above quotation with respect to budget preparation and other aspects of governmental management potentially overlaps the authority of certain new agencies created by the 1976 session of the General Assembly, including the Department of Planning and Budget and the Department of Intergovernmental Affairs.[10] Therefore the respective programs of the Council and these other agencies will have to be coordinated by the Governor and the appropriate cabinet officers.

One element of the Council's authority concerning governmental operations that was expanded by the 1976 session of the General Assembly concerns environmental permitting procedures. The following statutory provisions apply:

A. If a project requires a State permit or certificate from more than one State environmental regulatory agency, the applicant may make a single unified application to the administrator on a form prescribed by the administrator.
B. Notwithstanding any other provision of law, the administrator shall receive and review the application within twenty-one days and at his discretion may consolidate, coordinate and expedite the permit review process including but not limited to the elimination of redundant or overlapping procedures; consolidation of any formal hearings that may be required into one hearing; and coordination of the processing of permits where both federal and State requirements are involved.
C. For the purposes of this section the State environmental regulatory agencies shall include: the State Air Pollution Control Board; the Board of Conservation and Economic Development; the State Health Department, the Marine Resources Commission; the Soil and Water Conservation Commission and the State Water Control Board.
D. Notwithstanding any other provision of law, the acceptance of an application for multiple permits by the administrator, after the administrator has ascertained that the application is complete and otherwise acceptable, shall commence the processing period as to each board or commission involved. The hearing for a multiple State permit shall be held within sixty days after the application to the administrator is complete; and each board or commission decision on a multiple permit shall be made within ninety days after the application to the administrator is complete. In exceptional circumstances or in light of new information presented during a public hearing, a board or commission may extend the time period for consideration of the multiple permit by a board or commission; provided that the extension shall be for a period not to exceed thirty days.

E. Judgment of the merits of each permit that is required shall remain the responsibility of each respective board or commission. Each board or commission shall make every effort to coordinate its permit review process with the administrator.
F. The Council on Environment shall have the authority to issue necessary rules and regulations to carry out the provisions of this section.[11]

Prompt implementation of these provisions is desirable in view of the existence of several independent, overlapping permit processes in the state at present. The need for consolidation and coordination can be illustrated by the permitting procedures confronting the party seeking approval of construction in the state's tidal waters. The authorization process is likely to encompass a permit from the Marine Resources Commission; a certificate from the State Water Control Board; a permit from the local wetlands board, which is subject to review by the Marine Resources Commission; and a permit from the U.S. Army Corps of Engineers, which is conditioned on State Water Control Board certification of acceptability regarding water quality protection and an expression of overall state consent prepared by the Council after consideration of the responses of the individual state agencies receiving project notification.[12] Although certain mechanisms exist to coordinate these processes, further refinement is necessary to reduce administrative inefficiency and frustration to the applicant.

C. Coordination of Environmental Impact Analysis Procedures

The Council is generally responsible for coordinating the environmental impact statement (EIS) processes that are required by state and federal legislation. State law requires preparation of an EIS for proposed construction of "major state facilities," defined as all facilities exceeding $100,000 in cost except for highway construction projects.[13] It is provided that the Council ". . . shall, in conjunction with other State agencies, coordinate the development of objectives, criteria and procedures to assure the orderly preparation and evaluation of environmental impact reports. . . ."[14] The Council also coordinates the state environmental review of federally funded projects subject to the project notification and review process administered at the state level by the Department of Intergovernmental Affairs.[15]

The Council makes the determination as to which projects are to be subjected to the state environmental review process. All agencies proposing construction of facilities covered by the state EIS procedure must submit a report to the Council containing information on the environmental aspects of the proposal, from which the Council determines whether the impact is likely to be significant and, if so, which agencies should be involved in the review process. With regard to federally funded projects, the Council receives copies of EIS's prepared by the federal sponsor of the project and determines whether an environmental review is necessary. If the Council does not undertake a review on its own initiative, it does so when requested by an-

other agency.[16] The decision regarding initiation of review procedures is a significant one since the environmental assessment process can be by-passed through a negative determination.

For projects that are subject to review, the Council disseminates information to the appropriate agencies and other interested parties, arranges public hearings and inter-agency meetings as necessary, and coordinates review procedures such as site inspections. The scale of the review process depends on the extent of adverse environmental consequences and the feasibility of modifications to avoid or minimize such effects. The Council has indicated the following procedure for arrival at a final project evaluation:

> The primary function of the Council at the point of evaluation of proposed projects is to collate the comments submitted by the State review agencies and other interested parties and synthesize their contents. The evaluation of the project also is based on an examination of the appropriateness of the balance exhibited by the document between the project's costs and benefits from a broader perspective and the Council's iudgment as to whether the agency reached its decision after full consideration of environmental factors. The Council's evaluation also accounts specifically for citizen review and comments and the degree of consistency of the proposed project with regional planning programs.[17]

The Council is required by statute to report the results of the evaluation process to the Governor within sixty days of the receipt of an agency environmental impact statement in connection with a proposed major state facility.[18] Construction funds for such facilities cannot be authorized without the written approval of the Governor after his consideration of the Council's evaluation.[19]

Responsibility for coordination of state agency responses to U.S. Army Corps of Engineers public notices regarding permit applications for construction in tidal waters has been transferred to the Council, a function previously carried out by the Division of State Planning and Community Affairs.[20] Since the state review process depends on Corps public notices for its initiation with regard to a particular project, the state process can be by-passed by a Corps decision not to issue notice. This determination is somewhat discretionary with the Corps, suggesting a possible need for state involvement in the screening process employed.

The Council also provides state level coordination for fulfillment of federal EIS requirements as specified in the National Environmental Policy Act of 1969.[21] The Council's authority in this area arises from its legislative mandate to "coordinate all State communications with federal agencies involving state concern having relation to environmental problems. . . ."[22] Federal EIS procedures provide for agency review of a draft and final EIS, but the Council has indicated a need for review of proposals

prior to the draft EIS stage while alternatives are more open and input more likely to have an impact.[23]

D. Environmental Education

State law provides that the Council shall "Initiate and supervise programs designed to educate citizens on ecology, pollution and its control, technology and its relationship to environmental problems and their solution, population and its relation to environmental problems, and other matters concerning environmental quality."[24]

III. Organization

The Council is composed of ten members and an Administrator, with three of the members and the Administrator appointed by the Governor. The other members of the Council represent environmentally oriented agencies of the Commonwealth and include the chairman of the State Water Control Board, the Board of Conservation and Economic Development, the Game and Inland Fisheries Commission, the Marine Resources Commission, the Soil and Water Conservation Commission, and the State Air Pollution Control Board, and the Commissioner of Health. The Administrator serves as chairman of the Council.[25]

The responsibilities of the agency are divided between the Council itself and the Administrator. Legislative provisions related to coordination of the environmental impact reports of state agencies, assessment of environmental conditions in the Commonwealth and environmental education programs specify action by the Council. Authority regarding coordination of the state's environmental management program and communication with federal agencies concerning environmental matters is vested in the Administrator.

FOOTNOTES

1. The agency was first known as the Governor's Council on the Environment.
2. *Va. Acts of Assembly,* 1972. ch. 774.
3. *Va. Constitution,* 1971, Art. XI.
4. *Va. Acts of Assembly,* 1973, ch. 384.
5. *Id.,* 1974, ch. 354.
6. *Id.,* 1976, ch. 466.
7. *Va. Code Ann.,* sec. 10-186 (1973).
8. *Id.,* sec. 10-184.1 (Supp. 1976).
9. Governor's Council on the Environment, "The State of Virginia's Environment (1971)."
10. *See* the section of this report entitled "Other Agencies and Governmental Bodies.'

which summarizes the programs of a number of governmental entities having minor or indirect water resource management responsibilities.

11. *Va. Code Ann.,* sec. 10-184.2 (Supp. 1976).
12. *See* the section of this report concerning the Marine Resources Commission.
13. *Va. Code Ann.,* sec. 10-17.107(b) (Supp. 1976).
14. *Id.,* sec. 10-17.111 (Supp. 1976).
15. *See* the section of this report entitled "Other Agencies and Governmental Bodies."
16. Virginia Council on the Environment, "Procedures Manual and Guidelines for the Environmental Impact Statement Program in the Commonwealth of Virginia," pp.8-10 (1976).
17. *Id.,* p. 13.
18. *Va. Code Ann.,* sec. 10-17.109 (Supp. 1976).
19. *Id.,* sec. 10-17.110 (Supp. 1976).
20. *See* the appendix for an analysis of the functions of the Division of State Planning and Community Affairs prior to its abolition in 1976.
21. National Environmental Policy Act of 1969, 42 *U.S.C.* 4321 *et seq.* (1973), *as amended* (Supp. 1976).
22. *Va. Code Ann.,* sec. 10-185(1)(Supp. 1976).
23. Virginia Council on the Environment, "Procedures Manual and Guidelines for the Environmental Impact Statement Program in the Commonwealth of Virginia," pp. 10-11 (1976).
24. *Va. Code Ann.,* sec. 10-186(4) (1973).
25. *Id.,* sec. 10-181 (Supp. 1976).

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT

I. Historical Development

The Department of Conservation and Economic Development evolved from the State Commission on Conservation and Development, established by the 1926 General Assembly.[1] The original Commission consisted of seven members appointed by the Governor and was vested with the powers and duties previously exercised by several independent officers and agencies, including the Water Power and Development Commission, State Geological Survey, State Geologist, and the State Forester.

In addition to powers and duties transferred from other agencies, new authority was conferred on the Commission. For example, it was given the responsibility of investigating and reporting to the Governor on questions concerning the efficiency of any executive officer, agency, or department of government. Also, the Commission was given the power to acquire, by eminent domain if necessary, areas or properties of scenic beauty, recreational utility, historical interest, or of other unusual features which in the Commission's judgment should be preserved for the people of the state.

The Commission, along with the Commission of Game and Inland Fisheries (previously known as the Department of Game and Inland Fisheries) and the Commission of Fisheries, was incorporated into the Department of Conservation and Development by the 1927 act to reorganize the administration of state government.[2] Although the new department nominally encompassed these three commissions, each continued to function under its prior enabling legislation with a high degree of independence.

Other changes were introduced by subsequent legislation. In 1934, membership of the State Commission on Conservation and Development was decreased to five.[3] The name of the Commission was changed in 1938 to Virginia Conservation Commission,[4] and the terms of the members were rearranged in 1942.[5] To improve the management of the three Commissions, the 1942 amendments established a Committee on Cooperation and Coordination to consist of representatives of the three commissions within the Department.

The 1948 reorganization of state government[6] abolished the Virginia Conservation Commission and altered the structure of the Department of Conservation and Development. The Commission of Game and Inland Fisheries and the Commission of Fisheries were continued as independent entities. The Board of Conservation and Development, to consist of 13 members appointed by the Governor for staggered, four-year terms, and the Governor-appointed position of Director of Conservation and Development were created at this time. All powers and duties of the abolished Conservation Commission were vested in the Board or the Director. The Board was to act in an advisory capacity to the Director, but certain actions by the Director were conditioned

on the Board's approval. The Director was designated as the head and chief executive officer of the Department. Provision was made for the Director to establish the Divisions of Forestry, Parks, Water Resources, Planning and Economic Development, Ports, and others as necessary.

The 1948 reorganization legislation permitted the Governor to appoint a five-member Advisory Committee on Water Resources to act in an advisory capacity to the Director and Board. An amendment in 1958[7] required the Governor to appoint the Committee, now to consist of seven members acting in an advisory capacity to the Governor as well as to the Director and Board. The Commissioner of Water Resources, the executive officer of the Department's Division of Water Resources, was made an ex-officio member of the Committee. Qualifications for the other members were specified with regard to their backgrounds and areas of residence in an attempt to create a committee representative of all the different sections of the state and a diversity of backgrounds.

Other changes were effected in 1958.[8] The Department, Board, and Director of Conservation and Development, respectively, were renamed the Department, Board, and Director of Conservation and Economic Development. Membership of the Board was reduced to nine, but the responsibilities of the Board were expanded. Language providing for the establishment of Divisons within the Department was amended to give this authority to the Board rather than the Director as had previously been the case. The 1958 legislation specified new divisions of Mineral Resources, Industrial Development, and Public Relations and Advertising. The Board was also directed to establish the general policies and objectives of the Department.

Divisions within the Department have been subjected to alterations on a number of other occasions. The Division of Ports was abolished with the creation of an independent Ports Authority in 1952.[9] The Division of Industrial Development was renamed the Division of Industrial Development and Planning in 1960[10] and was transferred from the Department to the Governor's office in 1962.[11] In 1967, the Division of Public Relations and Advertising was renamed the Virginia State Travel Service, [12] and the Department's strip mine reclamation activity (authorized by legislation passed in 1966[13] and expanded in 1968[14] was given divisional status under the title of "Division of Mined Land Reclamation."[15] The latest divisional change occurred in 1972 when the Division of Water Resources was abolished and all related staff and facilities transferred to the State Water Control Board.[16]

The Department's strip mine reclamation operations were initiated in 1966 with the passage of legislation for the control of surface mining for coal. The 1966 enactment ment gave joint regulatory responsibility to the Department of Conservation and Economic Development and the Division of Mines of the Department of Labor and Industry. The primary authority bestowed on the Department of Conservation and Economic Development was the power to determine if the reclamation plans of an

applicant were adequate. Without Department approval, the required mining permit could not be issued.[17] Similar authority was granted to the Department with respect to surface mining for minerals other than coal by legislation enacted in 1968.[18] Further legislative provisions concerning surface mining are contained in a 1972 enactment.[19] The basic legislation concerning surface mining for coal was amended to provide more effective control over this activity and to give the Department greater regulatory authority. These provisions are discussed in the section of this report devoted to present functions of the Department.

Broad water resource authority in the areas of planning and policy formulation was vested in the Board of Conservation and Economic Development by a 1966 enactment of the General Assembly.[20] This legislation was in close agreement with the recommendations of the report of a special committee appointed by Governor Harrison in 1965 to review state legislation and organization related to conservation and use of water resources.[21] The committee concluded that "existing State legislation and governmental organization is *inadequate* to permit the State to act effectively and efficiently on rapidly growing problems of water resources, including both water quantity and quality."[22] Several specific weaknesses in the then existing governmental organization are noted in the report. The lack of a source of expert technical advice at the state level is indicated. The absence of a single agency with responsibility to formulate an overall state plan of water resource use and development and to resolve conflicting priorities regarding water use is noted. The inability of the state to speak with a single voice in relations with the federal government is also seen as a weakness of the previously existing structure.

The Committee's recommended solution to these problems involved establishment of a single agency with comprehensive water resources responsibilities. Along with its other duties, the agency would be given the responsibility of making continuing studies of water resource needs and advising the Governor and the General Assembly relative to necessary changes in legislation, thereby removing the need for special committees such as those which had been engaged in water resource studies almost continuously for more than 10 years.[23]

The recommendations contained in the committee's report did not involve creation of a new agency but rather contemplated the vesting of the necessary authority in the Board of Conservation and Economic Development. The legislation subsequently enacted in 1966[24] in response to these recommendations formed the basis for the state's first comprehensive planning effort and a coordinated water resources program. In order to increase the Board's capabilities to discharge the new responsibilities, the 1966 legislation increased the Board's membership from nine to 12.

Statutory provisions enacted in 1972 transferred responsibility for the state's comprehensive water resources program from the Board of Conservation and Economic Development to the State Water Control Board.[25] Although the Department no

longer has responsibility for direct water resource functions, the activities during the 1966-1972 period pursuant to the 1966 legislation are of interest because of the potential influence of these initial efforts on the state's future water resources program. Therefore, the program of the Department's Division of Water Resources during this period is summarized in a separate section of this report.

II. Functions of the Agency

Since the primary water resources responsibilities of the Department have been transferred to the State Water Control Board, only ancillary water resources functions are presently within the scope of the Department's operations. These remaining water resource-related responsibilities arise by virtue of the Department's authority to acquire and manage forestry and recreational lands and to regulate surface mining activities.

A. Forestry Operations

The Department, through its Division of Forestry, owns and operates eight state forests encompassing in excess of 51,000 acres.[26] These lands are managed as demonstrations of sound forestry practices under concepts of multiple use. The Department is authorized to sell or otherwise dispose of timber,[27] gas, oil, or minerals from these forest lands,[28] with one-fourth of the gross proceeds to be paid to the counties in which the lands are located. State forests have various recreational uses, including hunting, fishing, and other activities. More intensive recreational activity is provided on some 2,600 acres set aside in four forest units as state parks or recreational areas.[29] Authority exists for additional acquisitions, but any new forests acquired likely will consist of small demonstration projects.

The Department may require a special use permit for hunting or trapping on these lands under its control.[30] Other hunting and fishing regulations, such as those prescribing seasons and bag limits, are not established by the Department but are adopted on a state-wide basis by the Commission of Game and Inland Fisheries.[31]

Forestry operations are not confined to state-owned forests but include services to political subdivisions and private landowners.[32] Among these services are forest fire prevention and control, forest land management practices, reforestation, investigation of insect and disease-infested forest trees, and public information. Charges (based on cost) are made in some cases, while other services are provided free. Particular emphasis is placed on forestry practices on watersheds of public water supplies because of the critical relationship between water resources and watershed conditions. The importance of proper forestry practices on lands not under the Department's direct control is most significant for watershed protection since 79 percent of the forest land in the state is owned by small private landowners and 11 percent by private forest industries.

B. Recreational Management of Natural Resources

In addition to its state forests, the Department also owns and manages a significant amount of land for the primary purpose of recreation through its Division of Parks. Included in this program are 22 state parks and recreation areas and five natural areas, five historical parks, and the Appalachian Trail.[33] The agency responsible for outdoor recreational planning in Virginia, the Commission of Outdoor Recreation, has recommended the addition of 28 more state parks.[34] Other state parks are in various stages of acquisition and development, but the program has lagged behind schedule due to funding limitations. Legislation provides for the acquisition of property of scenic beauty, recreational utility, historical interest, or other unusual features, through the use of eminent domain if necessary.[35] The Department has used its eminent domain authority sparingly and has followed a policy of acquiring recreation lands only where extensive local opposition does not exist.

Statutory authority exists for the Department to exercise limited management responsibilities with respect to certain recreation lands under private ownership. An act passed in 1930[36] allows owners of forest land suitable for the growth of timber to lease it to the Department and the Commission of Game and Inland Fisheries as a forest, game, fish, and recreation reserve. In such cases, the Department would aid in the development and protection of timber resources on the property, and the Commission would be responsible for the propagation and protection of game and fish. The Commission also is authorized to sell certain recreational privileges on such leased lands. A portion of proceeds from such sales would be applied to taxes on the land until the timber on it is marketed (up to a 40-year maximum) if the political subdivision involved gives its consent.[37]

Recreational developments of the Department usually include water-based recreation. In some cases, water resource projects developed by the federal government or private corporations are utilized. For example, state parks have been constructed and are planned at a number of impoundments constructed by others. Coordination of such projects with the Virginia Outdoors Plan is primarily the responsibility of the Commission of Outdoor Recreation.

Certain aspects of the recreational use of water on Department land are under the control of other state agencies. For example, water quality is within the jurisdiction of the State Water Control Board and the Health Department[38] and is monitored carefully where swimming facilities are available. Permit requirements for the construction of sanitary facilities are the same for the Department as others. Fishing is permitted in most of these recreation areas and is managed and regulated by the Commission of Game and Inland Fisheries. At one location the Game Commission operates a fee fishing area within a state park,[39] with proceeds going to the Commission to offset expenses of the program. Fish stocking also is carried out by the Commission in some waters under the jurisdiction of the Department. In a relatively

recent development, hunting is allowed on certain recreational lands held by the Department, also in cooperation with and subject to the regulations of the Commission of Game and Inland Fisheries. This arrangement is presently in effect within the boundaries of a limited number of operational state parks and other recreation areas and also has involved certain undeveloped lands purchased through the Division of Parks.[40] Future cooperation concerning multiple use of state land will be facilitated by the activities of the Commission of Outdoor Recreation. The Department is represented on this Commission along with other agencies concerned with planning outdoor recreation.[41]

The Scenic Rivers program[42] is another water-oriented activity which may be managed by the Department. Studies and planning for this program are under the jurisdiction of the Commission of Outdoor Recreation but the management of such a stream is to be the responsiblity of another agency.[43] The Commission of Game and Inland Fisheries and local governmental units are also candidates for scenic river management.

Management of a scenic river would involve a minimum of development activity since the basic concept is one of preservation of the stream and its surroundings in their natural conditions. The primary thrust of state action must be to control the use of such streams and prevent detrimental development. The assumption has been made that the desired level of protection can be achieved through grants of scenic easements or other cooperative arrangements with landowners at relatively small costs to the state. Thus far, this approach has had only limited success.

It should be noted that the Scenic Rivers Act expressly precludes the use of eminent domain by the Commission of Outdoor Recreation in acquiring property for this purpose.[44] However, the Department of Conservation and Economic Development possesses broad powers of eminent domain to acquire scenic lands,[45] and the question arises as to whether this authority could be applied to scenic rivers. In a somewhat analogous situation, the Attorney General has ruled that the Department possesses powers of eminent domain for acquisition of land for protection of the Appalachian Trail,[46] although the specific legislation directing the Department to acquire such land[47] does not confer eminent domain powers. In fact, other proposed legislation to protect the Appalachian Trail containing such powers failed to pass during the same legislative session. The Attorney General's opinion that the general eminent domain authority conferred by previous legislative enactment was broad enough to include land acquisition for trail purposes might well support a similar position with respect to scenic rivers. The argument against use of these general eminent domain powers for scenic river acquisition is perhaps somewhat stronger because of a direct prohibition in the Scenic Rivers Act concerning use of eminent domain by the Commission of Outdoor Recreation, but the prohibition does not directly or indirectly refer to the Department. This hypothetical question has not been brought to a test since state land acquisition in connection with scenic rivers has not been attempted. [48]

C. Mined Land Reclamation

The Department is authorized to act in a regulatory capacity regarding surface mining activities for coal and other minerals. Although initially quite similar, statutory provisions relating to surface mining for coal now differ considerably from those applicable to other minerals, with the former being of a more restrictive nature.

Although recognizing the importance of surface mining for coal to the economy of the state, the General Assembly has noted that

> . . . uncontrolled coal surface mining and unreclaimed land can adversely affect the environment through the erosion of the land and the increased likelihood of floods and landslides through the destruction of vegetative cover, the removal of overburden, the alteration of normal drainage patterns, the increased siltation and sedimentation of streams as well as other forms of pollution, and the temporary and in some circumstances permanent destruction of scenic beauty and wildlife habitats.[49]

A declaration of policy states that

> . . . it is in the public interest . . . to require and encourage the proper control of surface mining of coal so as to minimize or prevent adverse disruptions and injurious effects thereof upon the people and resources of the Commonwealth through good industry and sound conservation practices, and to require and encourage through operations and reclamation planning, consideration of surrounding ecology and land use, and incorporation of control techniques and reclamation actions in coal surface mining operations insofar as practicable to assure such proper control of coal surface mining.[50]

The Department is charged with the responsibility of enforcing the statutory provisions enacted to implement this policy.

The use of excavating equipment for coal prospecting or for the removal of coal by the surface mining method requires an authorizing permit to be issued by the Department. Factors on which the surface mining permit is conditioned include payment of a fee;[51] filing of operations,[52] drainage,[53] and reclamation plans;[54] and the furnishing of a bond to insure compliance with these plans.[55]

The prescribed fee is in the amount of $12.00 per acre for the area encompassed by the total operation, with a $6.00 per acre renewal fee payable each year on the undisturbed land under the original permit.[56] All fees so collected are designated for reclamation of "orphaned lands," those subjected to past surface mining activities and not reclaimed,[57] or for the administration of the coal surface mining program.

The operations plan must describe the methods to be used, including a statement of anticipated adverse disruptions and injurious effects on the disturbed land and upon surrounding land use. Proposed control techniques to minimize or prevent such disruptions or effects also must be included. The operations and drainage plans become an integral part of the terms and conditions of the license. The reclamation plan must state the planned use to which the disturbed land is to be returned and the proposed actions to assure reclamation as an integral part of the mining operation. In reviewing operations and reclamation plans, the Department is authorized to request the advice and assistance of local soil and water conservation districts and state agencies having environmental responsibilities.[58]

The bond required for issuance of the permit can vary from $200 to $1,000 per acre, based on the estimated cost of reclaiming the land to be disturbed, and the quality and quantity of coal estimated to be produced from the operation. The statutory minimum amount of bond is $1,000 where the acreage to be disturbed is less than five acres and $2,500 in other cases. The bond is returned upon completion of the coal surface mining and reclamation if the Director of Conservation and Economic Development determines that there has been satisfactory compliance with the operations, drainage, and reclamation plans.[59]

The Board of Conservation and Economic Development is authorized to adopt whatever regulations are found necessary to accomplish the policy regarding surface coal mining as set forth in the act.[60] Regulations[61] have been adopted which provide interpretation and amplification of statutory language and provide general guidelines and specific rules for the various activities associated with surface mining. Control provisions directly applicable to protection of water resources include requirements for handling of acid-producing and other toxic materials, use of sediment ponds for drainage from the mined area, the protection of natural streams, and revegetation.

The Director of Conservation and Economic Development is responsible for the enforcement of statutory provisions regarding surface mining for coal and all rules and regulations promulgated pursuant to this law. In connection with this duty, the Director has the power to issue an order of noncompliance when an operator fails to comply with statutory requirements, rules, or regulations or when the operator fails to obey any order by the Director concerning application of the operations, drainage, or reclamation plans. If the operator does not comply with the order within the time specified, the Director may revoke the permit and declare the forfeiture of the bond. Continuation of mining activities after revocation of a permit is a misdemeanor, with each day considered a separate offense punishable by a fine of not more than $1,000 or confinement in jail for not more than one year, or both.[62]

In addition to this administrative remedy, the Director may request an injunction to compel compliance with statutory provisions, regulations, or orders under certain conditions. Situations where mining operations can be enjoined are limited to ad-

verse ecological disruptions or other injurious effects which seriously threaten or endanger health, safety, or the property rights of others, provided abatement is not feasible by the application of control techniques. Injunctive relief also can be requested to require an operator to comply with an order from the Department,[63] or the Department could issue an order of noncompliance, after which the revocation of the permit and forfeiture of the bond could occur if compliance with the order was not obtained. This action would not necessarily force suspension of operations, but each day of continuance of the mining activity would constitute a misdemeanor. Most operations would probably not be economically feasible under these conditions if a substantial fine were imposed, leading to a suspension of further mining.

In any situation involving forfeiture of bond, reclamation operations necessary to return the disturbed land to the minimum planned use are the responsibility of the Director. Resources and facilities of the Division of Mined Land Reclamation can be utilized, and contractual arrangements for the necessary work are authorized.[64]

Any operator who is aggrieved by any action or inaction of the Director in the discharge of his responsibilities is entitled to a formal hearing by the hearings officer in the Department. If the judgment by the hearings officer is unsatisfactory, the aggrieved party may apply to the Board of Conservation and Economic Development for review of the case. The operator has the right to appeal the decision of the Board to the circuit or corporation court having jurisdiction where the involved land is located.[65]

It is apparent that the licensing of surface mining operations and approval of reclamation plans for disturbed lands could have a significant effect on the state's water pollution control effort in areas where strip mining is of economic importance. Thus it is necessary to consider the mechanisms for coordinating this regulatory program with other state programs for water quality protection. Primary responsibility in this area is vested in the State Water Control Board. The Virginia Soil and Water Conservation Commission has certain administrative responsibilities for erosion and sediment control.

Present legislation states that the Director of Conservation and Economic Development, in reviewing an applicant's plans, ". . . shall have such advice and assistance of the local soil and water conservation districts, consulting agencies, and any agencies of the State charged with environmental responsibilities *as he may request* [emphasis added]."[66] This institutional arrangement appears to have been satisfactory in the past. Input from other agencies into regulations for the surface mining of coal and program operation has been requested and received, indicating the existence of a considerable degree of interagency cooperation.

Although the existing informal arrangement for input into the surface mining regulatory program has functioned satisfactorily, it appears desirable to insure continuance of these procedures by incorporating into legislation mechanisms to insure input.

Due to the close relationship of the surface mining control program to those of the State Water Control Board and the Virginia Soil and Water Conservation Commission, the input of these agencies into significant policy and regulatory actions should be assured by mandatory provisions for review and comment whenever significant action is proposed. Since input from these agencies occurs under existing procedures, adoption of a requirement for input would not constitute a departure from precedent, nor lessen the authority of the Department, while creation of a formalized review process would systematize procedures and assure continuance of the necessary broad-based input.

Another aspect of the Department's regulatory activities regarding surface mining concerns minerals other than coal. The process of extracting minerals, ores, rock, or other solid matter is regulated by statute, but the authority of the Department is less comprehensive than in the case of coal. To obtain the necessary permit from the Director of Conservation and Economic Development, the operator must provide appropriate maps, a drainage plan, and a plan of operation. The plan must contain, among other things, an agreement by the operator to provide for the following in a manner satisfactory to the Director:

1. Removal of metal, lumber and other debris resulting from mining operations.
2. Regrading of the area in a manner to be established by rules and regulations of the Director.
3. Grading the surface in such a manner as to preserve existent access truck roads on and along the bench, and grading the surface on areas where truck roads may be constructed with minimum cost by persons other than the operator for the purposes of forest fire control or recreation.
4. Grading loose soil, refuse and other debris on the bottom of the last cut so as to reduce the piles of such material in accordance with good conservation practices.
5. Planting trees, shrubs, grasses or other plants upon the parts of such area where revegetation is practicable.
6. Where the operator elects to impound water to provide lakes or ponds for wildlife, recreational or water-supply purposes, such operator shall file a formal request with the Department and obtain approval before such ponds or lakes can be created in impounding such water.
7. In a plan of operation submitted by a dimensional stone quarry operator, the Director shall give due consideration to the peculiar nature of the excavated cavity or cavities to be excavated contained in such plan.[67]

The fee for the permit is in the amount of $6.00 per acre of land to be disturbed, with the maximum fee set at $150. The amount of the bond will be between $200 and $1,000, based upon the number of acres of land which the operator estimates will be disturbed by mining operations during the ensuing year. The minimum

amount of bond is $1,000 except for areas smaller than five acres, in which case the minimum bond is $200 and the maximum bond is $1,000. Release of bond is conditioned on approval of reclamation work by the Director. If the reclamation is not completed satisfactorily, the bond or a part thereof may be forfeited and the reclamation work accomplished by the Director.[68]

Appeals from actions of the Department or Division are taken first to the Board of Surface Mining Review, which consists of the Director and three members appointed by the Governor. Two of the appointed members are required to be surface mining operators and one a property owner upon whose land surface mining operations have or are being conducted. Any person aggrieved by an opinion of the Board may appeal to the courts.[69]

This legislation does not repeal local ordinances or regulations or charter provisions in effect in any county, city, or town where the provisions are not less than those under this legislation. The Director of Conservation and Economic Development may waive application of this act where local controls at least as stringent as those of the state or where any mining or borrow pit operation solely for a state project is subject by contract to the control and supervision of a state agency. In this latter case, regulations satisfactory to the Director must be in contractual form.

The existence of separate legislative provisions for coal and other minerals is basically a result of different enactment dates. Provisions applicable to coal[71] were adopted in 1966 while those regarding other surface mining activities[72] were passed in 1968. Although many of the provisions in the two laws are similar, certain details must vary because of physical differences in the mining operations involved. There appears to be no movement to consolidate the two laws at present.

D. Organization

The Department operates under the supervision of a Director and Board of Conservation and Economic Development. The Director is appointed by the Governor, subject to confirmation by the General Assembly. He serves as head and chief executive officer of the Department.[73] The Board consists of 12 members, also appointed by the Governor and subject to General Assembly confirmation. Terms are for four years with staggered expiration dates, and service is limited to two successive terms. The Governor is directed by statute to select appointees to the Board so that membership shall include persons suitably qualified to act upon the various special interests and problems likely to come before it.[74]

The respective authority possessed by the Board and Director is specified by various statutes. Legislation establishing the Department provides that the Board shall formulate the general policies and objectives of the Department to be executed by the Director.[75] Provision also is made for the Board to establish certain divisions within

the Department through which its responsibilities are discharged. The Director is given the duty of appointing competent persons to direct the work of these divisions [76] and also to employ such other personnel as are necessary.[77]

Laws relating to the specific functions of the Department further delineate responsibilities. Authority for forestry activities is primarily vested in the Director,[78] with the approval of the Board required for certain actions involving forestry lands.[79] Provisions of law relative to mined land reclamation assign the majority of responsibilities to the Director,[80] with the primary authority of the Board consisting of the adoption of rules and regulations for the surface mining of coal.[81] Authority concerning mineral resources is primarily vested in the Director, with provision for delegation to a State Geologist.[82] Legislation concerning the Division of Parks[83] provides for exercise of responsibilities by the Director and requires Board approval for acquisition and conveyance of property. The expenditure of funds for publicity and advertising purposes is controlled by the Director, subject to the supervision of the Board.[84] Most of the agency's former authority relating specifically to water resources, which has now been transferred to the State Water Control Board, was vested in the Board. Responsibilities specifically granted to the Board included the formulation of a state water policy; comprehensive river basin planning; recommendation of plans to resolve water use conflicts; representation of the state in relations with other states, interstate agencies, and the federal government; and the offering of advisory services to the Governor and the General Assembly.[85] Water resource responsibilities that were charged to the Director included the gathering and disseminating of information relative to the water powers and industrial advantages and resources of the state, including a comprehensive water power survey.[86] Another water resources responsibility formerly charged to the Director concerned the regulation of flow from artesian wells, but legislative authorization was repealed in 1973.[87]

In addition to the Board and Director of Conservation and Economic Development, the Department encompasses an administrative section and five operating divisions. Administrative officers include, in addition to the Director, a Deputy Director, an Executive Assistant, a Programs Supervisor, and a Staff Assistant. The accounting office is a part of the administrative section and handles all fiscal matters for the Department with the exception of the Division of Forestry, which has its own accounting office. This independent office is operated because of the relatively large size of the Division of Forestry, the existence of special funds unique to the Division, and the geographic location of the offices of this Division in relation to most of the others.

Divisions within the Department include Forestry, Mineral Resources, Parks, Mined Land Reclamation, and the Virginia State Travel Service. The work of the various divisions is accomplished under the direction of division heads appointed by the Director. Legislation provides for these officers to exercise such authority as is conferred directly by statute or delegated by the Director.[88] Since little statutory respon-

sibility exists in most cases, the matter of authority of the divisions heads is a matter largely determined within the discretion of the Director. The Salt Water Sport Fishing Tournament and the Governor's "Keep Virginia Beautiful" program are operated from the Director's office without division status.

FOOTNOTES

1. *Va. Acts of Assembly,* 1926, ch. 169.
2. *Id.,* 1927, ch. 33.
3. *Id.,* 1934, ch. 375.
4. *Id.,* 1938, ch. 35.
5. *Id.,* 1942, ch. 390.
6. *Reorganization Provisions of the Code of Virginia,* title 10 (1948).
7. *Va. Acts of Assembly,* 1958, ch. 412.
8. *Id.,* ch. 427.
9. *Id.,* 1952, ch. 61.
10. *Id.,* 1960, ch. 164.
11. *See id.,* 1962, ch. 354, 355.
12. Board of Conservation and Economic Development, Minutes of February 16, 1967.
13. *Va. Acts of Assembly,* 1966, ch. 667.
14. *Id.,* 1968, ch. 734.
15. Board of Conservation and Economic Development, Minutes of April 23, 1968.
16. *Va. Acts of Assembly,* 1972, ch. 728.
17. *Id.,* 1966, ch. 667.
18. *Id.,* 1968, ch. 734.
19. *Id.,* 1972, ch. 785.
20. *Id.,* 1966, ch. 561.
21. Virginia Advisory Legislative Council, "Report of the Governor's Special Committee on Water Resources," S. Doc. No. 18 (1965).
22. *Id.,* p. 3.
23. *See e.g.* The Advisory Council on the Virginia Economy, "Water Resources of Virginia," April, 1952; V.A.L.C., "Water Resources in Virginia," S. Doc. No. 17, 1953; V.A.L.C., "Water Resources in Virginia," H.D. Doc. No. 28 (1956/1958).
24. *Va. Acts of Assembly,* 1966, ch. 561.
25. *Id.,* 1972, ch. 728.
26. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan 1974," p. 68 (1974).
27. *Va. Code Ann.* sec. 10-37 (1973).
28. *Id.,* sec. 10-38 (1973).
29. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan 1974," p. 68 (1974).

30. *Va. Code Ann.,* secs. 10-68, 69 (1973).
31. *Id.,* sec. 29-125 (1973).
32. *Id.,* secs. 10-50 to 10-54.1; 10-90.2 to 10-90.9; 10-90.20 to 10-90.25; 10.90.27 to 10.90.29 (1973); 10-90.26 (Cum. Supp. 1976).
33. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan, 1974," pp. 67,75 (1974).
34. *Id.,* p. 67.
35. *Va. Code Ann.* sec. 10-21 (1973).
36. *Va. Acts of Assembly,* 1930, ch. 399.
37. *Va. Code Ann.,* secs. 10-22 to 10-31 (1973).
38. *Id.,* sec. 62.1-44.18 (1973).
39. Douthat State Park.
40. Examples of operational State Parks subject to this agreement are Fairy Stone and Pocahontas. Areas utilized in a non-developed condition have included York River and Smith Mountain Lake State Parks, but development activities have now required termination.
41. For the membership of the Commission, *see Va. Code Ann.,* sec. 10-21.5 (1973).
42. *Id.,* secs. 10-167 to 10-175 (1973).
43. The Commission of Outdoor Recreation is not intended to serve as a land managing agency. *See Va. Code Ann.,* sec. 10-21. 8(h) (1973).
44. *Va. Code Ann.,* sec. 10-175 (1973).
45. *Id.,* sec. 10-21 (1973).
46. Letter from Andrew P. Miller, Attorney General of Virginia, to M. M. Sutherland, Director of Department of Conservation and Economic Development, June 10, 1971.
47. *Va. Code Ann.,* sec. 10-21.3:1 (1973).
48. For a more detailed discussion of the state scenic rivers program, *see* the section of this report concerning the Commission of Outdoor Recreation.
49. *Va. Code Ann.,* sec. 45.1-198(a) (1974).
50. *Id.,* sec. 54.1-198(c) (1974).
51. *Id.,* sec. 45.1-202(e), (1974).
52. *Id.,* sec. 45.1-203(a) (1974).
53. *Id.,* sec. 45.1-203(b) (1974).
54. *Id.,* sec. 45.1-204 (1974).
55. *Id.,* sec. 45.1-206 (1974).
56. *Id.,* sec. 45.1-202 (1974).
57. *Id.,* secs. 45.1-207, 216 (1974).
58. *Id.,* secs. 45.1-192, 205 (1974).
59. *Id.,* sec. 45.1-206 (1974).
60. *Id.,* sec. 45.1-200(a) (1974).
61. Virginia Department of Conservation and Economic Development, Division of Mined Land Reclamation, "Coal Surface Mining Regulations" (1975).
62. *Va. Code Ann.,* secs. 45.1-200(b), 209, 214 (1974).
63. *Id.,* secs. 45.1-200(c), 210 (1974).

64. *Id.,* sec. 45.1-211(1974).
65. *Id.,* sec. 45.1-212.1, 213 (1974).
66. *Id.,* sec. 45.1-205(b) (1974).
67. *Id.,* sec. 45.1-182 (1974).
68. *Id.,* secs. 45.1-181, 183, 185, 186 (1974).
69. *Id.,* secs. 45.1-194 to 45.1-196 (1974).
70. *Id.,* sec. 45.1-197 (1974).
71. *Va. Acts. of Assembly,* 1966, ch. 667.
72. *Id.,* 1968, ch. 734.
73. *Va. Code Ann.,* sec. 10-1 (1973).
74. *Id.,* sec. 10-3 (1973).
75. *Id.,* sec. 10-12 (1973).
76. *Id.,* sec. 10-8.1 (1973).
77. *Id.,* sec. 10-9 (1973).
78. *Id.,* sec. 10-32 (1973).
79. *Id.,* secs. 10-33, 10-38 (1973).
80. *Id.,* sec. 45.1-180 to 45.1-220 (1974).
81. *Id.,* sec. 45.1-200 (a) (1974).
82. *Id.,* sec. 10-92 (Cum. Supp. 1976).
83. *Id.,* secs. 10-18 to 10-21:3:1 (1973).
84. *Id.,* sec. 10-13 (1973).
85. *Id.,* secs. 62.1-44.35 to 62.1-44.44 (1973), *as amended* (Cum. Supp. 1976).
86. *Id.,* secs. 10-116, 10-117 (1973).
87. *Va. Acts of Assembly,* 1973, ch. 443.
88. *Va. Code Ann.,* sec. 10-8.1, 10-19, 10-86.1 (1973); 10-92 (Cum. Supp. 1976).

COMMISSION OF OUTDOOR RECREATION

I. Historical Development

The Commission of Outdoor Recreation was created in 1966 with the passage of legislation[1] recommended by the Virginia Outdoor Recreation Study Commission. A decrease in the availability of open space along with an accompaning demand for more outdoor recreation had led to the creation of the study commission by the 1964 General Assembly.[2] The study also was prompted by a desire to create such conditions that would enable the state to participate in the Federal Land and Water Conservation Fund,[3] an assistance program administered by the Bureau of Outdoor Recreation primarily for the acquisition of outdoor recreation lands and the development of needed visitor facilities.

The primary responsibilities given the study commission were the survey and appraisal of existing outdoor recreation facilities and the recommendation of a program to meet present and future needs in this area. Based on its analysis of existing conditions and expected trends in population growth and recreation demand, the study commission made comprehensive recommendations concerning outdoor recreation needs of the state in its report entitled "Virginia's Common Wealth."[4] The needs identified fell into the following five general categories which call for: (1) a state policy and continuing comprehensive program for the protection of the quality of Virginia's outdoors; (2) state action to plan, acquire, and develop outdoor recreation facilities; (3) local and regional action to meet local and regional outdoor recreation needs; (4) encouragement for individuals and private enterprise to assume a role in the program, and (5) the creation of a permanent Commission of Outdoor Recreation.

The proposed program, the original Virginia Outdoors Plan, was translated into several legislative bills subsequently passed by the General Assembly. The Open-Space Land Act[5] provides for the acquisition of property by certain state agencies and political subdivisions for the preservation of open space. The act creating the Virginia Historic Landmarks Commission[6] is principally concerned with the designation and cataloging of landmarks. Legislation creating the Virginia Outdoors Foundation[7] is designed to facilitate private donations for the purposes of public outdoor recreation and open space preservation. An act providing for the construction of access roads to recreational areas and historical sites[8] authorizes application of highway funds from unclaimed marine fuel taxes, while another act relating to highways concerns the designation of scenic highways and their preservation.[9] Amendments to zoning law[10] concern floodplain use. Amendments to the Park Development Bond Act[11] broaden the financial backing for revenue bonds to include fees and charges from all existing facilities as well as those for which the bonds are being issued. Additional legislation enacted pursuant to the recommendations of the original Outdoors Plan is the act creating the Commission of Outdoor Recreation.[12]

A major change in the Commission's responsibilities was effected by passage of the Scenic Rivers Act[13] in 1970, which placed primary responsibility for the development of the program with the Commission.

II. Functions of the Agency

The basic responsibility of the Commission is development and maintenance of a comprehensive plan for outdoor recreation in the Commonwealth. The Commission has certain duties with regard to the implementation of this plan, which are exercised in part through its control over certain federal and state funds appropriated for outdoor recreation purposes. In its attempt to protect and enhance the outdoor recreation experience, the Commission is also involved in matters pertaining to general environmental protection. In addition to these duties regarding the state's general outdoor recreation program, the Scenic Rivers Act gives the Commission special responsibilities with respect to the development of the state's scenic rivers program.

A. Development of the Virginia Outdoors Plan

Legislation establishing the Commission of Outdoor Recreation states as the purpose of the agency the creation and promulgation of a long-range plan for the protection and conservation, for public use, of those areas of the state most suitable for the development of a comprehensive system of outdoor recreation facilities. Specifically mentioned by statute for inclusion in the program are parks, forests, camping grounds, fishing and hunting grounds, scenic areas, waters and highways, boat landings, beaches, and other areas of public access to navigable waters.[14]

The first Virginia Outdoors Plan[15] prepared by the Commission was published in 1970. It was more comprehensive than the original plan prepared by the study commission that recommended creation of the Commission of Outdoor Recreation. The first three volumes provide the basic data and reference materials for the plan. Volume 1 is a comprehensive analysis of Virginia's outdoor recreation resources, including an inventory of existing recreational areas and facilities. An assessment of the demand for outdoor recreation and the adequacy of present facilities to satisfy this demand is contained in Volume 2. Deficiencies are noted in both facilities and land for several recreational activities. Volume 3 is a summary of federal and state agency programs related to outdoor recreation and the environment. The plan itself constitutes Volume 4.

Much of the 1970 plan is devoted to the establishment of policy to guide future activity for increasing outdoor recreation facilities. One of the fundamental policy considerations concerns priorities among the various elements of the recreation program. The order of priority among local, regional, and state parks is established for each of the 11 recreation planning regions into which the state is divided. Boundaries of these

regions follow those of the 22 state planning districts established by the Division of State Planning and Community Affairs, with each region encompassing 1 to 4 planning districts. Priorities among regions are also presented for each of several types of recreation areas, including state, regional, and local parks, wildlife management areas, and public fishing lakes. In addition to priorities among different types of projects, criteria are established to serve as the basis for funding of competing projects within a given category. Generally, acquisition is given priority over the development aspects of recreation projects. In the case of a few recreation planning regions, development is given priority in connection with local and regional projects, but acquisition in connection with new state parks is given preference over development in all regions. The plan lists a variety of types of areas which qualify for acquisition with Commission controlled funds, and general criteria are presented for the development of facilities on recreation areas.[16]

Other policy considerations are also included in the 1970 plan. For example, standards for recreation are presented and include area standards, which denote minimum acreage for different types of recreation areas, and management standards, which specify levels of use that can be sustained without significant deterioration of the area and without impairment of the recreational experience.[17] Another fundamental policy statement sets forth the recommended responsibilities of the federal, state, and local governments concerning outdoor recreation. It is acknowledged that an adequate outdoor recreation program requires action by all levels of government and the private sector.[18] These statements regarding recreation priorities, standards, and responsibilities are not the exclusive policy considerations in the Outdoors Plan, but serve as examples of the many policy topics included.

In addition to discussions of policy, the 1970 plan presents a specific action program. Proposals are presented for such developments as major recreation areas (e.g., state and regional parks), public forests, historic preserves, trails, scenic rivers, scenic highways, natural areas, and public game and fish management areas. Potential sites for these different recreational developments are indicated for each of the 11 recreational planning regions.[19]

Schedules of funding are presented in the 1970 plan indicating anticipated needs for acquisition and development in connection with certain aspects of the action program through 1980. Four major areas of the Outdoors Plan requiring financing are identified as follows: (1) acquisition and development of state parks; (2) aid to local and regional projects; (3) assistance for broadening recreation use of hunting and fishing areas of the Commission of Game and Inland Fisheries, and (4) a miscellaneous category consisting of a number of programs, such as scenic rivers, trails, and wetlands.

A financial schedule for land acquisition and development of facilities in connection with new state parks has been established and constitutes the largest single allocation of funds. These expenditures are viewed as necessary to achieve a goal of acquisition

and initial development of 28 new parks by 1980. The funding schedule presented for the local and regional program represents the second largest monetary requirement. Plans concerning the game and inland fisheries program provide for the establishment of at least two new wildlife management areas by 1980, and the acquisition and development of twelve new public water access areas and one new fishing lake per year until that date. No definite funding schedule is presented for this aspect of the program. Plans with regard to the remaining elements are not finalized in the 1970 plan, and funds are not allocated for acquisition and development in connection with such programs as trail systems, scenic rivers, and scenic highways. Activities in these areas are identified as primarily investigatory in nature.[20]

The third outdoors plan,[21] published in 1974, represents an updating and refinement of the 1970 plan. This plan reports the results of a 1972 outdoor recreation demand survey which indicates participation in a variety of activities.[22] This demand study is compared with the supply of outdoor recreation facilities to determine the need for additional facilities. Need estimates are presented on both a statewide and regional basis for the 1972 - 2020 period.[23] These estimates of needs assist in the establishment of priorities for acquisition and development of outdoor recreation facilities and provide the basis for an updated action program included in the plan.

The Commission's planning function is a cooperative effort involving a number of governmental and non-governmental organizations. Legislation requires the Commission "[t]o coordinate its activities with and represent the interest of departments, commissions, boards, agencies, officers and institutions of the State, or any political subdivision thereof or any Park Authority having interests in the planning, maintenance, improvement, protection and conservation of outdoor recreational facilities. . . ."[24] These governmental bodies are required to ". . .cooperate with the Commission in the preparation, revisions, and implementation. . ."[25] of the Outdoors Plan.

A policy-level coordination mechanism exists in the form of the agency structure. The Commission is composed of nine members, four of whom are ex-officio members representing state agencies concerned with outdoor recreation. Included are the Department of Conservation and Economic Development, the Commission of Game and Inland Fisheries, the Department of Highways and Transportation, and the Department of Intergovernmental Affairs. Legislation specifiying membership[26] does not mention the Department of Intergovernmental Affairs but instead refers to the Division of Industrial Development and Planning, which no longer exists. It also refers to the State Highway Commissioner, a position having undergone a name change. Therefore this provision is in need of updating.

Each of the member agencies has responsibilities directly related to outdoor recreation planning or to management of recreation facilities. The Department of Conservation and Economic Development consists of several divisions with related responsibilities,

including the Division of Parks which operates the state parks system and other outdoor recreation facilities. The Commission of Game and Inland Fisheries also exercises land management responsibilities in connection with its fish and wildlife programs. The Department of Highways and Transportation has responsibilities with respect to the state's scenic highways program, and its control over highway location and construction in general can have significant impacts on outdoor recreation. Involvement of the Department of Intergovernmental Affairs is essential because of its broad governmental coordination function.

Since outdoor recreation encompasses such a broad diversity of activities, the programs of a number of other agencies and units of government must also be coordinated with the Outdoors Plan. At the state level, examples of other agencies directly involved with outdoor recreation include the Virginia Historic Landmarks Commission and the Virginia Soil and Water Conservation Commission. In the case of projects to be constructed with federal funds (such as soil and water conservation district projects within the jurisdiction of the Virginia Soil and Water Conservation Commission and the Soil Conservation Service of the U.S. Department of Agriculture), the Commission of Outdoor Recreation has an opportunity to comment through the project notification and review procedure.[27] However, full coordination requires additional coordination mechanisms. The Commission notes in its 1974 plan that only 812 acres of a total 2,888 acres of small watershed project reservoir surface area in the state are open to public use and states that "[t]here should be more coordination in assessing the recreational potential of proposed small watershed projects from the early stages of planning."[28] Where agency programs are not subject to the project notification and review procedure, the particular mechanisms for achieving coordination among the various state agencies whose programs relate to outdoor recreation are left to the discretion of the agencies.

In addition to involvement with other state agencies, the Commission must also coordinate its planning activities with other levels of government and with a number of private groups and interests. Local and regional political subdivisions must participate in planning activities since they are responsible for the management of recreation projects constituting a significant portion of the total state program. Coordination with federal agency planning is also necessary. A number of federal agencies are involved in recreational development in the state, particularly the National Park Service, the U.S. Army Corps of Engineers, and the U.S. Forest Service. Virginia leads all other states in the number of areas administered by the Park Service, and the two national forests managed by the Forest Service provide about 53 percent of the total public outdoor recreational acreage in Virginia.[29] thus, knowledge of federal plans is essential for the most beneficial application of the state effort. The 1974 plan indicates that direct lines of communication have been established at the staff level between the Commission and the area offices of these agencies.

Plans of private organizations involved in natural resource development projects, especially water resource projects, are another important source of input for the Outdoors Plan. The Outdoors Plan can focus attention on the recreational potential of these developments, and facilities can be planned to take advantage of such opportunities. Commission review of private developments can also help assure project construction compatible with recreational development and prevent unnecessary destruction of recreational potential.

The Commission's planning activity is a continuous function. The 1974 plan, an update of the 1970 plan, will itself be updated by a new comprehensive plan scheduled to be published in 1979.[30] Each new plan is intended to reflect progress toward outdoor recreation goals and other changed conditions. This continuing reappraisal of needs and modification of the state program for fulfilling these needs is necessary if a viable outdoor recreation program is to be maintained.

B. Implementation of the Outdoors Plan

The primary mechanism through which the Commission exercises control over implementation of the Outdoors Plan arises largely through its authority to disburse federal funds from the Land and Water Conservation Fund and state appropriations to state, regional and local agencies for use in acquiring land and developing outdoor recreation facilities. The Commission has authority to expend these funds for acquisition of property for development of outdoor recreation facilities, subject to the condition that such property be transferred to another suitable agency.[31] Operating procedures of the Commission do not employ this authority. All property acquisition is carried out by landmanaging agencies or political subdivisions, with the Commission maintaining responsibility for the allocation of the necessary funds.

The Commission in its newsletter of November, 1974 stated that since its inception in 1966, more than $42 million of funds had been allocated to 121 projects across the state.[32] The largest portion of these funds has gone to the Division of Parks of the Department of Conservation and Economics Development for application to the state park system. More than 53 percent of total expenditures have been related to parks, with a majority of these funds applied to land acquisition for nine new park areas. The Commission views the present rate of state park acquisition and development to be seriously inadequate, and has proposed that funds of $73 million to supplement state and federal appropriations be made available for the 1975-80 period from the sale of general obligation bonds.[33]

The second largest expenditure has been for local and regional recreation facilities, to which 43 percent of total funds have been allocated. With regard to local government projects, funding is usually provided on the basis of 50 percent federal, 25 percent state, and 25 percent local. On regional projects, the ratio is usually 50 percent federal, 30 percent state, and 20 percent regional. The ratio of federal and state funds

granted to local and regional projects is determined by the amount of funds available to the Commission from each source.

The approval of specific projects for financing from the outdoors fund is by vote of the nine member Commission after staff investigation and recommendation. In making the determination, several factors are considered, including the existence of comprehensive planning which identifies recreation needs; the existence of conservation zoning; equitable distribution of funds between the various section of the state; encouragement of regional projects; the capacity of the sponsor to finance, start, complete, and maintain the project; financial need; and the urgency for acquisition to forestall an undesirable use of the land or a prohibitive increase in cost.[34]

Approximately three percent of the Commission allocations have gone to the Commission of Game and Inland Fisheries for broadening recreational opportunities with respect to fish and wildlife management projects. These funds have been used in purchasing two game management/recreation areas, constructing four public fishing areas, and in providing six boat ramps. Funding of these projects consisted of 50 percent from the outdoors fund, with the other 50 percent covered by the Commission of Game and Inland Fisheries.[35]

In addition to the influence which the Commission has on implementation of the outdoors plan through its control over outdoor recreation funding, the Commission also seeks to assure development consistent with the plan through its review and comments in connection with public projects and those requiring authorization by public agencies. Projects reviewed by the Commission include proposals subject to the A-95 notification and review process administered by the Department of Intergovernmental Affairs; those requiring environmental impact statements; those requiring permits from the Marine Resources Commission, the Corps of Engineers, the Coast Guard, the Federal Power Commission, or the State Corporation Commission; and proposals of the Department of Highways and Transportation.[36]

C. Responsibilities Concerning Scenic Rivers

The Scenic Rivers Act[37] declares that preservation of certain rivers or sections of rivers for their scenic values is a beneficial purpose of water resource policy.[38] The Act provides the means of identification, preservation, and protection of these streams.

The Commission is responsible for making studies of streams and recommending to the Governor and the General Assembly those which qualify for designation as scenic rivers. The original scenic rivers study was accomplished with the aid of a consultant. From the more than 70 streams given consideration, 26 were recommended by the consultant for inclusion in the system. Subsequent review by the Commission increased the number to 29. The streams included in the original study were compared

and evaluated through consideration of six factors: canoeing, fishing, notable natural features, notable historical and archaeological features, water quality, and natural conditions of banks and shoreland.[39]

A recommendation by the Commission of Outdoor Recreation to the Governor and General Assembly for a scenic river designation is required by statute to include certain information. Included are the views and recommendations of certain state agencies, the characteristics of the stream which qualify it for inclusion in the system, the general ownership and use of land in the area, and the estimated costs of acquisition and administration.[40] The legislative provision setting forth these specifications requires the inclusion of the recommendations of the Division of Water Resources of the Department of Conservation and Economic Development and the Water Control Board.[41] Thus the Scenic River designation is in need of updating to take into account the transfer of the Division of Water Resources to the State Water Control Board in 1972.

The agency to be responsible for management of a scenic river is selected by the General Assembly at the time it designates the stream as a part of the scenic rivers system.[42] Since the Commission of Outdoor Recreation is not intended to function as a management agency, other organizations must be selected to function in this capacity. The Division of Parks of the Department of Conservation and Economic Development and local or regional park authorities are likely candidates for designation as management agencies. The Commission of Game and Inland Fisheries is also a possibility although restrictions concerning use of funds for purposes other than hunting or fishing[43] present an obstacle. With respect to the two designations to date, a county park commission and a regional park authority have been given management responsibilities.

The Scenic Rivers Act provides for the Commission of Outdoor Recreation to appoint an advisory committee to assist with management when a stream is designated as a scenic river. Such a committee must include at least one local riparian landowner, and its specified duties are ". . . to assist and advise the Commission concerning the protection or management of such river."[44] The Act does not specify the intended role of the advisory committee in relation to the agency responsible for management of the scenic river. Since the advisory Committee is to be involved with management and is not appointed until after the Commission has completed its preliminary studies, the committee should be attached to the management agency rather than the Commission. A legislative provision defining the relationship between the advisory committee and the managing agency appears desirable.

The primary effect of scenic river designation for a particular stream is that future project planning in connection with the stream must give full consideration to scenic resources before a plan for use and development is approved. One general prohibition applies to the construction of dams or other structures which impede the natural

flow, unless the obstruction is specifically authorized by the General Assembly.[45] This provision does not affect the sovereign power of the federal government to exercise control over navigable waters of the United States. Such control conceivably could be manifested through construction by a federal agency, such as the Corps of Engineers, or through licensing of private development projects by such federal regulatory agencies as the Federal Power Commission. In the case of federal construction, the problem may not be significant since these projects normally are initiated only where state support exists. The federal licensing of private projects in state-designated scenic rivers is perhaps a greater possibility. The United States Supreme Court has held that provisions of state law will not be permitted to obstruct federal control.[46]

The Commission to date has conducted detailed studies of seven potential scenic rivers, but legislative action to designate has been taken on only three; the Staunton between Long Island and Brookneal, the Rivanna in Fluvanna County, and Goose Creek in Loudoun County. The latter two streams are now units of the Virginia Scenic Rivers System; but in order for the Staunton to be included, a 1975 designation act must be reenacted by the 1978 session of the General Assembly.

The first river to receive detailed study was recommended for designation in a Commission report in December, 1971.[47] The stream was Dragon Run, located in the Middle Neck section of the state and lying between the counties of Essex and Middlesex on the north and Gloucester and King and Queen to the south. Considerable opposition to the proposal was expressed by local landowners, and this opposition was reflected in the official positions taken by the governing bodies of some of the political subdivisions in the area. The basic reasons for opposition included possible restrictions on land development and a general lack of understanding as to the full implications of designation.[48] The Commission's recommendations concerning Dragon Run were never considered by the General Assembly. Translation of scenic river proposals into a form for consideration by the Legislature requires sponsorship by one or more of its members, and such sponsorship apparently was not politically palatable in view of the expressed opposition.

The next two proposed scenic rivers, Craig Creek in Craig and Botetourt Counties and the Maury-Calfpasture in Rockbridge and Augusta Counties, met with similar fates. The Craig Creek proposal,[49] also presented in December of 1971, was controversial primarily because it was in conflict with construction of the proposed Hipes reservoir project by the U.S. Army Corps of Engineers. Much of the opposition expressed in the public record concerning the proposal indicates many felt that the proposed dam would be of greater benefit than the preservation of the free-flowing stream.[50] In the case of the Maury Calfpasture proposal,[51] opposition was expressed because of possible restrictions on land development and other water uses and because of alleged vagueness in the terms of the Scenic Rivers Act and the uncertain effects of designation on other water uses.[52]

In 1975, the General Assembly designated the Rivanna River in Fluvanna County to be the first stream in Virginia's scenic river program.[53] Designation was facilitated by support from the local citizens and the absence of plans for alternative water resource development. Although the Rivanna is the first designated scenic river, the view has been expressed that a number of other streams possess greater scenic characteristics.[54]

One controversial issue concerning the proposal was whether the designation should be conditioned on approval in a local referendum. Opponents of the local option provision noted that requiring such local approval was in conflict with the basic philosophy of the Scenic Rivers Act that such rivers are a state resource, and the local-option provision was defeated.[55] The designating legislation authorizes the Fluvanna County Park Commission to administer the river.

The 1975 General Assembly also considered a proposal for designation of a section of the Staunton (Roanoke) River between Long Island and Brookneal,[56] but the proposal produced what has been described as an "incredible struggle."[57] The primary opponents are supporters of proposed hydroelectric development while fisheries interests constitute the strongest advocates. The river is considered an essential element in maintenance of the state's population of landlocked striped bass. It provides the free-flowing conditions essential to successful natural spawning and is the location of a state-operated hatchery from which several impoundments have been stocked. Because of the growing interest in the striped bass as an inland fisheries species, the Commission of Game and Inland Fisheries has been an active supporter of the scenic river designation.[58] After an initial stand in opposition to the scenic river designation, the landowners whose property would be affected have voiced support for the proposal, apparently because of expected water level fluctuations in the proposed impoundments.

The Staunton River proposal met with a somewhat circuitous resolution. The proposed legislation was given approval,[59] but with the condition that the designation is to become effective July 1, 1978, and then only if reenacted by the General Assembly in its 1978 session. This procedure gives the appearance of affirmative action but in effect amounts only to a postponement of consideration of the issue. This approach apparently had to be accepted by the sponsors of the legislation to avoid its defeat.

In 1976, the portion of Goose Creek in Loudoun County was designated as the second Virginia scenic river.[60] This proposal passed with little opposition, at least in part due to the fact that local citizens generally were strongly in favor of the proposal. Scenic river designation was sought as a mechanism to insure consideration of the scenic and cultural resources of the area in planning for potential water resources development. The U.S. Army Corps of Engineers has identified an impoundment on the stream as a possible element of a water supply plan for the Washington, D.C. metropolitan area in a water supply study.[61]

The Rappahannock and the Rapidan rivers were also studied in 1975; however, recommendations were not presented to the Governor General and General Assembly due to strong opposition from landowners and local governments in the area. The recommended river sections included the Rappahannock between Remington and Motts Run, about four miles west of Fredericksburg, and the Rapidan from its mouth to the Germanna Bridge. Opponents included a large number of riparian landowners, the City of Fredericksburg, and the counties of Culpepper and Spotsylvania.[62] Landowner opposition was primarily based on concern for littering and property damage and possible state control over land use. Most of the Rappahannock section is owned by the City of Fredericksburg, who opposed designation because of fear for the city's future water supply.[63]

Thus the Virginia scenic rivers program has proven to be highly controversial and to date has exhibited only limited success. The Scenic Rivers Act declares preservation of certain rivers for their scenic values to be a beneficial purpose of water resource policy, but experience has shown that implementation requires compromise with various other policies, many of which are likely to be in conflict. Of course, the basic conflict is the classic confrontation between preservation and development. Unfortunately for the scenic rivers program, recreational and aesthetic experiences have not been valued very highly in the evaluation process upon which final decisions are based. It is unlikely that a viable program of scenic river protection can be achieved when inclusion in the system can only be accomplished where competing interests are absent.

Another serious weakness in the program is the weight given to strictly local interests concerning stream designation. Of course such interests must be given consideration, and a fundamental aspect of the program which has possibly been deficient consists of mechanisms for citizen education and participation. However, the granting of a veto power to local interests as has been done in a number of cases is in violation of the underlying concept of the Scenic Rivers Act that preservation of certain streams in their natural state is a matter of state-wide concern and benefit.

In order to justify a changed approach in which less emphasis is placed on local desires, the state must be prepared to make compensation where scenic river designation infringes on individual rights. Donations of lands and easements should continue to be a basic part of the program, but total dependence on this source will act as a serious constraint on its development. Expenditure of funds for recreational lands has justifiably been directed toward the purchase of state park lands and areas intended for intensive use, but the need for diversification in the outdoor recreation experience suggests application of a portion of outdoor funds to less intensive activities such as those encompassed by the scenic rivers program.

In an action somewhat similar to scenic river designation the General Assembly in 1972 declared a section of the James River within the City of Richmond to be a historic river.[64] The act provides that full consideration be given to the river as a historic, scenic, and ecological resource in all planning for the use and development of water and related land resources. The City of Richmond is designated as the agency to administer the section of the river involved, and the Commission and the Richmond City Council are directed to appoint a nine member advisory committee to assist in its protection and management.

Since the designation does not fall within the scope of the Scenic Rivers Act and no special provision is contained in the act designating the historic river, it does not appear that flow-impeding structures would require General Assembly approval as in the case of a designated scenic river.

D. Environmental Protection

Recognizing that the conservation of natural and cultural resources is essential to maintaining the Virginia environment, the Commission has taken a very broad view of its responsibilities relating to "outdoor recreation." In addition to involvement with the traditional recreational projects such as the establishment and development of parks, the Commission has been active in the general area of environmental protection. For example, the Commission shortly after its creation was instrumental in preventing the construction of a power transmission line through the popular scenic area of Goshen Pass. State permits were necessary for the line because the crossing of state property was involved, but such permits had traditionally been granted as a matter of course with little concern for aesthetics. In this particular case, the Commission was successful in reaching an agreement for the line to be placed in a less objectionable location.

This involvement in environmental issues is a natural one for an outdoor recreation agency. Although many outdoor recreation activities utilize developed facilities, others are dependent on an unspoiled, natural surrounding. This latter category includes sightseeing and various wilderness-related activities such as hiking and backpacking. Many other outdoor activities, while possible under degraded environmental conditions, are more rewarding under a preserved natural environment.

This early assumption of responsibility for environmental protection was facilitated by the fact that no state agency with broad authority for environmental protection and coordination existed at the time the Commission was established. Thus the Commission was a natural choice to fill the existing institutional vacuum. This situation was modified in 1970 by the establishment of the Governor's Council on the Environment,[65] which is basically responsible for state-level coordination in the area of environmental quality. Although the basic responsibilities of the Commission and

Council are distinct, the basic objective of enhancing and protecting environmental quality is shared by both agencies.

III. Organization

The Commission of Outdoor Recreation, as created and presently constituted, is composed of nine members. Ex officio members include the Director of the Department of Intergovernmental Affairs, the Director of the Department of Conservation and Economic Development, the Executive Director of the Commission of Game and Inland Fisheries, and the State Highway and Transportation Commissioner. Five members from the state at large are appointed by the Governor, subject to confirmation by the General Assembly, for staggered four-year terms.[66] The Commission elects its chairman and employs a Director to head its staff.

FOOTNOTES

1. *Va. Acts of Assembly,* 1966, ch. 176.
2. *Id.,* 1964, ch. 277.
3. 16 *U.S.C.* 460l5 to460l22 (1974).
4. Virginia Outdoor Recreation Study Commission, "Virginia's Common Wealth," p. 9 (1965).
5. *Va. Code Ann.,* sec. 10-151 *et seq.* (1973).
6. *Id.,* sec. 10-135 *et seq.* (1973).
7. *Id.,* sec. 10-159 *et seq.* (1973).
8. *Id.,* sec. 33.1-223 (1976).
9. *Id.,* sec. 33.1-62 *et seq.* (1976).
10. *Id.,* sec. 15.1-486 *et seq.* (Cum. Supp. 1976).
11. *Id.,* sec. 10-100 *et seq.* (1973).
12. *Id.,* sec. 10-21.4 *et seq.* (1973).
13. *Id.,* sec. 10-167 *et seq.* (1973).
14. *Id.,* sec. 10-21.4 (1973).
15. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan, 1970" (1970).
16. *Id.,* Vol. IV., pp. 162-169.
17. *Id.,* pp. 35-37.
18. *Id.,* pp. 41-44.
19. *Id.,* pp. 47-74.
20. *Id.,* pp. 157-162.
21. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan, 1974" (1974).
22. *Id.,* pp. 33-44.

22. *Id.,* pp. 33-44.
23. *Id.,* pp. 48-55.
24. *Va. Code Ann.,* sec. 10-21.9(c) (1973).
25. *Id.,* sec. 10-21.10 (1973).
26. *Id.,* sec. 10-21.5 (1973).
27. *See* the discussion of the Department of Intergovernmental Affairs contained in the section of this report entitled "Other Agencies and Governmental Bodies."
28. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan 1974," p. 71 (1974).
29. *Id.,* p. 19.
30. *Id.,* p. 174.
31. *Va. Code Ann.,* sec. 10-21.8 (1973).
32. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors," Vol. 5, No. 2, p. 1 (Nov. 1974).
33. *Id.,* Special issue, "An In-depth View of COR and G.O. Bond Issue Proposal" (Nov. 1973).
34. Virginia Commission of Outdoor Recreation, "Virginia Outdoors Plan 1974," pp. 150-151 (1974).
35. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors," special issue, "An In-depth View of COR and G.O. Bond Issue Proposal" (Nov. 1973).
36. Virginia Commission of Outdoor Recreation, "Virginia Outdoors Plan 1974." p. 19 (1974).
37. *Va. Code Ann.,* sec. 10-167 *et seq.* (1973).
38. *Id.,* sec. 10-167(b) (1973).
39. Virginia Commission of Outdoor Recreation, "Virginia's Scenic Rivers," p. 5 (1970).
40. *Va. Code Ann.,* sec. 10-171 (1973).
41. *Id.,* sec. 10-171(a) (1973).
42. *Id.,* sec. 10-173 (1973).
43. *See* the section of this report concerning the Commission of Game and Inland Fisheries.
44. *Va. Code Ann.,* sec. 10-170(b) (1973).
45. *Id.,* sec. 10-174 (1973).
46. *First Iowa Hydro Electric Cooperative v. Federal Power Commission,* 328 U.S. 152 (1946).
47. Virginia Commission of Outdoor Recreation, "Dragon Run: A Report to the Governor and General Assembly" (1971).
48. Virginia Commission of Outdoor Recreation, "Public Record Summary Dragon Run Scenic River Proposal" (1971).
49. Virginia Commission of Outdoor Recreation, "Craig Creek: A Scenic River Report to the Governor and General Assembly" (1971).
50. Virginia Commission of Outdoor Recreation, "Public Record Summary Craig Creek Scenic River Proposal" (1971).

51. Virginia Commission of Outdoor Recreation, "The Maury and its Headwaters, the Calfpasture: A Scenic River Report to the Governor and General Assembly" (1972).
52. Virginia Commission of Outdoor Recreation, "Public Record Summary, The Maury and Its Headwaters, the Calfpasture Scenic River Proposal," January, 1972.
53. *Va. Acts of Assembly,* 1975, ch. 592.
54. Bill Cochran, "Scenic Rivers Need Support," *The Roanoke Times,* February 9, 1975.
55. "Rivanna Designated State Scenic River," *The Virginia Outdoors*, Vol. 5, No. 3, p. 1 (April, 1975).
56. Virginia Commission of Outdoor Recreation, "Staunton River: A Scenic River Report to the Governor and General Assembly" (1973).
57. Bill Cochran, "Scenic Rivers Need Support, *The Roanoke Times*, February 9, 1975.
58. Virginia Commission of Outdoor Recreation, "Public Record Summary, The Staunton Scenic River Proposal" (1973).
59. *Va. Acts of Assembly*, 1975, ch. 391.
60. *Id.,* 1976, ch. 195.
61. North Atlantic Division, U.S. Army Corps of Engineers, "Northeastern United States Water Supply Study Interim Report: Critical Choices for Critical Years," (1975).
62. "Rappahannock Decision, Explained: ' "Not a Cessation of Concern,' " *The Virginia Outdoors*, Vol. 6, No. 1, pp. 1-2 (January, 1976).
63. Robin Gallaher, "Scenic River Plans Stir Fight," *Richmond Times-Dispatch*, November 10, 1975; David D. Ryan, "Panel Bows to Critics on Scenic River Bids," *Richmond Times-Dispatch*, November 15, 1975.
64. *Va. Code Ann.,* sec. 10-176 (1973).
65. The Council was established by order of the Governor in 1970 and by legislative action in 1972. *See* the section of this report concerning the Council on the Environment.
66. *Va. Code Ann.,* sec. 10-21.5 to 10-21.8 (1973).

VIRGINIA INSTITUTE OF MARINE SCIENCE

I. Historical Development

The appropriation act of 1938[1] brought into being the marine laboratory that would eventually be known as the Virginia Institute of Marine Science. The laboratory was established under the control and supervision of the College of William and Mary and the Commission of Fisheries. The initial state appropriation of $5,000 was conditioned on the availability of $7,000 from federal sources. Repletion of the seafood industry was the main objective of this action.

In 1944 the General Assembly permanently established the lab, named the Virginia Fisheries Laboratory, and continued the affiliation with the College of William and Mary and the Commission of Fisheries.[2]

Major changes were made by the 1962 General Assembly.[3] The name of the laboratory was changed to Virginia Institute of Marine Science, and the Institute was made an independent research and service agency. An earlier Virginia Advisory Legislative Council Study[4] had recommended removal of the Laboratory from the domination of the College of William and Mary. The study cited too much interest in academic problems and education as a principal weakness of the existing situation. It recommended more emphasis on the problems of the seafood industry, with conservation and development of seafood resources seen as the principal objective. The new legislation provided for affiliation with one or more accredited institutions of higher learning, without specific reference to any particular institution.

II. Functions of the Agency

Duties of the Institute as specified by statute fall into the following categories: research, advisory services, and education.

A. Research

Statutory authority for research activities is quite broad. Specifically mentioned are hydrographic and biological studies of the tidal waters of the state, fisheries resources, and marine pollution. But the Institute is not restricted to any particular type of research. It can consider all marine resources and can include waters, bottoms, shore lines, tidal wetlands, beaches, and all phenomena and problems related to or affecting marine waters,[5] considered by the Institute to extend inland to the fall line extending through Richmond, Fredericksburg, and Washington, D.C.

The Institute engages in both basic and applied research, with the applied type somewhat more common. One of the largest general categories of research at present concerns preservation of coastal environments. This type of research is exemplified by

such projects as wetlands investigations, pesticide and heavy metals surveillance, and a host of other environmental studies. Although research related directly to fisheries and biological oceanography is no longer the predominant category, it still is an important one. Examples of recent projects in this area are attempts to develop disease-resistant oysters and efforts to develop aquaculture methods for clams and scallops. Physical research is also a fundamental operation. For example, the Institute is engaged in the development and utilization of hydraulic and mathematical models for use in marine water research, planning, and management.

Principal research facilities are located at Gloucester Point on the York River, with an additional laboratory located at Wachapreague. The Institute's fleet research vessels is led by the 144-foot Virginia Sea, a recently converted U.S. Navy minesweeper. Additionally, there are three medium-size craft, including Retriever (110 feet), Langley (80 feet), and Pathfinder (57 feet) as well as numerous small boats. Langley, a converted ferry, is used in estuarine work as a floating laboratory classroom.

The Institute coordinates its research activities with those of the other institutions in the Chesapeake Bay area through membership in the Chesapeake Bay Research Council and the Chesapeake Research Consortium. Other members of the Council are the Chesapeake Biological Laboratory, the National Resource Institute of the University of Maryland, and the Chesapeake Bay Institute of Johns Hopkins University.

B. Advisory Service

The information-collecting activities and scientific expertise of the Institute enable it to provide advisory services concerning the marine environment and resources. Statutory provision is made for special studies and investigations to be made on the request of the Governor.[6] Legislation also specifies that an annual report of findings and recommendations be made to the Governor and General Assembly.[7] The Institute works closely with other state agencies on any project involving the tidal waters of the Commonwealth. Its advisory services provide basic input into the management programs of the Marine Resources Commission. For example, the Institute provided technical and scientific input for guidelines[8] published by the Commission on classifying and evaluating wetlands. Pursuant to a memorandum of understanding[9] between the agencies, the Institute serves as advisor to the State Water Control Board on technical matters relating to the state's tidal waters, especially with regard to discharges of wastewater or other projects that may affect the marine environment.

The Institute has primary responsibility for technical input concerning coastal resources in connection with the state's coastal zone management program and has been designated as the principal state agency for marine science affairs.[10] The Institute serves on the state's Coastal Resources Management Advisory Committee, which was established by the Governor's Secretary of Commerce and Resources to coordinate state agency involvement in the coastal resources management program. Mem-

bership on the Committee also includes the Department of Intergovernmental Affairs, Division of Industrial Development, Commission of Outdoor Recreation, Marine Resources Commission, State Water Control Board, Council on the Environment, Virginia Soil and Water Conservation Commission, Virginia Port Authority, and the nine Planning District Commissions included in the coastal zone. The Commission of Game and Inland Fisheries and the Department of Conservation and Economic Development have participated in the past.

Advisory services are also provided to private users of marine resources. Data and advice is made available to various interests such as commercial and sport fishermen and developers of marinas. The Institute maintains contact with private users of marine resources through its extension services.

C. Education

The Institute, in affiliation with the College of William and Mary and the University of Virginia, provides academic programs leading to the Master of Arts, Master of Science, and Doctor of Philosophy degrees in marine science. It serves as the School of Marine Science for William and Mary, and the Department of Marine Science for the University of Virginia. The Director of the Institute serves as the Dean of the School of Marine Science, and as the Chairman of the Department of Marine Science. The other professionals at the Institute similarly hold academic positions at both institutions. Currently, there are about 80 graduate students enrolled. Other academic affiliations can be arranged as desirable; discussions have been in progress with Old Dominion University, and others. Courses in marine science are taught by Institute personnel at its classroom and laboratory facilities at Gloucester Point. Use of personnel in these programs is subject to approval of the educational affiliates involved. [11]

In addition to the academic program, public information and education is provided. Various pamphlets and literature are distributed on request, and information is conveyed by letter, telephone, press releases, exhibits, and programs for special groups.

III. Organization

Operation of the Institute is under the supervision of a Board of Administration consisting of the Commissioner of Marine Resources, ex officio, and eight other citizens of the state appointed by the Governor for staggered four-year terms, with the limits of eligibility set at two successive terms. The legislation provides for representation of all branches of the seafood and maritime industries insofar as possible. Persons holding other state offices may be appointed to the Board.[12]

Appointment of the Director of the Institute and selection of other personnel are the responsibility of the Board.[13] Personnel are organized into a scientific group and an administrative group. The latter, under an associate director, contains departments

of personnel, finance, and building and grounds, which also includes vehicle and vessel operations. The scientific group is composed of five divisons, each headed by an assistant director, and further divided into departments. The scientific divisions are biological oceanography, fisheries sciences and services, physical science and ocean engineering, environmental science and services, and special programs.

Operations of the Institute are funded from a variety of sources in addition to the general fund of the Commonwealth.[14] Many of the Institute's research projects are federally supported. Some projects are funded on an individual basis and block grants are received in other cases, such as National Science Foundation grants and the Sea Grant program of the National Oceanic and Atmospheric Administration. Some grants require matching state funding while others do not.

FOOTNOTES

1. *Va. Acts of Assembly,* 1938, ch. 428.
2. *Id.,* 1944, ch. 114.
3. *Id.,* 1962, ch. 406.
4. Virginia Advisory Legislative Council, "The Seafood Statutes and the Rehabilitation of the Seafood Industry," *Virginia House and Senate Documents,* H. D. Doc. No. 14 (1952).
5. *Va. Code Ann.,* sec. 28.1-195 (1973).
6. *Id.,* sec. 28.1-195(g) (1973).
7. *Id.,* sec. 28.1-199 (1973).
8. Marine Resources Commission, "Wetlands Guidelines" (effective December 1, 1974).
9. Memorandum of understanding between State Water Control Board and Virginia Institute of Marine Science (no date).
10. Letter from Linwood Holton, Governor of Virginia, to whom it may concern, September 24, 1970.
11. *Va. Code Ann.,* sec. 28.1-197 (1973).
12. *Id.*
13. *Id.*
14. *Id.,* secs. 28.1-196, 197.
15. *Id.,* secs. 28.1-196, 197 (1973).

VIRGINIA PORT AUTHORITY

I. Historical Development

The state's port developmental and administrative activities began in 1922 with the creation of the Hampton Roads Port Commission for the purpose of port development and conservation.[1] This agency was renamed the State Port Authority in 1926.[2] Its principal duties were to effect port coordination and cooperation among the cities involved; to initiate and plan development of the ports; to encourage and facilitate the creation of municipal port groups; and to improve Virginia's navigable waters.

The 1948 reoganization of the executive branch resulted in loss of the Authority's independent status and identity. Its functions were transferred to the new Division of Ports of the Department of Conservation and Development.[3]

A 1951 report of a special commission to study the reorganization of the Division of Ports[4] was highly critical of this organizational arrangement. The report stated that the governing authorities in Virginia up to that time had been "woefully unaware or greatly unappreciative" of the value and necessity for development of Virginia's maritime commerce, and the existing agency structure was viewed as inadequate. Exercise of port-development functions by a division within the Department of Conservation and Development was seen as a serious institutional weakness since the duties of the parent agency were almost wholly unrelated to port development and administration. The report recommended the reestablishment of an independent Virginia State Ports Authority with adequate authority to carry out a port development program. The 1952 General Assembly followed this suggestion and established the Virginia State Ports Authority,[5] but the principal duties of the agency remained unchanged.

Another major change with regard to port development and administration was legislated by the 1970 General Assembly.[6] It changed the name of the Virginia State Ports Authority to Virginia Port Authority and provided for the Authority to consolidate port management through acquisition of the several municipal water terminals. This approach represented a major departure from past policies under which the state played a relatively minor role in port development and management, with port cities exercising primary responsibility. The 1970 legislation considerably expanded the powers of the Authority and increased its scope of port management responsibilities.

II. Functions of the Agency

The basic functions of the Virginia Port Authority are the consolidation and coordination of the ports of the state, port development, and port promotion.

A. Port Consolidation and Coordination

Legislative authority exists for the Authority "[t]o seek to effect consolidation of the water terminals of the several cities within the ports of this state and their administration, and to promote a spirit of cooperation among these cities in the interest of the ports as a whole."[7] In order to accomplish consolidation, the Authority has the power ". . . to acquire marine terminals, port facilities, and other equipment . . . from political subdivisions of the State. . . ."[8]

Pursuant to this provision, the Authority has acquired five general cargo terminals in Hampton Roads, including Norfolk International Terminals, Portsmouth Marine Terminal, Newport News Terminal, Lambert's Point Docks, and Sewell's Point Docks.[9]

The Authority is empowered to lease port facilities it has acquired to counties, cities, towns, or other parties upon mutually agreeable terms. Counties, cities, and towns are authorized to lease such facilities for purposes of operation or to sublease.[10] All facilities under the control of the Authority currently are leased to terminal operators.[11]

Acquisition of municipal port facilities must be accomplished through negotiation since the Authority's power of eminent domain does not encompass ". . . property belonging to any other political subdivision of the Commonwealth, or to any common carrier, or public utility or other public service corporation which is being devoted to public use or service."[12] However, an incentive for consolidation exists in the form of a legislative prohibition against expenditure of state funds in connection with facilities not owned by or leased to the state, unless approved by the Governor.[13]

B. Port Development

In addition to acquisition of ports, the Authority may ". . . develop and improve the harbors or seaports of this state for the handling of waterborne commerce from and to any port of the State of Virginia and other states and foreign countries. . . ."[14] In connection with such improvement, the Authority may cooperate with federal agencies, including the U.S. Army Corps of Engineers, concerning items of local cooperation in connection with water resource development projects. However, such agreements require prior review by the Attorney General and the approval of the Governor.[15]

As a governmental agency, the Authority is not subject to certain constraints that apply to private developers in tidal waters. One such constraint is the Marine Resources Commission permit, generally required for use of beds of tidal waters owned by the state. Activities exempted from the requirement include those in connection with ". . . piers, docks, marine terminals and port facilities owned or leased by or to the Commonwealth or a political subdivision thereof. . . ."[16] Construction activity of

the Authority would also be exempt from the requirements of the Wetlands Act. The local ordinance contained in the act for controls over wetlands alteration does not apply to "[g]overnmental activity on wetlands owned or leased by the Commonwealth of Virginia, or a political subdivision thereof."[17] Legislation specifically provides that the exercise of the Authority's powers constitutes a governmental function.[18] Although exemption of port development activities from the jurisdiction of wetlands boards and the Marine Resources Commission indicates a preference for economic development over environmental protection in this area of activity, port development is subject to the state environmental review process administered by the Council on the Environment and the U.S. Army Corps of Engineers permitting process and related environmental review.[19]

Because of its involvement with port development, the Port Authority was directed by the 1972 General Assembly to consider the need for a future disposal site convenient to the Hampton Roads area for spoil and other waste materials from dredging, port development, and other activities.[20] Upon the request of the Authority, the Secretary of Commerce and Resources designated a special task force to consider spoil disposal in the Hampton Roads area. The task force consisted of the Commission of Game and Inland Fisheries, Division of Industrial Development, Division of State Planning and Community Affairs, Governor's Council on the Environment, Marine Resources Commission, State Water Control Board, Virginia Institute of Marine Science, and the Virginia Port Authority, with the Attorney General acting as legal consultant.[21]

In a report based on the task force findings, the Authority recommended continued use of the Craney Island site by raising the existing design elevation and extending the site in a westward direction. In addition, the report recommended the use of ocean disposal for dredged material meeting chemical and physical criteria established by the U.S. Environmental Protection Agency.[22]

C. Port Promotion

Port promotion is a responsibility closely related to port development. In order to accomplish its mandate to foster and stimulate the shipment of cargoes through Virginia ports,[23] the Authority operates branch offices in Norfolk, Louisville, New York, Chicago, Winston-Salem, Brussels, Tokyo, and San Paulo.[24] It also operates a department of traffic to investigate and seek improvements in rates or rate practices affecting Virginia ports.[25] Other examples of promotional activities include preparation and distribution of informational publications, slide presentations, and sales letters; participation in conferences and conventions; solicitation by personal visits and telephone calls; and advertising through foreign and domestic programs.

III. Organization

All the powers, rights, and duties conferred by law upon the Virginia Port Authority are exercised by the Board of Commissioners. The Board consists of 11 members appointed by the Governor, subject to confirmation by the General Assembly. Terms of office will be six years after an initial period of shorter terms to achieve staggering. The Board appoints the chief executive officer, to be known as the Executive Director, from outside its membership, and may employ such other personnel subordinate to the Executive Director as are necessary.[26]

By statute the principal office of the Authority is to be located in the Hampton Roads area but branch offices may be established within or without the state.[27] At present the headquarters office is located in Norfolk with eight branch offices at locations previously indicated.

The organizational structure of the agency consists of various line departments under one of two Deputy Executive Directors. Trade Development, Traffic, Research, Public Relations, and Port Operations are five departments answerable to the Deputy Executive Director of Port Operations and Trade Development. The Deputy Executive Director for Port Development and Plans manages the departments of Planning, Facility Engineering, and Facility Development.

Operations of the Authority at present, particularly those involving capital outlays for acquisition of port facilities, depend on appropriations from the General Assembly. The agency anticipates moving toward a more self-sustaining operation as revenues from facilities become available. The Authority has the power to establish charges for use of port facilities[28] and may issue revenue bonds.[29]

FOOTNOTES

1. *Va. Acts of Assembly,* 1922, ch. 377.
2. *Id.,* 1926, ch. 230.
3. *Reorganization Provisions of the Code of Virginia,* 1948, sec. 62-107 *et seq.* (repealed in 1952).
4. *Va. House and Senate Documents,* H.D. Doc. 9 (1952).
5. *Va. Acts of Assembly,* 1952, ch. 61.
6. *Id.,* 1970, ch. 171.
7. *Va. Code Ann.,* sec. 62.1-133(a) (1973).
8. *Id.,* sec. 62.1-135(c1) (Cum. Supp. 1976).
9. Virginia Port Authority, "Virginia Ports" (1974).
10. *Va. Code Ann.,* sec. 62.1-137 (1973).
11. Virginia Port Authority, "Virginia Ports" (1974).

12. *Va. Code Ann.,* sec. 62.1-136 (1973).
13. *Id.,* sec. 62.1-134(i) (1973).
14. *Id.,* sec. 62.1-134(a) (1973).
15. *Id.,* sec. 62.1-134(e1) (1973).
16. *Id.,* sec. 62.1-3(9) (Cum. Supp. 1976).
17. *Id.,* sec. 62.1-13.5(3)(i) (Cum. Supp. 1976).
18. *Id.,* sec. 62.1-145 (Cum. Supp. 1976).
19. *See* the section of this report concerning the Council on the Environment.
20. Virginia, H.J. Res. No. 136 (1972).
21. Virginia Port Authority, "Hampton Roads Area Future Dredge Disposal Site," H.D. Doc. No. 3, p. 2 (1973).
22. *Id.,* pp. 2-3.
23. *Va. Code Ann.,* sec. 62.1-134(c) (1976).
24. Virginia Port Authority, "Virginia Ports" (1974).
25. *Va. Code Ann.,* sec. 62.1-135(e) (Cum. Supp. 1976).
26. *Id.,* sec. 62.1-129 (Cum. Supp. 1976).
27. *Id.,* sec. 62.1-131 (1973).
28. *Id.,* sec. 62.1-142 (1973).
29. *Id.,* sec. 62.1-140 (b) (1973).

OTHER AGENCIES AND GOVERNMENTAL BODIES

In addition to the state administrative agencies having major water resources management responsibilities, certain other state agencies exercise authority that can have a significant impact relative to water resources. The responsibilities and programs of a variety of other governmental entities are also potentially significant with regard to water resources management. State agencies of primary interest in this regard are the Department of Agriculture and Commerce; the Department of Labor and Industry; the Department of Highways and Transportation; and four agencies created by the 1976 General Assembly, including the Department of Planning and Budget, Department of Management Analysis and Systems Development, Department of Intergovernmental Affairs, and the Computer Resources Center. Other governmental bodies of interest include interstate organizations, intrastate districts and other special purpose units of government, local units of government, and the courts of the state.

Interstate bodies associated with water resources management include the Atlantic States Marine Fisheries Commission, the Ohio River Valley Water Sanitation Commission, the Potomac River Fisheries Commission, the Interstate Commission on the Potomac River Basin, and the proposed Potomac River Basin Commission.

Enabling legislation exists in Virginia for a considerable diversity of special purpose governmental units that have potential impact on water resource management, including authorities for development of former federal areas, drainage projects, garbage and refuse collection and disposal authorities, industrial development authorities, planning districts, public facilities districts, public recreational facilities authorities, sanitary districts, sanitation districts, service districts, sewage disposal authorities, sewer authorities, soil and water conservation districts, transportation districts, Virginia Beach Erosion Commission, water authorities, and watershed improvement district. Since a number of these governmental entities are intended to function as public utilities, their impact on water resources management is minimal, making individual consideration beyond the scope of this study. Certain others have already been given some consideration due to their relationship with state agencies. Those that will be discussed here include drainage projects, planning districts, and the Virginia Beach Erosion Commission.

Local units of government, consisting of counties, cities, and towns, are also significant with respect to water resources management. These political subdivisions have been delegated certain direct water management responsibilities. In addition, this level of government exercises primary control over land use which is of fundamental importance to water resources management.

A final governmental entity that must be considered consists of the courts of the state. Certain courts perform specifically delegated management functions, and the judicial process is relied upon as the primary mechanism for resolution of water rights conflicts.

I. Department of Agriculture and Commerce

The primary responsibility of the Department relative to water resources management is pesticide regulation. Initial regulatory authority in this area was in the form of a 1922 enactment[1] that vested certain powers to control "economic poisons" in the Department of Agriculture and Immigration, the agency title existing until the present one was adopted in 1966.[2] The 1922 act was primarily concerned with enforcement of quality standards, and the role of the Department was limited to insuring that insecticides and fungicides were neither adulterated nor mislabelled.

In 1948, the power of the Department was expanded to encompass the entire process of "sale and distribution of economic poisons."[3] The Commissioner was given the responsibility to ". . . publish from time to time, in such forms as he may deem proper, complete information concerning the sale of economic poisons, together with such data on their production and use as he may consider advisable, and reports of the results of the analyses based on official samples of economic poisons sold within the state."[4]

Another significant expansion occurred in 1970 when the Department was given authority to prescribe regulations to restrict or prohibit the sale, use, or disposal of any economic poison which: "(a) undesirably persists in the environment and/or increases due to biological amplification or otherwise poses environmental hazards; (b) because of toxicity and/or inordinate hazard to man, animal or plant may be contrary to the public interest."[5] A provision was also added making unlawful use contrary to label directions or disposal of containers and unused portions of pesticide inconsistent with label directions.[6]

The regulations of the department developed pursuant to this authority include prohibitions on the negligent handling and storage of pesticides,[7] and on disposal of pesticides in a manner potentially harmful to "humans, vegetation, crops, livestock, wildlife, pollinating insects, or any water supply or waterway."[8] Certain persistent pesticides are restricted to specified methods and purposes.[9]

Beginning with the end of the 1972 growing season, all applications for registration of pesticides containing DDT have been refused.[10] The Department has begun inspecting the application of pesticides on farms and has initiated programs to emphasize their safe use.[11]

Expansion of federal pesticide legislation in 1972 largely preempted state control over production and distribution. The Federal Environmental Pesticide Control Act[12] completely revised previous federal law and extended the scope of the federal control program. One of the most significant changes brought about by the 1972 act consists of the requirement that the U.S. Environmental Protection Agency classify pesticides for either general or restricted use. The act provides for certification by

the states of applicators who use pesticides in the restricted classification by October 21,1977.

Provisions for a state certification program consistent with the federal requirements are incorporated in the Virginia Pesticide Use and Application Act of 1975.[13] Provisions of the 1975 act for certification and licensing encompass both commercial [14] and private applications upon land owned by the user.[15] However, commercial applicators are subject to special recordkeeping requirements[16] not applicable to private users.

The act provides that the Board of Agriculture and Commerce may adopt regulations concerning pesticides classified for restricted use on the basis of such factors as toxicity, persistence, and mobility. These regulations may relate to the ". . . time, place, manner, materials, amounts and concentrations, in connection with the application of such pesticides, and may restrict or prohibit use of such pesticides in designated areas during specified periods of time and shall encompass all reasonable factors which the Board deems necessary to prevent unreasonable adverse effects on the environment."[17] This authorization gives the Board broad discretion in preparing regulations to provide environmental protection. Specific reference to protection of water resources is absent from the legislation but would appear to be encompassed in the definition of "environment." Regulations to implement the 1975 act were promulgated by the Board on September 23, 1975.[18]

The act creates a Pesticide Advisory Committee to advise the Board on matters related to the use and application of pesticides, including legislation, regulations, and agency programs. The Committee encompasses a broad spectrum of interests within its twelve members, including three pesticide applicators; one commercial producer of food or feed commodities; one industrial user; one private citizen; one environmental health specialist from the Virginia Department of Health; and one representative each from the agricultural chemical industry, the Virginia Department of Agriculture and Commerce, the Virginia Commission of Game and Inland Fisheries, the State Water Control Board, Virginia Polytechnic Institute and State University, and the Divison of Forestry of the Department of Conservation and Economic Development.[19]

II. Department of Labor and Industry

The primary responsibility of the Department of Labor and Industry of interest to water resource management consists of control over mineral extraction. Such operations are significant as potential sources of surface and ground water contamination and may adversely affect water supply of other landowners by alteration of hydrologic patterns. Thus it is important that state controls applicable to mineral extraction provide for consideration of impact on water resources.

Control over mining is divided between the Division of Mines (DM) of the Department of Labor and Industry and the Division of Mined Land Reclamation (DMLR) of the Department of Conservation and Economic Development. Primary authority of the DM is contained in the Virginia Mine Safety Law of 1966[20] and is limited to protection of the health and safety of persons engaged in mining and quarrying and the protection of property. DM is also responsible for administration of controls applicable to refuse piles and silt retaining dams.[21] The primary emphasis of these controls is protection from related hazards such as flooding, but some control over water pollution is also provided. DMLR administers environmental controls applicable to surface mining.[22] Certain aspects of underground mining operations such as discharge of mine water to surface streams is subject to regulation, but the impact of subsurface operations on ground water apparently has been given little consideration in mineral resource development.

Legislation applicable to oil and gas production[23] is administered by DM and provides authority for requiring "... that the drilling, redrilling, deepening, casing, completion, plugging and abandonment of wells be done in such a manner as . . . to prevent the pollution or contamination of freshwater supplies by oil, gas or salt water . . ."[24] Specific requirements for plugging abandoned wells[25] serve to prevent such wells from becoming avenues for contamination from the surface or interchange of fluids between strata.

Oil and gas operations have not posed a significant regulatory problem in Virginia due to the low level of activity, but the potential importance of controls is indicated by the fact that such operations, especially disposal of oil field brines, have been a principal source of contamination in regions of intensive petroleum production. Current Virginia legislation does not address the issue of brine disposal, and no provision is made for coordination of the oil and gas regulatory program with the water quality management program.

III. Department of Highways and Transportation

The most direct authority of the Department having an impact on water resources involves the acquisition of land, water rights, and construction materials. In purchasing land or acquiring it through eminent domain, the State Highway and Transportation Commissioner is empowered to take "land under water" as well as ". . . riparian rights of any person, association, . . . municipality or political subdivision, deemed to be necessary for the construction, reconstruction, alteration, maintenance and repair of the public highways of the State . . ."[26] This broad purchasing power extends to the purchase of rights of way for future construction.[27] The Commissioner is also authorized, with the concurrence of the Marine Resources Commission, to ". . . take for use on the public roads in this state sand, gravel, rock, and any other materials deemed by him suitable for road purposes from the streams, rivers and watercourses, title to the bed of which is in the Commonwealth, and in addition to

the power of eminent domain already vested in him may acquire by condemnation all property, rights and easements necessary to enable him to obtain and make use of such materials."[28]

Any large-scale construction of highways is certain to affect water resources. However, there is little provision for protection of water resources in Virginia law dealing with the construction of highways. The most direct statutory provision states that "Every . . . [toll] bridge shall be so made as not to obstruct the navigation of the watercourse over which it is constructed nor the passage of fish."[29] Therefore environmental protection is largely dependent on other control mechanisms.

At the state level, two direct controls that may apply involve the State Water Control Board and the Marine Resources Commission. A primary regulatory function of the Board consists of certification that highway construction will not violate applicable limitations on water quality degradation, a requirement that must be met prior to granting of federal authorization for a project.[30] A permit from the Marine Resources Commission is required where highway construction involves state-owned beds of water bodies.[31]

An applicable review procedure that is not a direct control but which may affect project approval consists of the project notification and review process required by the U.S. Office of Management and Budget. Where federal funding is involved, comments of interested agencies and other parties must be included with the application to the funding agencies and may affect the ultimate decision.[32]

The Department is completely or partially exempted from two state-level environmental review programs having water quality protection as a basic objective. Complete exemption is granted from the requirement for the environmental impact report that must be submitted to the Council on the Environment in connection with state facilities costing $100,000 or more.[33] This exemption appears to have been created due to the fact that major highway construcion typically involves federal funding, therefore invoking federal environmental review procedures.

Although not exempted from the state erosion and sediment control program, highway projects are not subject to the standardized review process applicable to projects of other state agencies. Controls developed by the Virginia Soil and Water Conservation Commission[34] provide that state agency projects generally require submission of plans and specifications for each project for Commission review and approval.[35] However, the controls specify that "state agencies that have expertise in erosion and sediment control," a category generally confined to highway projects,"[36] shall submit annually standards and specifications for Commission approval, with no provision for Commission approval of individual project plans. Due to the magnitude of the highway construction program, this approach reduces considerably the workload that would be placed on the Commission staff if highway projects were treated as other construction projects.

This arrangement apparently has proven to be effective to date. In fact, the Department erosion and sediment control program has received praise from environmental interests on certain occasions.[37] However, this approach eliminates the potential advantages of an independent review and therefore should be periodically reevaluated in terms of degree of environmental protection that is being achieved.

Highway construction is subject to considerable control by the federal government. Where federal funding is involved or federal authorization required, such projects are potentially subject to the federal government impact statement procedure.[38] In addition, reviews by the U.S. Fish and Wildlife Service and state wildlife agencies become an integral part of the project report.[39] Direct federal controls that may apply include a U.S. Coast Guard permit for bridge construction over navigable waters;[40] a U.S. Army Corps of Engineers permit for construction in navigable waters;[41] and a Corps permit for dredge and fill activities in navigable waters and adjacent areas subject to Corps jurisdiction, an activity subject to review by the U.S. Environmental Protection Agency.[42]

Highway maintenance practices also affect water resources. Aside from the effects of such common maintenance techniques as the use of de-icing chemicals on highways, there is specific authority in Virginia for the use of oil on roads to keep them in good condition.[43] These activities do not appear to be subject to controls external to the Department.

There are provisions in state law that provide for use of public highways to enhance the public's enjoyment of water resources. For instance, in constructing bridges, the Department may, if there is sufficient public interest, build and maintain fishing platforms.[44] Also, wherever a highway is being constructed which will pass over a stream, and the highway could be used as a suitable dam for a fishpond or water-storage area, the adjacent property owner can make such use if he will pay any additional cost[45] and agree to certain conditions concerning maintenance.[46] The Department is instructed to cooperate with anyone wishing to build a marine museum adjacent to a town of at least 30,000 people.[47] Finally, the Department is authorized to establish recreational waysides for enhancement of scenic beauty adjoining highways, an activity which may involve water resource utilization and enjoyment.

IV. Agencies Created by the 1976 General Assembly

The 1976 General Assembly approved legislation creating four new agencies, including the Department of Planning and Budget, Department of Management Analysis and Systems Development, Department of Inter-governmental Affairs, and the Computer Resources Center. Concurrent with creation of these agencies, legislation providing for the existence of the Division of State Planning and Community Affairs was repealed. Most of the Divison's functions are included within the responsibilities of the new governmental units.

A. Department of Planning and Budget

The duties of the Department of Planning and Budget are as follow:

1. Development and direction of an integrated policy analysis, planning, and budgeting process within State government.

2. Development, storage, retrieval and dissemination of data on the social, economic, physical and governmental aspects of the State to provide relevant and reliable information for use in the State government and by other governmental bodies.

3. Coordination of plan development as required in section 2.1-392 of this act [six-year state expenditure plans].

4. Formulation of an executive budget as required in this chapter. In implementing this provision, the Department of Planning and Budget shall utilize the resources of such agencies as the Secretary of Administration and Finance may designate to support an efficient and effective budget process.

5. Conduct of policy and program analysis for the Governor.

6. Continuous review of the activities of State government focusing on budget requirements in the context of the goals objectives determined by the Governor and the General Assembly and monitoring the progress of agencies in achieving goals and objectives.

7. Operation of a system of budgetary execution to assure that agency activities are conducted within fund limitations provided in the appropriations act and in accordance with gubernatorial and legislative intent.

8. Development and operation of a system of standardized reports of program and financial performance for management.

9. Establishing boundaries of planning districts in accordance with section 2.1-405.

10. Establishing standard metropolican statistical areas in accordance with section 2.1-406.[49]

B. Department of Management Analysis and Systems Development

The Department of Management Analysis and Systems Development is charged with the following duties:

1. Development and direction of comprehensive program of management analysis and systems development for State government.

2. Conduct of major management studies and surveys of the State's organizational structure, management practices, and systems and procedures; and development of recommendations to reduce costs and increase productivity.

3. Formulation of policies and standards for management information systems and review of the use and performance of management information systems.

4. Design of major management information systems having application to more than one agency.

5. Technical review of data systems and procedures developed by State agencies.

6. Review of all proposed automated data processing contracts, including equipment purchases, use of consultants and service contracts, and submission of recommendations thereon to the Secretary of Administration and Finance, or to the purchasing officials designated by the Secretary.

7. Provision of technical assistance to State agencies.

8. Until such time as the Computer Resources Center is operative, performance of automated data processing services for agencies according to the directive of the Governor through the Secretary of Administration and Finance.

   The provisions above are not intended to infringe upon, in any manner, the responsibilities for accounting systems assigned to the Comptroller under section 2.1-196.1 of the Code.[50]

C. Department of Intergovernmental Affairs

Duties of the Department of Intergovernmental Affairs include:

1. Maintaining liason with the Congress and monitoring the development and progress of federal legislation, advising agencies of proposed federal legislation, providing the Governor with summary reports on pending federal legislation including statements of potential impact on the State, and coordination of State positions on federal legislation including review of proposed testimony by State officers.

2. Maintaining liason with the Executive Office of President, and appropriate executive agencies of the federal government for the purpose of keeping the Governor and State agencies informed as to federal policies, plans, programs, rules, and regulations in order that the State may influence the federal government in its policies, plans, programs, rules and regulations.

3. Maintaining liason with other states and interstate groups.

4. Serving as the Statewide clearinghouse for review of applications for donations, gifts, and grants to State agencies prior to their submission to the Governor for approval.

5. Identifying and disseminating information to local governments about the availability and utilization of federal and State resources.

6. Collecting from the governmental subdivisions of the State information relevant to their planning and development activities, boundary changes, changes of form and status of government, intergovernmental agreements and arrangements, and such other information as it may deem necessary.

7. Making information available to communities, planning district commissions, service districts and governmental subdivisions of the State.

8. Providing professional and technical assistance to, and cooperation with, any planning agency, planning district commission, service district, and governmental subdivision in the preparation of development plans and programs, service district plans or consolidation agreements.

9. Assisting the Governor in the provision of such State financial aid as may be appropriated by the General Assembly in accordance with section 15.1-1412 of the Code of Virginia.

10. Administering federal grant assistance programs, including funds from the Appalachian Regional Commission, the Economic Development Administration and other such federal agencies, directed at promoting the development of the State's communities and regions.

11. Administering the provisions of the Urban Assistance Incentive Fund as set forth in section 15.1-1500 through 15.1-1505.[51]

The Department shall have the following duties with respect to the recreational needs of the citizens of the Commonwealth:

a. To study and develop recreational programs for State institutions, agencies and political subdivisions.

b. Upon request, to provide assistance to such institutions, agencies and subdivisions regarding the establishment and implementation of recreation programs.

c. To aid and advise in the use of existing State parks and similar recreational facilities with the needs of various State institutions.

d. To work with the appropriate State agencies to develop areas for multiple recreational use, to include, but not be limited to, such traditional uses as hunting, fishing, hiking, swimming, boating, and the like.[52]

The responsibility of serving as the state clearinghouse for review of applications for financial assistance originally arose as the result of federal regulations. Concern for the impact of federal assistance programs on area and community development has been manifested in the form of provisions in the Demonstration Cities and Metropolitan Development Act of 1966[53] and the Intergovernmental Cooperation Act of 1968,[54] for coordination of federally assisted projects and programs with state, regional, and local planning. In addition, the National Environmental Policy Act of 1969[55] requires all agencies of the federal government to solicit the comments and views of appropriate federal, state, and local agencies regarding proposals for legislation and other major federal actions. Pursuant to these provisions, the Office of Management and Budget has adopted regulations[56] requiring the establishment of state, regional, and metropolitan clearinghouses to aid in coordination.

Functions of these clearinghouses include: (1) evaluating the significance of proposed federal or federally assisted projects to state, areawide, or local plans and programs; (2) receiving and disseminating project notifications to appropriate agencies; (3) assuring that appropriate agencies have the opportunity to review and comment on the environmental significance of proposed projects for which federal assistance is sought; (4) providing appropriate agencies the opportunity to review and comment on the civil rights aspects of the proposed projects; (5) providing liaison between federal agencies contemplating direct federal development projects and appropriate agencies that might be affected by the proposed project.[57] In Virginia, the Planning District Commissions and the Division of State Planning and Community Affairs were originally designated as the respective regional and state clearinghouses.[58]

In the case of applications for certain federal grant programs (to be partially enumerated later), a "notification of intent" form must be sent to the state and appropriate regional clearinghouse at least 30 days before a formal application is submitted

to the funding agency. All such notifications are required to be accompanied by a statement of the nature and extent of environmental impact anticipated.

Within five days of receipt, the state clearinghouse sends copies of the project notification to interested state agencies, with a request for review and reply within 15 days. The regional clearinghouse takes similar action with respect to appropriate local, county, area, and regional agencies and organization. Within this 15-day period, the two clearinghouses conduct their own in-house reviews of the proposed project.

After receipt of the responses of the referral agencies, the two clearinghouses may notify the applicant that no conflicts with state or regional policy, goals, or objectives exist and the application may be filed; or either give notice that questions, conflicts, or critical comments have been raised and a conference with the applicant is desired. The two clearinghouses coordinate in arranging a conference among all interested parties in order to resolve questions and/or conflicts.

The conference may or may not result in resolution of differences. If all issues are resolved, the two clearinghouses notify the applicant that he may file the formal application. If conflicts with state or regional plans and objectives remain, the appropriate clearinghouse so notifies the applicant and expresses the intent to comment adversely on the final application. If either proposes to comment adversely, the final application must be submitted to both for final review and formal comment. Such comments must be submitted with the application when forwarded to the appropriate federal agency. The state clearinghouse receives notification from the federal agency regarding final disposition of the application and in turn notifies all interested parties.[59]

The project notification and review system applies to a wide range of federal grant programs. Covered programs related to water resources include irrigation, drainage, and other soil and water conservation loans; water and waste disposal systems for rural communities; watershed protection and flood prevention projects and loans; beach erosion control projects; flood control projects; navigation projects; snagging and clearing for flood control; outdoor recreation planning, acquisition , and development; irrigation distribution system loans; small reclamation projects; water resources planning; and EPA programs for water pollution control.[60]

As of July 1, 1972, a project notification and review system became effective regarding applications to state agencies for grants or loans. Legislation requires submittal of such applications to the appropriate planning district commission before formal application is made. If the commission determines that the proposed project does not have district-wide significance, it certifies that such proposal is not in conflict with the district plan or policies. A finding that district-wide significance exists requires a determination as to whether conflicts exist, and the commission may also

consider whether the proposed project is properly coordinated with other existing or proposed projects within the district.[61]

D. Computer Resources Center

The basic responsibility of the Computer Resources Center is to ". . . perform automated data processing services for agencies when so directed by the Governor or the Secretary of Administration and Finance."[62]

E. Need for Coordination

Development of these new agencies and implementation of their responsibilities will require coordination due to potential overlap in authority. For example, the Department of Planning and Budget is charged with the state planning responsibility[63] while the Department of Intergovernmental Affairs has the duty of providing technical assistance to planning agencies or political subdivisions engaged in the preparation of development plans and programs.[64]

Attention also will have to be given to potential coordination problems involving existing agencies. For example, the budget review function of the Department of Planning and Budget[65] may conflict with the responsibility of the Council of the Environment's responsibility to coordinate the preparation of a joint environmental agencies' budget.[66] Another potential conflict concerns the authority of the Department of Intergovernmental Affairs to develop recreational programs for state agencies and political subdivisions.[67] Without proper safeguards, this activity could overlap the duties of the Commission of Outdoor Recreation.[68]

V. Atlantic States Marine Fisheries Commission

The Atlantic States Marine Fisheries Commission was created by the Atlantic States Marine Fisheries Compact, a joint program of fourteen states for the purpose of promoting and protecting the Atlantic fishing industry.[69] The Commission is composed of three representatives from each state, two of whom must be the chief fisheries administrator and a legislator from each state.[70]

The role of the Commission is investigatory and advisory.[71] In addition to general studies, the Commission is charged with recommending coordinated policing procedures, conservation practices and stocking practices. The Fish and Wildlife Service of the Department of the Interior is the primary research agency of the Commission.[72] The Commission has a potential role as a regulatory body if and when any two or more member states decide to vest such powers in the Commission.[73] In such a case, the representatives of the joining states will become a separate section of the Commission in order to carry out their regulatory functions.

The Commission's activities are supported by proportional dues to the member states.[74] Nothing in the compact can limit the powers of a member state or contradict the laws of a member state.[75]

VI. Ohio River Valley Water Sanitation Commission

In 1968, Virginia became a member of the Ohio River Valley Water Sanitation Commission, a creation of an interstate compact designed to combat the pollution of the waters of the Ohio River Basin.[76] The Commission is made up of three representatives from each of the nine member states and three representatives from the federal government.[77] The representatives' terms and methods of selection were left to the states.[78] In Virginia the representatives are selected by the Governor from the ranks of the State Water Control Board.[79] The members' terms are coincident with their tenure on the Water Control Board.[80]

The Commission has broad advisory responsibility, including annual recommendations concerning pollution prevention to the legislatures of the member states.[81] The Commission also has the power to set levels of allowable pollution by industrial waste and sewage[82] and is authorized to issue orders to public or private parties to wholly or partially discontinue polluting.[83] To become effective, such an order requires the assent of a majority of the representatives of each of not less than a majority of the member states, including a majority of the representatives of the state in which the order is made.[84] The Commission can sue in any court of general jurisdiction or in a United States District Court to force compliance with its orders.[85]

The regulatory authority of the Commission is severely limited by subordination to individual states. In addition to the above requirements concerning majority vote of the members of the affected state, the compact cannot be construed to limit the powers of any state or to override any contrary state law.[86] Thus, the Commission's role is primarily one of an advisory and coordinating nature.

VII. Potomac River Basin Commissions

There currently exist two interstate commissions in the Potomac Basin, one of which will be abolished upon the creation of another proposed commission. The existing management units include the Potomac River Fisheries Commission and the Interstate Commission on the Potomac River Basin.

A. Potomac River Fisheries Commission

The Potomac River Fisheries Commission was created by the Potomac River Compact of 1958,[87] an agreement between the states of Virginia and Maryland ratified by the Virginia Legislature in 1959. The Commission consists of three members from each of the two states, who are also required to be members of the respective state

agencies responsible for fisheries management.[88] The Commission is given complete responsibility for fisheries management within its geographical jurisdiction, including regulation, repletion and conservation, research, licensing, and taxation within specified limits.[89] Enforcement of the Commission's regulations and orders is by joint effort of the law-enforcement agencies and officers of Virginia and Maryland.[90]

B. Interstate Commission on the Potomac River Basin

The Interstate Commission on the Potomac River Basin consists of three members from each of four states and the District of Columbia, and three members are appointed by the President.[91] Each member provides for selection of its representatives. Virginia law requires appointment by the Governor, with one member required to be a resident of the Basin, one a member of the Virginia Commission on Interstate Cooperation, and the other to be appointed at large.[92] The primary purpose of the Commission is water quality protection. Specific powers include providing basic services among agencies and organizations concerned with water pollution, establishment of water quality standards, recommendation of minimum waste treatment standards, facilitation of classification of interstate waters, and establishment of waste treatment programs that will allow standards to be met for classified waters.[93]

The authority of the Commission is limited by the provision that no action relating to policy, stream classification, or standards shall be binding on any of the signatory bodies unless at least two of its representatives vote in favor thereof.[94] The Virginia members are prohibited from voting for any measure affecting the power of the State Water Control Board without consent, and they are prohibited from voting for any structure to be built with public funds that is capable of producing electric power.[95]

C. Potomac River Basin Commission

The proposed Potomac River Basin Compact Commission would create the Potomac River Basin Commission to include representation of the same governmental bodies as the existing basin commission, with each to have one member[97] rather than three. The new Commission is much broader in scope than the existing commission and would abolish and replace the Interstate Commission on the Potomac River Basin,[98] while the Potomac River Fisheries Commission would continue to function in its present capacity. Provision is made in the proposed compact for the Fisheries Commission to provide input into the comprehensive planning of the new Commission.[99]

Implementation of the proposed compact would dramatically change the existing management structure in the Potomac Basin. The new Commission would be vested with authority in essentially all aspects of water resources management, including policy formulation, planning, approval of water resource projects of others, water

supply development, water quality management and control, flood protection, watershed management, recreation, hydroelectric power, and other areas.[100] However, the jurisdiction of the Commission would not include ground water.[101]

In addition to its broader scope of authority, the proposed Commission would have greater independence from its individual members. The compact provides that action of the Commission generally requires a favorable vote of at least four of the six members, without provision for veto by individual states.[102]

The 1970 Virginia General Assembly enacted the proposed compact into law,[103] but it will not become effective and binding until enacted by Maryland, Pennsylvania, West Virginia, and the U.S. Congress.

VIII. Drainage Projects

Virginia law declares that ". . . the drainage of the surface water from wet agricultural lands is essential for the successful cultivation of such lands and the prosperity of the community, and the reclamation of overflowed swamps and tidal marshes shall be considered a public benefit and conducive to the public health convenience, utility and welfare."[105] In furtherance of this policy, provision is made for establishment of special projects for land drainage purposes. The basic objectives of such districts are to ". . . locate and establish levees, drains or canals and cause to be constructed, straightened, widened or deepened any land drainage, ditch, drain, or watercourse, and to build levees or embankments and erect tide gates and pumping plants for the purpose of draining and reclaiming wet, swamp or overflowed lands."[106]

The first step in establishing a drainage project is the filing of a petition sighed by 51 percent or more of the landowners who own at least 51 percent of the land within a proposed drainage district.

This petition must be filed with the clerk of the circuit court of the county in which at least part of the proposed district is to be located. It must state that the land involved is in need of drainage and that the establishment of such a project would benefit the public welfare. After the petition is received and bond posted to cover all costs if the project is not approved, the clerk of the court issues a summons to be served on affected landowners not joining in the petition to show cause why the lands in the proposed project should not be drained or leveed.[107]

Final disposition of the petition involves a number of steps. After the sufficiency of the petition is determined, three of the petitioners are elected to serve as a board of viewers that designates a person experienced with drainage to make a preliminary survey of the land involved. The board is required within 60 days to file a map of the proposed project and a written report with the court setting forth: (1) whether the proposed drainage is practicable, (2) whether it will benefit the public health or

any public highway or be conducive to the general welfare of the community, (3) whether it will benefit the lands sought to be benefitted, (4) the character and probable value of the lands after project completion, and (5) whether all lands benefitted are included in the project. This report of the board of viewers is then considered by the court at a public hearing at which objections are received. The court may change the proposed boundaries of the project and make other modifications in plans. After such issues are resolved, the court may declare the preliminary establishment of the project. The board of viewers is then required to undertake a complete survey of the lands involved and complete plans and specifications for the proposed project. On the basis of the board's final report, the court makes the final determination regarding approval. The statutory criterion for approval is that the cost of construction and damages assessed to all persons must not exceed the increased value of the lands affected and benefits accrueing to the lands.[108]

Where drainage projects are created, the board of viewers becomes the administering agency. Operating funds are obtained through special tax assessments on benefitted lands. The projects are authorized to issue bonds for the cost of improvements, with such bonds to be repaid through assessments on property in the project. The governing body of any county containing all or part of a drainage project may appropriate funds to such projects out of the general tax levy.[109]

The enabling legislation for creation of drainage projects was enacted prior to development of concern regarding environmental protection, with the result that no attention is given to this issue, as indicated by the unqualified statement of policy that reclamation of swamps and tidal marshes is a public benefit.[110] The fact that wetlands distruction is not necessarily in the public interest has been recognized in the Wetlands Act.[111] Since drainage projects are likely to involve private lands in most cases, related construction activities generally will be subject to the regulations established by the Wetlands Act, thereby providing a necessary constraint on such operations.

However, the scope of the drainage project act is broader than that of the Wetlands Act, suggesting a need for modification of the law to require consideration of environmental impact as an integral aspect of the project approval process as well as with regard to operation of such projects.

IX. Planning Districts

The state's 22 planning districts have been discussed previously, primarily with regard to their role as regional clearinghouses in the project notification and review process.[112] Although the planning districts are not generally intended to implement programs and activities encompassed in planning, two of the districts have received special authorization from the General Assembly to perform special governmental functions that are potentially significant with regard to water resources management.

These districts are the LENOWISCO district, which includes Lee, Norton, Wise, Scott, and Big Stone Gap, and the Cumberland Plateau district, which includes Buchanan, Dickenson, Russell, and Tazewell.

Contingent on ratification by the governing bodies of the member jurisdictions, the LENOWISCO Planning District Commission is authorized to perform the following functions:

1. To carry out a program of small stream maintenance for purposes of environmental improvement and minor flood control and to have the authority to own and operate equipment and own properties necessary to undertake such a program. Any and all such stream improvements and flood control measures shall be coordinated with the Commission of Game and Inland Fisheries, State Water Control Board, and Commission of Outdoor Recreation, as they relate to the quality or quantity of water and acquatic life in the streams affected, or related to land resources. Official agency views regarding improvement and control measures shall be drafted and provided to the LENOWISCO Planning District Commission.
2. To operate a solid waste disposal program, including: (i) the operation of an experimental rural solid waste collection system; (ii) a junk or abandoned car collection and disposal program; or (iii) a program to eliminate promiscuous dumps, and to have the authority to own and operate equipment and own properties necessary to undertake such a program.[113]

The authority of the Cumberland Plateau Planning District Commission, also subject to the consent of member jurisdictions, is somewhat broader and includes the following functions:

1. To carry out a program of small stream maintenance for purposes of environmental improvement and minor flood control; any and all such stream improvements and flood control measures shall be coordinated with the Commission of Game and Inland Fisheries, State Water Control Board, and Commission of Outdoor Recreation, as they relate to the quality or quantity of water and aquatic life in the streams affected, or related to land resources. Official agency views regarding improvement and control measures shall be drafted and provided to the Cumberland Plateau Planning District Commission.
2. To operate a tanker truck water supply system to towns and communities in the Cumberland Plateau Planning District experiencing drought and water shortage.
3. To operate a program of assistance to local governments in site preparation of public land to accommodate public improvements, including site preparation for industry and recreation.

4. To aid public water and sewer development in taking pipelines underneath roadways, and to detect and correct sewer infiltration.
5. To operate programs for elimination of promiscuous dumps and other environmental clean-up activities as determined by local governments.
6. To engage in construction and repair work on roads and streets not in the State Highway System or the secondary system of highways.[114]

X. Virginia Beach Erosion Commission

The Virginia Beach Erosion Commission was created by the General Assembly in 1952.[115] Prior to that time, the state had participated in projects to prevent or correct erosion without the existence of a separate body to administer funds and carry out the necessary work. For example, the appropriation act for the 1948-50 biennium contained a $20,000 item for construction of jetties, conditioned on a matching appropriation from the city.[116]

The Commission consists of five citizens of the City of Virginia Beach, appointed for staggered four-year terms by the Governor.[117] The sole function of the Commission is to stop, impede, or correct erosion along the Atlantic coast in the City of Virginia Beach. In order to accomplish this objective, the Commission is given the authority to construct and maintain jetties, groins, and seawalls and to place sand or other material upon the beach.[118]

The principal activity of the Commission consists of placing sand on the beach through dredging operations on city-owned property lying a short distance from the business district. The sand is normally pumped to points near the southern end of the beach from which it is distributed northward along the remainder of the beach by natural shore processes. Although this build-up is desirable in many instances, there are cases where the extra deposition is undesirable and creates a need for removal of sand, as the Lynnhaven Inlet, for example. However, the project does not appear to have caused serious problems.

XI. Counties, Cities, and Towns

A. Developmental Authority

One manner in which local governmental units affect water resource management is through exercise of specifically delegated authority concerning water resource development and utilization. One such delegation involving construction of flood prevention facilities is contained in the following statutory provision:

> (a) Any county, city or town may construct a dam, levee, seawall or other structure or device, or perform dredging operations hereinafter referred to as "works," the purpose of which is to prevent the flooding or inunda-

tion of such county, city or town, or part thereof. The design, construction, performance, maintenance and operation of any of 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 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 therefore 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.[119]

Water resource development for supply purposes is subject to several enactments. One provision authorizes counties and towns to make expenditures from their general fund for acquisition of land, construction of dams, and other actions related to water supply.[120] A second provision authorizes construction of water supply dams in navigable streams where the consent of the Secretary of the Army and the Attorney General of Virginia, with the approval of the Governor, has been obtained.[121] A third provision authorizes any county, city, or town to use Lake Drummond as a source of supply and to condemn necessary lands and water rights.[122]

Local governing bodies are authorized to provide drainage of areas within their respective jurisdictions. They may install and maintain necessary drainage systems and employ eminent domain to acquire necessary property.[123] Local action in the area of drainage may be subject to review with regard to environmental consequences where federal or state funding is involved; however, public construction may escape certain external review applicable to private construction. For example, governmental activity on wetlands owned or leased by the state or a political subdivision is exempted from the provisions of the Wetlands Act.[124] Similar action by a private interest in a tidal marsh area may require a permit from a local wetlands board, which potentially would be subject to state-level review by the Marine Resources Commission.[125]

Local governments also affect water resource management through exercise of authority to construct and operate sewer systems and sewage disposal facilities. However, this activity is subject to comprehensive federal and state controls.[126]

A final example of local authority affecting water resource management involves airport construction. General authorization has been granted for these political subdivisions to establish airports in any public waters and submerged lands within their jurisdictions.[127]

B. Direct Regulatory Authority

Local governing bodies have also been delegated authority to regulate certain aspects of water resource development. The most prominent example consists of authority for each local governing body to approve or disapprove certain facilities proposed within its jurisdiction by a second political subdivision. One provision applicable to counties and towns states that a water supply dam ". . . shall not be constructed nor any land acquired therefor when the dam would be located in another political subdivision without the approval of such political subdivision's governing body. . . ." [128] A second provides that ". . . no county or municipality shall impound any waters in the Commonwealth within the boundaries of another county or municipality. . ."[129] without first obtaining consent. A third provides that "[n]o municipal corporation . . . shall construct, provide or operate without the boundaries of such municipal corporation any water supply system prior to obtaining the consent of the county or municipality in which system is to be located. . . ."[130] A fourth provides that ". . . no county or municipal corporation or authority shall construct, provide or operate without its boundaries any water supply impoundment system . . ."[131] without prior consent.

These four provisions became effective on July 1, 1976, and do not apply to facilities in existence, under construction, or for which land has been acquired as of that date. Where approval of the second governmental unit is denied, provision is made for the party seeking approval to petition for the convening of a special court to hear an appeal. This court is to be composed of three judges of circuit courts remote from the jurisdictions of the parties involved and is to be designated by the Chief Justice of the Virginia Supreme Court of Appeals.

Counties and municipalities also possess certain authority to protect water supplies from pollution. A statement of general powers regarding public utilities provides that the governing body ". . . may also prevent the pollution of water and injury to waterworks for which purpose their [sic] jurisdiction shall extend to five miles about the same. . . ."[132] Another enactment apparently designed to apply to some particular town provides that ". . . the governing body of any town having a population of more than three thousand but less than five thousand and which is located within a county having a population of more than fifty thousand but less than fifty-five thousand . . ."[133] is authorized to pass ordinances protecting the public water supply of such town.

C. Land Use Controls

Authority for land use planning and control traditionally has been delegated to local political subdivisions. Prior to 1975, state law authorized the governing body of each county and municipality to create a planning commission, but creation of such commissions was not specifically required. The 1975 session of the General Assembly

amended the existing legislation to require their creation by July 1, 1976.[134] A local planning commission is to consist of at least five but not more than 15 members appointed by the governing body of the county or municipality.[135]

The principal duty of each local planning commission is the preparation of a comprehensive plan for the physical development of land within its jurisdiction. Statutory guidelines for such plans provide for a survey of natural resources during plan preparation and specify that the plan may include 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 areas. . . ."[136] This provision appears to authorize incorporation of water and other natural resource considerations into the planning process but leaves such matters largely to the discretion of the local commissions.

In addition to authority to conduct planning, authority to adopt and implement controls over land use is also delegated to local governmental units.[137] The governing body of any county or municipality may enact a zoning ordinance through which special controls can be enforced. Provisions of the enabling legislation for zoning specifying the purposes of such ordinances and the extent of regulatory authority delegated are essentially silent with regard to water, but it is provided that consideration is to be given to ". . . conservation of natural resources. . . ."[138]

The fact that responsibility for land use planning and implementation of controls has been delegated to counties and municipalities creates a significant role for local government with respect to water resource management. Regulation of land use is an essential element of management since effective alternative control mechanisms to accomplish certain program objectives do not exist. Belated recognition has been given to the fact that flood damage abatement programs must encompass controls over floodplain utilization as well as structural measures to control stream flow. Current interest in non-point sources of water pollution attests to the importance of land use practices to water quality protection. These and other relationships between water and land management indicate the potential significance of local authority concerning land use.

It does not appear that natural resource conservation traditionally has been a primary factor in local programs of land use controls. As evidenced by such legislation as the Virginia Wetlands Act[139] and the Virginia Erosion and sediment Control Law,[140] it appears that a trend toward more state involvement has developed. Developing programs such as coastal zone management[141] and areawide waste treatment management planning[142] provide opportunities to review institutional arrangements for management. Additional expansion of mechanisms for state review of local decisions may be needed where the impacts of decisions extend beyond the local jurisdiction.

XII. The Courts

A. Legislatively Delegated Functions

The principal water resource management responsibilities specifically delegated by the General Assembly to the courts of the state consist of regulatory authority with respect to construction of certain impounding structures. Two separate procedures for authorization of such structures have been established. One pertains to construction of mill dams and related facilities while the other concerns facilities for storage of flood water.

Legislation applicable to mill dams[143] provides that any person desiring to construct dam or canal to utilize a stream for operation of a water mill may request authorization from the circuit court of the county where the construction is proposed. Where such authorization is requested, the court is required to appoint five freeholders in the county to be commissioners of the court. The commissioners are charged with the duty of making a complete investigation of the site and reporting the likely impact of the proposed construction to the court. If from the commissioner's report or other evidence it appears that the proposed structure will result in "... the mansion house of any person other than the applicant himself, or the outhouses, yard, garden, or orchards thereto belonging, will be overflowed or taken, or that the health of the neighbor will be annoyed, ..."[144] the court may not grant permission. Otherwise, permission is in the discretion of the court, subject to such terms as it may desire. Such conditions in particular must insure "... that ordinary navigation and the passage of fish shall not be obstructed, nor the convenient crossing of the watercourse impeded. ..."[145]

Riparian owners desiring to store water above average streamflow for later use may also request authorization from the circuit court of the county or the corporation court of the city where the impoundment is proposed,[146] where the construction involved does not come within the jurisdiction of the mill dam act, the water power development act administered by the State Corporation Commission, or the federal government. Conditions governing such storage include absence of damage to others; ownership of land involved; except that publicly-owned beds may be utilized; payment of all costs, including devices for measuring streamflow above and below the impoundment; approval of construction by qualified persons; maintenance of certain minimum flow releases, including provision of necessary facilities for releasing water; limiting storage of irrigation water to that needed for a 12-month period; maintenance of all structures and equipment in safe and serviceable condition; the qualification that storage rights of upstream landowners have priority; and provision of information to the State Water Control Board [147]

Unlike the mill dam act, the enabling legislation for storage of flood water provides for input to the proceedings for approval of request for authorization from a state

agency. In addition to general notice regarding each application, the applicant is required to send a copy of his application to the "Commissioner of Water Resources" who must notify the State Water Control Board. This provision is outdated as no Commissioner of Water Resources has existed since merger of the former Division of Water Resources with the State Water Control Board.[148] Since all powers and duties of the Divison and its officers have been transferred to the Water Control Board, this agency now has total responsibility for review of such applications.

The mechanism for state-level input is a report by the Commissioner (State Water Control Board) to the court which addresses the following matters:

1. The average flow of the stream at the point from which water for storage will be taken.
2. Whether the proposed project conflicts with any other proposed or likely developments on the watershed.
3. The effect of the proposed impoundment on pollution abatement to be evidenced by a certified statement from the State Water Control Board together with such other relevant comments as such Board desires to make.
4. Any other relevant matters which he desires to place before the court.[149]

The final decision regarding a particular application is made by the court on the basis of the report and other evidence, including that obtained at a required public hearing. Legislative criteria to guide the court in its determination provide that the application be denied if it appears that other riparian owners will be injured or other justifiable reasons exist. It is specified that approval not be granted where the State Water Control Board indicates that reduction of pollution will be impaired or made more difficult.[150]

B. Water Allocation

The most fundamental responsibility of the judicial process regarding water resources management in Virginia is the allocation of natural supplies among individual water users. Administrative controls exist with regard to certain water resource development activities such as dam construction, but the actual extent of the right of individuals to use water generally is not administratively determined, with the exception of ground water use within officially designated critical ground water areas.[151] Water rights in the Commonwealth traditionally have been defined solely by judicially developed doctrines, with independent theories of allocation being applicable to streams and other confined bodies of surface water, ground water, and surface water diffused over the surface of the land.

The primary role of the courts is to interpret and apply the various doctrines to specific situations where conflicts occur among individual water users. Since the doctrines are not administered by agencies, the only recourse of the party injured

by another's water use is to the courts, either in an action to recover damages for injuries already sustained or an equity action for injunction to prevent continuing or future injury. Thus the courts as arbiters to such litigation perform the primary water allocation function for the state.

FOOTNOTES

1. *Va. Acts of Assembly,* 1922, ch. 477.
2. *Id.,* 1966, ch. 725.
3. *Id.,* 1948, ch. 468, sec. 6(c).
4. *Id.,* sec. 6(b) (2).
5. *Va. Code Ann.,* sec. 3.1-217.1 (1973).
6. *Id.,* sec. 3.1-233.1 (Cum. Supp. 1976).
7. Virginia Department of Agriculture and Commerce, "Rules and Regulations for Enforcement of the Virginia Pesticide Law," Regulation 18 (1971).
8. *Id.,* Regulation 19.
9. *Id.,* Regulation 22.
10. Virginia Department of Agriculture and Commerce, "Economic Poisons and Ecology," p. 3 (Third Annual Report 1972-1973).
11. *Id.,* p. 6.
12. Federal Environmental Pesticide Control Act, 7 *U.S.C.* 136-136y (Supp. IV 1974).
13. Virginia Pesticide Use and Application Act of 1975, *Va. Code Ann.,* sec. 3.1-249.1 *et seq.* (Cum. Supp. 1976).
14. *Id.,* sec. 3.1-249.4 (Cum. Supp. 1976).
15. *Id.,* sec. 3.1-249.6 (Cum. Supp. 1976).
16. *Id.,* sec. 3.1-249.11 (Cum. Supp. 1976).
17. *Id.,* sec. 3.1-249.2 (Cum. Supp. 1976).
18. Virginia Department of Agriculture and Commerce, "1975 Supplement to Rules and Regulations for Enforcement of the Virginia Pesticide Law" (1975).
19. *Va. Code Ann.* sec. 3.1-249.13 (Cum. Supp. 1976).
20. Virginia Mine Safety Law of 1966, *Va. Code Ann.,* secs. 45.1-1 *et seq.* (1974), *as amended* (Cum. Supp. 1976).
21. *Va. Code Ann.,* sec. 45.1-221 *et seq.* (1974).
22. *Id.,* secs. 45.1-180 *et seq.,* 45.1-198 *et seq.* (1974), *as amended* (Cum. Supp. 1976) *See* the section of this report concerning the Department of Conservation and Economic Development.
23. *Id.,* secs. 45.1-106 *et seq.* (1974).
24. *Id.,* sec. 45.1-108 (1974).
25. *Id.,* secs. 45.1-128 to 45.1-130 (1974).
26. *Va. Code Ann.,* sec. 33.1-89 (1970).
27. *Id.,* sec. 33.1-138 (1970).
28. *Id.,* sec. 33.1-117 (1970).

29. *Id.,* sec. 33.1-256 (1970).
30. *See* the section of the report concerning the State Water Control Board.
31. *See* the section of this report concerning the Marine Resources Commission.
32. *See* the portion of this section of this report concerning the Department of Intergovernmental Affairs.
33. *Va. Code Ann.,* sec. 10-17.107 (Cum. Supp. 1976) (*See* the section of this report concerning the Council on the Environment).
34. Virginia Soil and Water Conservation Commission, "Virginia Erosion and Sediment Control Handbook," (1974). (*See* the section of this report concerning the Virginia Soil and Water Conservation Commission).
35. *Id.,* pp. IV-3, 4.
36. *Id.,* p. IV-3.
37. Kathy Craddock, "Simpson Creek Gets It All Together," *Roanoke Times,* September 29, 1975.
38. National Environmental Policy Act, 42 *U.S.C.* 4321 *et seq.* (1973).
39. Fish and Wildlife Coordination Act, 16 *U.S.C.* 661 *et seq.* (1974), *as amended* (Supp. 1976).
40. River and Harbor Act of 1899, 33 *U.S.C.* 401 (1970).
41. *Id.,* 403 (1970).
42. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.* 1344 (Supp. 1966).
43. *Va. Code Ann.,* sec. 33.1-196 (1970).
44. *Id.,* sec. 33.1-207 (1970).
45. *Id.,* 33.1-208 (1970).
46. *Id.,* sec. 33.1-176 *et seq.* (1970).
47. *Id.,* sec. 33.1-220 (1970).
48. *Id.,* sec. 33.1-217 (1970).
49. *Id.,* sec. 2.1-391 (Cum. Supp. 1976).
50. *Id.,* sec. 2.1-410 (Cum. Supp. 1976).
51. *Id.,* sec. 2.1-414 (Cum. Supp. 1976).
52. *Id.,* sec. 2.1-415 (Cum. Supp. 1976).
53. 42 *U.S.C.* 3301 *et seq.* (1970).
54. 90 *U.S.C.* 4201 *et seq.* (1970).
55. 42 *U.S.C.* 4321 *et seq.* (1973).
56. U.S. Office of Management and Budget. Circular No. A-95, Revised (1974).
57. *Id.,* Attachment A, Part I, (3).
58. Letter from Governor Mills E. Godwin to T. Edward Temple, November 24, 1969.
59. Division of State Planning and Community Affairs, "Virginia Project Notification and Review System—Procedures Guide for Local, Areawide, and State Agencies," pp. 5-6. (1973) (This publication remains in effect until revised by the Department of Intergovernmental Affairs).
60. U.S. Office of Management and Budget, Circular No. A-95, Revised, Attachment D (1974).
61. *Va. Code Ann.,* sec. 15.1-1410 (1973).

62. *Id.*, sec. 2.1-419 (Cum. Supp. 1976).
63. *Id.*, sec. 2.1-391 (Cum. Supp. 1976).
64. *Id.*, sec. 2.1-414(8) (Cum. Supp. 1976).
65. *Id.*, sec. 2.1-391(F) (Cum. Supp. 1976).
66. *Id.*, sec. 10-184.1 (4) (Cum. Supp. 1976).
67. *Id.*, sec. 2.1-415 (Cum. Supp. 1976).
68. *Id.*, sec. 10-21.9 (1973).
69. Atlantic States Marine Fisheries Compact, art. I, *Va. Code Ann.*, sec. 28.1-202 (1973).
70. *Id.*, art. III.
71. *Id.*, art. IV.
72. *Id.*, art. VII.
73. *Id.*, amend. I.
74. *Id.*, art.XI.
75. *Id.*, art. IX.
76. Ohio River Valley Water Sanitation Compact, *Va. Code Ann.*, sec. 62.1-71 (1973).
77. *Id.*, art. IV.
78. *Id.*
79. *Va. Code Ann.* sec. 62.1-73 (1973).
80. *Id.*
81. Ohio River Valley Water Sanitation Compact, art. VIII, *Va. Code Ann.*, sec. 62.1-71 (1973).
82. *Id.*, art. VI.
83. *Id.*, art. IX.
84. *Id.*
85. *Id.*
86. *Id.* art. VII
87. Potomac River Compact, *Va. Code Ann.*, sec. 28.1-203 (1973), *as amended* (Cum. Supp. 1976).
88. *Id.*, art. I.
89. *Id.*, art. III, *Va. Code Ann.*, sec. 28.1-227 to 28.1-229 (1973), *as amended* (Cum. Supp. 1976).
90. *Id.*, sec. 28.1-203, art. V (1973).
91. Interstate Commission on the Potomac River Basin, *Va. Code Ann.*, sec. 62.1-64 *et seq.* (1973).
92. *Va. Code Ann.*, sec. 62.1-67 (1973).
93. Interstate Commission on the Potomac River Basin, art. II, *Va. Code Ann.*, sec. 62.1-65 (1973).
94. *Id.*, art. I (D).
95. *Va. Code Ann.*, sec. 62.1-69 (1973).
96. Potomac River Basin Compact, *Va. Code Ann.*, sec. 62.1-69, 1 *et seq.* (1973).
97. *Id.*, art. 2, sec. 2.02.
98. *Id.*, art. 15, sec. 15.15.
99. *Id.*, art. 12, sec. 12.05.

100. *Id.*, art. 3 to 11.
101. *Id.*, art. 3, sec. 3.01.
102. *Id.*, art. 2, sec. 2.05.
103. *Va. Acts of Assembly*, 1970, ch. 464.
104. Potomac River Basin Compact, art. 15, *Va. Code Ann.*, sec. 62.1-69.1 (1973).
105. *Va. Code Ann.*, sec. 21-293 (1975).
106. *Id.*, sec. 21-292 (1975).
107. *Id.*, sec. 21-295 (1975).
108. *Id.*, sec. 21-297 to 21-341 (1975).
109. *Id.*, sec. 21-347, 367, 426 (1975).
110. *Id.*, sec. 21-293 (1975).
111. *Id.*, sec. 62.1-13.1 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
112. *See* the section of this report concerning the Division of State Planning and Community Affairs.
113. *Va. Code Ann.*, sec. 15.1-1405(b) (Cum. Supp. 1976).
114. *Id.*, sec. 15.1-1405 (B1) (Cum. Supp. 1976).
115. *Va. Acts of Assembly*, 1952, ch. 35.
116. *Id.*, 1948, ch. 552, p. 1212.
117. *Va. Code Ann.*, sec. 62.1-153 (1973).
118. *Id.*, sec. 62.1-154 (Cum. Supp. 1976).
119. *Va. Code Ann.*, sec. 15.1-31 (1973).
120. *Id.*, sec. 15.1-37 (Cum. Supp. 1976).
121. *Id.*, sec. 15.1-37.1 (Cum. Supp. 1976).
122. *Id.*, sec. 15.1-333 (1973).
123. *Id.*, sec. 15.1-283 (1973).
124. *Id.*, sec. 62.1-13.5 (3) (i) (Cum. Supp. 1976).
125. *See* the section of this report concerning the Marine Resources Commission.
126. *See* the section of this report concerning the State Water Control Board.
127. *Va. Code Ann.*, sec. 15.1-37 (1973).
128. *Id.*, sec. 15.1-37 (Cum. Supp. 1976).
129. *Id.*, sec. 15.1-332.1 (Cum. Supp. 1976).
130. *Id.*, sec. 151.875 (Cum. Supp. 1976).
131. *Id.*, sec. 15.1-1250.1 (Cum. Supp. 1976).
132. *Id.*, sec. 15.1-292 (1973).
133. *Id.*, sec. 15.1-354 (1973).
134. *Id.*, sec. 15.1-427.1 (Cum. Supp. 1976).
135. *Id.*, sec. 15.1-437 (Cum. Supp. 1976).
136. *Id.*, sec. 15.1-446.1 (Cum. Supp. 1976).
137. *Id.*, sec. 15.1-486 (Cum. Supp. 1976).
138. *Id.*, sec. 15.2-490 (Cum. Supp. 1976).
139. *See* the section of this report concerning the Marine Resources Commission.
140. *See* the section of this report concerning the Virginia Soil and Water Conservation Commission.
141. *See* the section of this report concerning the Division of State Planning and Community Affairs 1968-1976.

142. *See* the section of this report concerning the State Water Control Board.
143. *Va. Code Ann.,* sec. 62.1-116 *et seq.* (1973).
144. *Id.,* sec. 62.1-122 (1973).
145. *Id.*
146. *Id.,* sec. 62.1-104 *et seq.* (1973), *as amended,* (Cum. Supp. 1976).
147. *Id.,* 62.1-106 (Cum. Supp. 1976).
148. *See* the section of this report concerning the State Water Control Board.
149. *Va. Code Ann.,* sec. 62.1-109 (1973).
150. *Id.,* 62.1-111 (1973).
151. *See* the section of this report concerning the State Water Control Board.

DIVISION OF WATER RESOURCES
1966-1972

Pursuant to legislation vested in the Board of Conservation and Economic Development by the 1966 General Assembly,[1] the Department of Conservation and Economic Development engaged in a number of water resource activities during the 1966-72 period. Most of these responsibilities were carried out through the Division of Water Resources, the Department's operational water resources unit. The Division never possessed legislative authority for independent action but served in a staff capacity to the Board and Director of Conservation and Economic Development. As in other areas of the Department's responsibilities, the Board exercised final authority regarding policy decisions.

Major areas of direct water resources responsibility included data collection, comprehensive river basin planning and policy formulation, coordination, and advisory services. Another specific function consisted of authority vested in the Director to insure compliance with a statute requiring the capping of flowing artesian wells.

I. Data Collection

Collection of hydrologic and other data was an important function of the Division of Water Resources during the 1966-72 period. Major data collection activities fell into the categories of ground water investigations, stream gauging, and water quality investigations. Another data-gathering activity, a comprehensive water power survey, was specified by statute[2] during this period.

The ground water investigation program included a number of observation wells for water level determinations and geophysical logging, conducted primarily in the southeastern part of Virginia because of heavy demands on the ground water supplies in this area. The Division organized a special advisory committee in the area and participated in a study to serve as a basis for a management plan. Much of the ground water investigation has been done in cooperation with the United States Geological Survey (USGS). Quantitative data on surface waters were obtained through a system of stream gauging stations, also in cooperation with USGS.

The Division, together with USGS, also conducted a program for the analysis of the qualitative aspects of the state's surface and ground waters. Water quality samples were collected in large part near stream gauging stations. USGS published this water quality information in conjunction with streamflow records.

Legislation authorizing a comprehensive water power survey to be directed and supervised by the Director of Conservation and Economic Development had been enacted in 1924 and was originally intended for the promotion and development of the water power and industrial resources of the state.[3] This authority was viewed by officials

of the Department as having out-lived its usefulness during the 1966-72 period and was not exercised except as a part of river basin planning.

II. Water Resources Planning and Policy Formulation

Statutory authority enacted in 1966 provided for comprehensive water and related land resource planning for each major river basin, including the Potomac-Shenandoah, Rappahannock, York, James, Chowan, Roanoke, New, Holston, Clinch, an Big Sandy. The enabling legislation also encompassed all areas not within the major basins, such as the smaller coastal basins. River basin planning was conducted with financial assistance from the Water Resources Council under provisions of the federal Water Resources Planning Act of 1965.[4]

The planning schedule called for completion of the work by 1976, but only two of the studies were completed prior to 1972. The New River Basin study had been approved by the Board, but the Potomac-Shenandoah report was circulated without formal Board approval because of a policy disagreement with the State Water Control Board concerning water quality management. The conflict resulted from the plan's endorsement of the storage of water for low-flow augmentation as a means of water quality control, a concept not generally accepted by the Board. Streamflow augmentation had been viewed favorably by the Division of Water Resources because of economic advantages of combining this method of quality control with other methods such as treatment at the source.

This fundamental conflict in philosophy arose largely because of the lack of a generally accepted state policy concerning water use. It is interesting to note that the Department of Conservation and Economic Development, or more specifically its Board, possessed statutory authority at that time to formulate a state water policy consistent with a set of legislative guidelines, one of which stated that "[t]he maintenance of stream flows sufficient to support aquatic life and to minimize pollution shall be fostered and encouraged. . . ."[5] The Board of Conservation and Economic Development had not utilized this authority to establish a general state policy, but rather had chosen to adopt the river basin plans developed by the Division of Water Resources as interim statements of policy.[6] It could, therefore, be argued that adoption of a basin plan containing proposals for low flow augmentation for pollution control would have established this concept as a valid part of state policy with regard to waters within that basin. This argument is now of historical interest only because of the transfer of planning and policy-making authority from the Department to the Board.

As a result of this controversy, a meeting was held on June 17, 1971, among representatives of the State Water Control Board, the Department of Conservation and Economic Development, and the Governor's Council on the Environment for the purpose of resolving differences between the Board and Department regarding the Potomac-Shenandoah Basin study as originally prepared. A cooperative agreement

resulting from the meeting called for the study to be revised consistent with guidelines established for future studies. The original study was not to be considered for approval and was to continue to have no official status. It was specifically agreed with respect to the Potomac-Shenandoah study that "[t]he Division of Water Resources will base future water resource studies on the general philosophy of utilizing treatment and cleanup of wastewater and sewage in lieu of the philosophy of dilution and flushing."[7] Provision was made for the use of dilution in special warranted situations, but only with prior approval of the State Water Control Board.

The agreement[8] regarding future river basin studies was designed to insure broader input and review from the various departments of state government, particularly the State Water Control Board. The agreement called for development by the Division of Water Resources of a "prospectus of assumption" in recognition of the fact that the basic assumptions made at the outset of a study often dictate its conclusions. The prospectus was to be prepared ". . . after completion of those portions of a river basin study dealing with inventory of facts and data, and while the final sections covering trade-off evaluations and final basin recommendations are being made."[9] The preparation of a prospectus was to be accomplished in consultation with the Water Control Board and other state agencies to insure that the basin assumptions were well defined and representated a broad concensus of opinion. Provision was made in the agreement for the completed prospectus to be submitted for management review and for concurrence of the Water Control Board relative to water quality aspects.

This agreement appears to have been in effect a partial delegation of planning authority to the State Water Control Board. It also could be viewed as a delegation of policy-making power since it grants certain responsibility to the Water Control Board for the formulation of the prospectus of assumptions, recognized by the signatories to the agreement as being so significant as to ". . . dictate the final conclusion of such studies."[10] If, as indicated, the prospectus had the potential of controlling the results to be reached, it would have provided the criteria for decisionmaking and therefore served the same function as a state water policy.

The minutes of the meeting resulting in this agreement stated that the understandings expressed therein were ". . . indicative only of the position of the Director [of Conservation and Economic Development]. . . ."[11] It is specifically stated that the minutes ". . . do not necessarily reflect the views of the Board of Conservation and Economic Development."[12] However, the failure of the Board to take action contrary to the agreement suggests that by its silence it did in fact ratify the agreement.

Pursuant to a provision in the enabling legislation, the Division established advisory committees to assist in the formulation of basin plans. Procedures used by the Division for creation of an advisory committee involved a written request for each of the governing bodies of the counties and cities in the basin to appoint a representative to serve on the committee. An attempt was also made to include representatives of

regional planning districts on the committee. Representation did not include other political subdivisions, such as towns and soil and water conservation districts.

The format developed for presentation of the basin plans consisted of six volumes. The volumes cover the following topics: Introduction, Economic Base Study, Hydrologic Analysis, Water Resource Requirement, Engineering Development Alternatives, and Implementation of Development Alternatives. The content of these volumes is further discussed in the section of this study dealing with the functions of the State Water Control Board since the format developed by the Division was generally utilized by the Board in completion of the basin plans.

III. Coordination

Another function of the Department prior to 1972 was coordination of state water resource programs and activities. A basic aspect of the Department's responsibilities in this area related to coordination of state agency responses and preparation of a position statement regarding projects proposed for construction by the U.S. Army Corps of Engineers. This authority was developed somewhat on a case-by-case basis. It apparently originated with the designation of Dr. Raymond V. Long, Chairman of the State Planning Board, to act on behalf of the Commonwealth with respect to a report on Norfolk Harbor.[13] Dr. Long apparently retained this authority after the State Planning Board was abolished and he assumed the position as the first Director for the Department of Conservation and Development. After that time, the Corps communicated with the Governor in some instances and directly with the Department in others. The Governor generally sought the advice of the Department when his comments had been solicited. In an effort to give official credence to the Department's statement, the Governor normally issued a formal statement of concurrence with recommendations developed by the Department. The position of the Department as ". . . the single state authority to receive, distribute and respond to notices pertaining to work in the navigable waters of Virginia" was formalized by means of letter in 1967.[14] However, this responsibility was transferred to the Division of State Planning and Community Affairs in 1971.[15]

Another duty with respect to the Corps involved the coordination of federal, state, and local aspects of floodplain studies and management in connection with the National Flood Insurance Act.[16] Requests for floodplain studies were initiated through the Division of Water Resources, and the Division disseminated information relative to various aspects of floodplain management. In response to a request from the Norfolk District of the Corps,[17] the Governor in 1961 designated the Commissioner of Water Resources to serve in a coordinating capacity for floodplain information studies.[18]

The legislation conferring on the Department authority to speak and act for the state was qualified by the phrase "except as otherwise provided by law." Several areas

existed where other agencies had been designated to act in this capacity. For example, the State Water Control Board served as spokesman for the state concerning water quality,[19] and the Virginia Soil and Water Conservation Commission exercised responsibilities[20] for water resource development projects under the jurisdiction of the Federal Watershed Protection and Flood Prevention Act.[21] Other exceptions to the Department's authority to act for the state also existed. The Commission of Outdoor Recreation was the participating agency for the state[22] in the Federal Land and Water Conservation Fund.[23] Also, the Division of State Planning and Community Affairs was designated in 1969 as the state clearinghouse for project notification and review in connection with federal grant programs.[24]

A further coordinating function existed in the form of departmental authority granted in the 1966 legislation to recommend plans to resolve water use conflicts involving the jurisdiction of different state agencies or political subdivisions. This authority was never utilized to any appreciable extent. One example of its use involved a controversy concerning the crossing of a stream by an overhead power line. A local governing body objected to the plans and requested the Department to hold a public hearing under the provisions of the legislation under consideration. After securing an Attorney General's opinion which affirmed its jurisdiction in the matter,[25] the Department held a public hearing. Based primarily on evidence indicating the possibility of lengthy delays in electric service should damages occur to an underground line, the Department decided to offer no opposition to the overhead crossing.

It should be noted that the authority of the Department to effect coordination of water resources among agencies with water resources responsibilities was limited primarily to its persuasive powers. No authority existed for imposition of its views on other agencies. For example, the 1966 legislation stated that the powers, duties, and responsibilities of the State Water Control Board and the Virginia Soil and Water Conservation Commission were not to be affected by the authority granted to the Department.

IV. Advisory Services

The 1966 legislation provided for the Board of Conservation and Economic Development to advise the Governor and the General Assembly on all matters relating to the state's water resources policy and to report annually on the status of the state's water resources. The Board was directed to recommend to the General Assembly any additional legislation deemed necessary for the accomplishment of plans and programs developed in combination with comprehensive river basin planning.

These planning activities indicated inadequacies in the existing system of water law and the need for basic changes, and the Department in 1970 adopted a statement of legislative concerns.[26] This statement did not make specific recommendations of legislation for enactment by the General Assembly but called for the creation of a

special study commission to consider a number of specified problem areas. The particular areas recommended for study included: (1) the proper role of the state in water management, with consideration of the need for the state to depart from a passive attitude and to assume responsibilities in the area of water rights determination; (2) state subsidization of water supply source development and waste treatment facilities, including a continuing source of funding for a program of water development and wastewater treatment works; (3) state regulation of floodplain use where local government has failed to regulate such use; (4) state control over water resource development projects, including the authority to review and modify those proposed by individuals, municipalities, and industries; and (5) state supervision of the design, construction, operation, maintenance, and inspection of dams and their appurtenances, in the interest of public safety.

The Department's function of providing technical advice and information also extended to political subdivisions, private groups, and individuals. Examples included aid to individuals and industries in determining the location of wells and the furnishing of current water quantity and quality information to potential developers. Other information dissemination activities included a quarterly newsletter, news releases, other publications, and speakers.

V. Control over Artesian Wells

A statute enacted in 1956[27] and not repealed until 1973,[28] required the owner of any unused flowing artesian well to cap it. The Director of Conservation and Economic Development possessed the authority in the place of the owner after proper notice is given. A maximum charge of $25 could be made to the owner when the Director exercised this authority, which became a lien upon the property.

FOOTNOTES

1. *Va. Acts of Assembly,* 1966, ch. 561.
2. *Va. Code Ann.,* sec. 10-117 (1973).
3. *Va. Acts of Assembly,* 1924, p. 518.
4. Water Resources Planning Act, 42 *U.S.C.* 1962 *et seq.* (1974), *as amended* (Supp. 1976).
5. *Va. Code Ann.,* sec. 62.1-44.36(5) (1973).
6. *See* Virginia Department of Conservation and Economic Development, Division of Water Resources, "New River Basin Comprehensive Water Resources Plan," Vol. 6, Planning Bulletin 206, 1967, introductory letter.
7. Minutes of meeting between the State Water Control Board and the Department of Conservation and Economic Development, June 17, 1971.
8. *Id.*

9. *Id.*
10. *Id.*
11. *Id.*
12. *Id.*
13. Letter from Colgate W. Darden, Jr., Governor of Virginia, to Thomas M. Robins, Acting Chief of Engineers, November 26, 1945.
14. Letter from Carter O. Lowance, Commissioner of Administration, to E. K. Jackson, Chief, Operations Division, Norfolk District, U.S. Army Corps of Engineers, June 27, 1967.
15. Letter from Linwood Holton, Governor of Virginia, to E. K. Jackson, Chief, Operations Divison, Norfolk District, U.S. Army Corps of Engineers, March 5, 1971.
16. National Flood Insurance Act of 1968, 42 *U.S.C.* 401 *et seq.* (1973), *as amended* (Supp. 1967).
17. Letter from J. D. Snow, District Engineer for the Norfolk District, U.S. Army Corps of Engineers, to J. Lindsay Almond, Jr., Governor of Virginia, May 23, 1961.
18. Letter from J. Lindsay Almond, Jr., Governor of Virginia, to J. D. Snow, District Engineer for the Norfolk District, U.S. Army Corps of Engineers, June 1, 1961.
19. Letter from Linwood Holton, Governor of Virginia, to David Dominick, Commissioner, Federal Water Pollution Control Administration, June 25, 1970.
20. *Va. Code Ann.,* sec. 21-10(7,8) (1975).
21. Watershed Protection and Flood Prevention Act, 16 *U.S.C.* 1001 *et seq.* (1974).
22. Letter from Mills E. Godwin, Jr., Governor of Virginia, to Edward C. Crafts, Bureau of Outdoor Recreation, April 24, 1967; and letter from Mills E. Godwin, Jr., Governor of Virginia, to Elbert Cox, Director of Commission of Outdoor Recreation, May 26, 1967.
23. Established by 16 *U.S.C.* 460-L-5 (1974).
24. Letter from Mills E. Godwin, Jr., Governor of Virginia, to Robert P. May, Director of Bureau of Budget, August 11, 1969.
25. Letter from Robert Y. Button, Attorney General of Virginia, to M. M. Southerland, Director of Conservation and Economic Development, October 3, 1967.
26. Virginia Department of Conservation and Economic Development, "Water Resources Legislative Concerns," December 1970.
27. *Va. Acts of Assembly,* 1956, ch. 616.
28. *Id.,* 1963, ch. 443.

DIVISION OF STATE PLANNING AND COMMUNITY AFFAIRS 1966-1976

I. Historical Development

Virginia's first planning agency, known as the Virginia State Planning Board, was established by legislation in 1938. Legislation provided for the Board to consist of twelve members appointed by the Governor, with at least eight of these to be chosen from the executive heads of the state administrative departments and their division chiefs. One member was required to be from the agricultural department at Virginia Polytechnic Institute, leaving three who were not to be state office holders. Duties of the Board included an analysis of existing conditions in the state and preparation of a synopsis of planning work in Virginia as a foundation for initiation of state planning activities.[1]

In 1960, state planning functions were transferred to the Department of Conservation and Economic Development. The newly created Division of Industrial Development became the Division of Industrial Development and Planning.[2] This arrangement was short-lived, and provision for the Division was removed from the legislation in 1962 to coincide with the establishment of a Division of Industrial Development and Planning in the Governor's Office.[3]

Planning and industrial development were separated in 1966, resulting in the Division of Industrial Development and the Division of Planning.[4] The name of the agency was changed to Division of State Planning and Community Affairs in 1968,[5] and it was abolished in 1976 when legislation providing for its existence was repealed.[6] Most of the functions of the agency were vested in new agencies to come into existence in 1976, including the Department of Planning and Budget, Department of Management Analysis and Systems Development, Department of Intergovernmental Affairs, and the Computer Resources Center.[7]

II. Functions of the Agency, 1966-76

During the course of its relatively short existence, the Division had statutory responsibilities with respect to state planning and coordination of governmental operations, delineation of critical environmental areas, community affairs, aging persons, recreation, planning districts, and standard metropolitan statistical areas. In addition, it was designated as the agency to provide state level coordination of the review of certain development projects within the state. The responsibilities concerning state planning, coordination of governmental operations, delineation of critical environmental areas, recreation, the coordination of project review had a direct impact on water resource management.

A. State Planning and Coordination of Governmental Operations

The Division was authorized to conduct basic state-wide planning, including preparation of a master plan.[8] Efforts were directed toward policy planning rather than the preparation of a detailed physical plan, with the intent of providing general direction to state development. Numerous investigations and special studies were completed, many of which might be viewed as parts of a master plan. Such studies were initiated in a number of ways, including by request of the Governor, the General Assembly or its individual members, the Governor's Secretaries, state agencies, and planning districts. Studies devoted specifically to water resources were not conducted by the Division, but assistance was provided to the planning efforts of the State Water Control Board through coordination with the planning districts[9] regarding land use and development information.

The Division's planning authority extended to governmental operations, including responsibility for assisting state agencies with certain aspects of their internal planning.[10] This involvement consisted of technical assistance with or review of plans and provision of information relative to federal programs, population, economics, or other matters.

Review and analysis of interagency operations was authorized, with the aim of producing simplifying recommendations.[11] The Division's activities in this area were largely confined to social service programs with environmental agency structure left to the consideration of the Virginia Advisory Legislative Council and other agencies. [12]

Division responsibilities at times included participating in task forces[13] or otherwise assisting in the resolution of interagency conflicts. The agency had no specific statutory authority for such action but attempted to effect compromise where possible and provided an advisory service to the Governor or his Secretaries where necessary.

The Division was designated as the agency responsible for administration of planning grants under the Coastal Zone Management Act passed by Congress in 1972.[14] The Division and the Virginia Institute of Marine Science were appointed as co-chairman of the state's Coastal Zone Advisory Committee established by the Governor's Secretary of Commerce and Resources to coordinate state agency involvement in the Coastal Zone management program. Other agencies represented on the Committee initially included the Division of Industrial Development, the Commission of Outdoor Recreation, the Marine Resources Commission, the State Water Control Board, the Commission of Game and Inland Fisheries, and the Department of Conservation and Economic Development.[15];

B. Delineation of Critical Environmental Areas

In accordance with constitutional provisions for the protection of the state's atmosphere, lands, and waters, the General Assembly in 1972 decided that particular land areas should be singled out for immediate and special concern.[16] These areas, referred to as "critical environmental areas," were to encompass lands possessing special natural, historic, and scenic characteristics and specifically included ". . . wetlands, marshlands, shorelands and floodplains of rivers, lakes and streams, wilderness and wildlife habitats, historic buildings and areas."[17] In view of the finding that the observance of existing air and water quality standards and land use controls did not sufficiently guarantee the character of these lands, the need for special protective and preservation measures was recognized. As an initial step in the development of protective controls, the Division was directed to prepare a report delineating critical environmental areas to be presented to the General Assembly by December 1, 1972, five months after the legislation became effective.

One of the basic responsibilities of the Division was the establishment of criteria for identifying these critical areas. Guidelines for these criteria included consideration of minimum sizes of such areas necessary for their protection, the types of uses to be permitted, the extent to which the areas are of statewide significance and other matters at the discretion of the Division. Provision was made for consultation with the various departments of state government, planning district commissions, local governmental agencies, and other interested public and private groups. Particular emphasis was given to consultation with state agencies having environmental expertise, specifically including the Commission of Outdoor Recreation, Virginia Institute of Marine Science, Commission of Game and Inland Fisheries, Virginia Soil and Water Conservation Commission, Department of Agriculture and Commerce, Water and Air Pollution Control Boards, Marine Resources Commission and the State Health Department.[18]

Criteria presented by the Division in its report[19] were in terms of types of areas that qualify and included the following: 1) areas having unusual natural or man-made features which were worthy of protection by state or local governments; 2) natural areas crucial to an ecological system that needed protection from inappropriate development, including those which may be hazardous to public health and safety; 3) natural, scenic, or historic areas which were already endangered; 4) areas appropriate for public use through future acquisition by state or local agencies; and 5) areas containing a primary state resource.[20]

The Division was authorized to apply its criteria after their development to delineate critical environment areas within the state. Also to be identified was a protective area around each critical area to insure preservation. The Division had the responsibility of preparing and recommending standards for the use and development of land within these protective zones. The agency was also directed to recommend means by

which the standards were to be applied and development of the areas to be controlled, with consideration to be given to the existing system of land use control in the Commonwealth. A prohibition was contained in the legislation against implementation of the standards applicable to the protective zones without the prior approval of the General Assembly.[21]

In its report, the Division delineated 134 critical areas located throughout the state.[22] Because of the limited time available for completion of the study, the approach used, described as a sample area method, did not involve a blanket inventory of the state but was dependent on nomination of areas for study. The report noted that many of the designated areas were originally identified in the Virginia Outdoors Plan or the Scenic Rivers Study. Protective zones were not shown separately but rather were combined with specific natural, scenic, or historic sites into larger areas for designation. The report recommended that the General Assembly add its endorsement of the areas delineated as critical environmental areas.

Recommendations[23] of the Division in its report proposed a continuing program for the protection of critical environmental areas and the establishment of a state program for future land use management in Virginia. As a first step, the Division recommended that it be given authority for the continued evaluation and delineation of critical environmental areas and that the planning district commissions be authorized to undertake a two year study of those areas already designated as well as other potential areas. The critical areas plan, as approved by the Division and the district commission, would have become part of the comprehensive plan of each district. Each locality within a district would have one year within which to adopt the regional plan, including any protective ordinances. In those cases where the district plan not be prepared or a locality fail to adopt the necessary controls, responsibility would have reverted back to the state and be exercised by a recommended Critical Areas Review Board.

In addition to the administration of a critical environmental areas program where regional or local action was not adequate, the Review Board proposed in the report would have had authority to regulate development within critical areas during the period that regional plans were being prepared and adopted. The basic power to be exercised during this interim period would have been the granting of permits for developments encompassing ten acres or more or having a gross floor area within all structures of 40,000 square feet. The Division would have acted as staff to the proposed Critical Areas Review Board and would have evaluated the effectiveness of programs being administered at the local level.

The 1973 General Assembly chose not to act on the Division's recommendations but rather directed a study by the Virginia Advisory Legislative Council.[24] The report[25] issued by the Council in response to this directive contained recommendations differing to some extent from those of the Division. The Council proposed the establish-

ment of a State Land Use Commission which would have been somewhat similar to the review board recommended by the Division but which would have been more independent. The proposed Commission would have been responsible for designation of critical environmental areas, approval of critical area plans, and administration of certain controls over development within such areas.[26] The 1974 General Assembly did not adopt these recommendations, thus terminating the critical area protection effort.

C. Recreation

A 1973 enactment[27] created new responsibilities for the Division in the area of recreation. Included were the study and development of recreational programs for state institutions, agencies, and political subdivisions. The Division was authorized to aid and advise in the use of existing state parks and to work with the appropriate state agencies to develop areas for multiple recreational use, including hunting, fishing, hiking, swimming, boating, and other uses.

D. Coordination of Project Reviews

The Division provided state level coordination with regard to the review of certain development projects, including those receiving federal or state financial assistance and those requiring permits from the U.S. Army Corps of Engineers.Upon abolition of the Division in 1976, the program for review of applications for financial assistance was transferred to the Department of Intergovernmental Affairs[28] and the coordinating function for Corps projects to the Council on the Environment.[29]

III. Organization

The Division was under the supervision and direction of the Governor, acting through the Commissioner of Administration and Finance. Immediate supervision of the activities of the Division was provided by a Director, who was appointed by the Governor.[30]

Statutory provision was made for the employment of all necessary personnel.[31] At the head of the staff, under the Director, was a Deputy Director, followed in command by seven Associate Directors.

FOOTNOTES

1. *Va. Acts of Assembly,* 1938, ch. 82.
2. *Id.,* 1960, ch. 164.
3. *Id.,* 1962, ch. 354, 356.

4. *Id.*, 1966, ch. 55.
5. *Id.*, 1968, ch. 223.
6. *Id.*, 1976, ch. 760.
7. The basic responsibilities of these agencies are discussed in the section of this report entitled "Other Agencies and Governmental Bodies," which considers governmental units whose water resource management responsibilities are somewhat secondary relative to their primary missions.
8. *Va. Code Ann.*, sec. 2.1-63.3 (1973), *repealed Va. Acts of Assembly*, 1974, ch. 760.
9. A plan prepared by the Division pursuant to *Va. Code Ann.*, sec. 2.1-63.5 (1973) provides for subdivision of the State into 22 planning districts.
10. *Va. Code Ann.*, sec. 2.1-63.3(b) (1973) *repealed Va. Acts of Assembly*, 1974, ch. 760.
11. *Id.*, sec. 2.1-63.3(d) (1973), *repealed Va. Acts of Assembly*, 1974, ch. 760.
12. *See*, Virginia Advisory Legislative Council, "Environmental Management," H.D. Doc. No. 9 (1973); Virginia Advisory Legislative Council, "Environmental Management," H.D. Doc. No. 18 (1974).
13. *E.g.*, the division was a member of a task force formed to consider the controversial question of flow releases to be required from VEPCO's North Anna impoundment project.
14. Coastal Zone Management Act of 1972, 16 *U.S.C.* 1451 *et seq.* (1974).
15. Virginia Division of State Planning and Community Affairs and Virginia Institute of Marine Science, "Final Application for Initial Development Grant, Part IV, Coastal Zone Management Program, pp. 3-4 (1974).
16. *Va. Code Ann.*, sec. 10-187 *et seq.* (Cum. Supp. 1976).
17. *Id.*, sec. 10-189(b) (Cum. Supp. 1976).
18. *Id.*, sec. 10-190. (Cum. Supp. 1976).
19. Virginia Division of State Planning and Community Affairs, "Critical Environment Areas" (1972).
20. *Id.*, pp. 20-21.
21. *Va. Code Ann.*, sec. 10-190 to 10-196 (Cum. Supp. 1976).
22. Virginia Division of State Planning and Community Affairs, "Critical Environment Areas" pp. 23-72 (1972).
23. *Id.*, at 86-87.
24. *Va. Acts of Assembly*, 1973, S.J. Res. 119.
25. Virginia Advisory Legislative Council, "Land Use Policies," H.D. Doc. No. 26 (1974).
26. *Id.*, pp. 26-27.
27. *Va. Code Ann.*, sec. 2.1-63.4:2, *repealed Va. Acts of Assembly*, 1976, ch. 760.
28. *See* the section of this report entitled "Other Agencies and Governmental Bodies."
29. *See* the section of this report concerning the Council on the Environment.
30. *Va. Code Ann.*, sec. 2.1-63.1 (1973), *repealed Va. Acts of Assembly*, 1976, ch. 760.
31. *Id.*, sec. 2.1-63.2 (1973), *repealed Va. Acts of Assembly*, 1976, ch. 760.

Recommendations

The preceding sections have analyzed the functions of each of the administrative agencies and other governmental units that exercise responsibilities with a potentially significant relationship to water resources management. Consideration has also been given to inter-agency activities within functionally related areas of responsibility, and deficiencies in the existing administrative framework have been noted.

The 44 recommendations contained in this section are a compilation of suggestions to eliminate or mitigate existing deficiencies. Not all of the suggested changes are wholly exclusive, and the acceptance of a particular recommendation in some instances may eliminate or reduce the need for other suggested changes. This fact is noted in several cases. Neither are all the recommendations of the same significance. They range from basic revision of institutional structure and agency responsibilities to "housekeeping" suggestions for clarifying or updating legislation. The recommendations have been grouped under the following headings: Water Policy and Management Philosophy, Water Resource Development, Water Quality, Ground Water, Marine Resources, Water-Oriented Recreation, and Miscellaneous Recommendations to update the *Virginia Code.*

WATER POLICY AND MANAGEMENT PHILOSOPHY

1. The administrative branch of state government should assume a more active role in water supply management.

The Commonwealth of Virginia traditionally has favored a somewhat passive approach to water supply management. In the case of both surface and ground water, allocation generally has been accomplished within the framework of private property rights.[1] In this system, the primary "management" forces are economic constraints and judicially defined limitations on water uses that adversely affect other parties. A significant modification of this approach is seen in the Groundwater Act of 1973,[2] but administrative controls established by that legislation apply only to groundwater use in especially designated areas. In fact, then, the state continues to exercise no direct control over surface water withdrawals and only geographically limited control over ground water withdrawals.

If water is relatively abundant, this passive approach possesses certain advantages. As the number and complexity of water use conflicts increase, however, this approach becomes inadequate. Water is still an abundant resource in Virginia when total natural supply is compared to total use, but local and regional supply problems are developing as the result of uneven temporal distribution of water and of population. For example, the populous southeastern region of the state is facing an imminent shortage, and a large scale inter-basin transfer of water from the Roanoke River Basin is proposed as one solution. This particular proposal involves many complex issues and has generated an intense inter-regional conflict, indicating the need for state involvement to provide a broader perspective for analysis and evaluation.

Another area in which the state's role might be expanded is in non-regulatory functions such as water supply planning. Since merger of the former Division of Water Resources with the State Water Control Board, the scope of the state planning effort has narrowed and now is focused on water quality. For example, the format of the comprehensive river basin plans was modified to exclude evaluation of water resource management alternatives as included in the first studies. Currently, comprehensive planning is in process for the James River Basin, and ground water studies are underway in areas of potential critical designation. In all such studies, a statewide perspective is necessary for sound planning and management.

2. If the Commonwealth is to effectively manage land and water resources and attain related social objectives, it is imperative that a state policy be established to put research on water and related land problems on a sustaining financial basis.

In 1790, Virginia had a population of 821,000 persons living on the 65,000 square miles within the original state boundaries. After West Virginia was formed in 1863, the area of Virginia was reduced to approximately 41,000 square miles. This area

now must accommodate a population—currently five million—that is growing faster than the national average. The state's land and water resources are fixed; neither can be increased to accommodate future growth and development. If the state is to continue to prosper while also offering an attractive quality of life, both resources must be managed in such a way that they support (1) more people, (2) more commerce and industry, (3) more agriculture, and (4) more recreation.

A highly diversified water research effort can serve Virginians well. To assure the success of any such effort, however, steps must be taken to provide continuity to the program of the Virginia Water Resources Research Center. This will insure that timely, relevant information is available to meet both short and long-range needs in the area of resource planning and management.

At present, water resource planning in Virginia is fragmented. Prior efforts to integrate water resource planning with land use planning, to assure simultaneous consideration of surface water with ground water, and to mesh water quality and water quantity planning have met with minimal success.

Among the items that must be addressed and evaluated in terms of their economic and social cost effectiveness are the following: policy and goals; law and institutions; effective public participation; establishment of a state water plan; improving basic data systems; developing better planning techniques; accurately appraising water supply demands; preserving reservoir sites; managing water for both cooling and hydro development; reducing damages and loss of life through better management of the floodplains; controlling beach erosion; preserving navigational channels while minimizing environmental impacts; providing for increased water recreation; preserving essential fish and wildlife habitats; identifying the fate and effects of pollutants; developing more cost effective controls for municipal, industrial, and agricultural wastes, land runoff, and oil spills; developing land treatment techniques; evaluating total costs associated with ocean disposal; controlling ground water pollution and surface drainage; and improving the supply of water for irrigation.

Research is an essential tool needed to help identify alternative courses of action, give insight into the consequences of the various alternatives, and help with the assessment of priorities. Without timely research, the alternatives are reliance on intuitive judgments, decisions based on political expediency, and crisis decisionmaking. Experience has shown clearly that these alternatives are imprecise, frequently erroneous, and typically very costly. Because of today's population and developmental pressures, resource planning and management decisions simply cannot tolerate the margins of error so often existing in the past.

3. The structure of the State Water Control Board should be modified to enhance its capabilities for comprehensive water resources management by creation of a full-time board to exercise authority vested in the agency, with the existing citizen board retained in an advisory capacity.

The existing structure of the agency consists of a seven member citizens board appointed by the Governor for staggered four-year terms.[3] This board is responsible for policy and regulatory decisions within the authority of the agency. The appointed board possesses a relatively high degree of independence. The agency is within the jurisdiction of the Secretary of Commerce and Resources. However, there appears to be no direct line of control between the Secretaries and the individual agencies except that they function as the conduit through which budget submissions are funnelled to the Governor's office. Board actions are effectively insulated from the public, and the control of the Governor over individual members is largely limited to the appointment process.

The approach has served the Commonwealth well, but increase in the workload and complexity of management problems creates the question of whether a different administrative approach is now becoming necessary. There are limits to the time that a voluntary citizens board made up of individuals who are employed in other full-time pursuits can contribute. Thus a point can be reached after which such boards cannot be expected to adequately brief themselves to properly handle all matters that require resolution. The broad range of responsibilities already vested in the Water Control Board together with the new responsibilities that are necessary if a comprehensive, coordinated management program is to be developed suggests that this point will soon be reached.

One possible solution to this problem is the creation of a full-time board to replace the existing administrative body. A full-time board would be better able to devote the necessary time to intricate water resource management issues and would provide continuity to the decisionmaking process. Individuals serving on the board should have experience that leads to an understanding of water resources management and collectively should be knowledgeable in all aspects of water resources management rather than representing a narrow focus solely on any one area such as quality protection. The voluntary citizen board concept should be maintained, but only in an advisory capacity.

Creation of a full-time water resources management board would require substantial modification of the existing administrative structure and responsibilities. This arrangement would be most effective if the board were created at the cabinet level directly under the control of the Governor. Certain responsibilities of other state agencies would also have to be modified in order to optimize the benefits from the new structure. These changes would involve the transfer of certain authority to the State Water Control Board and creation of new coordination mechanisms among agencies

involved in management programs related to water resources. Specific suggestions for transfers of authority and other needed changes in administrative responsibilities are set forth in subsequent recommendations.

4. The state environmental impact assessment program should be expanded in scope to encompass all public and private activities with a potentially significant effect on the environment.

The existing program[4] is limited to state projects involving expenditures of $100,000 or more, with the exception of highway projects. The scope of the review process should be extended to certain highway projects and to privately financed projects with potentially significant environmental consequences, especially where the federal environmental impact statement (EIS) process does not apply.

Inclusion of private projects in the environmental assessment would facilitate existing or future regulatory procedures. For example, the State Corporation Commission would be better able to fulfill its mandate of regulating dam construction in the public interest if an environmental assessment was required for proposed projects.

Mineral development is another area of activity where improved evaluation of environmental impact is essential. In some sections of the state, especially in the southwestern coal-producing region, mineral extraction operations have had major adverse impacts on the availability of water for supply purposes and also with respect to water quality.

In the case of highway construction, exemption from the state environmental review procedure apparently arose because such projects frequently invoke the federal EIS process. However, blanket exemption from the state procedure creates the possibility that no evaluation of potential environmental consequences will be conducted in some cases. For example, some projects may not involve federal funding and therefore may not be subject to the federal EIS process.

5. The state should develop a mechanism for review of local land use decisions that have a potential environmental impact of greater than local significance.

Authority for land use controls traditionally has been delegated to the local level of government,[5] primarily without provision for state review of local decisions. This responsibility is a proper function of local government where only local consequences are involved, but local decisions are not likely to encompass adequate consideration of costs or benefits that affect areas outside the local jurisdiction. Therefore a broader decisionmaking perspective is required where land use decisions have potential impacts of greater than local significance.

One method of providing a broader perspective while maintaining a significant degree of local authority consists of state level review of decisions made at the local level. This approach is currently being utilized in Virginia to a limited degree. The best example is the wetlands program[6] in which regulatory decisions of local wetlands boards are subject to review by the Marine Resources Commission. Provisions for state review of local land use decisions are also contained in the Virginia Erosion and Sediment Control Act;[7] however, no effective review program has resulted. The act limits the review to situations where controls are administered by soil and water conservation districts, and to date, controls have been adopted by counties, cities, and towns rather than by the districts (note recommendation regarding this program).

Many aspects of water resources management are significantly affected by land use practices, a number of which are outside the scope of the wetlands and erosion and sediment control programs. Water quality management is one area where more extensive review of land use decisions is essential. Examples of significant activities affecting water quality beyond the scope of existing review procedures include agricultural practices, urban floodwater management, and location of petroleum storage and handling facilities. Flood prevention is another area of water resources management bearing a close relationship to land use control. Proposed legislation to provide state guidelines for floodplain management was introduced in the 1976 General Assembly but carried over for further consideration in the next legislative session.[8]

Establishment of an effective state-level review process will be complicated by the division of related responsibilities among several state agencies. For example, air quality is within the jurisdiction of a different agency than is water quality. In fact, the various aspects of water quality management themselves are divided among several agencies. One approach to a state review would consist of separate review by each of the agencies involved. However, a more desirable approach would consist of a review process administered by a single government unit, with each of the agencies with related environmental responsibilities providing input.

6. State government should place more emphasis on basic planning for the future growth and development of the Commonwealth.

Although the idea of a comprehensive master plan covering all aspects of future growth has generally been discarded by planners as unrealistic, there is a need for identification of alternative courses of development and the likely impacts of each. Lack of such planning prevents most effective management of water and other natural resources. Natural resources management cannot be conducted in a vacuum; it must be closely related to the broad spectrum of social needs and conditions. Therefore basic state planning is needed to provide a general framework for proper management.

7. The policy statement that all uses of state water should be beneficial should be expanded to provide general guidance as to what constitutes beneficial use, including the requirement that purpose, type, and manner of use all be given consideration.

The only general definition of "beneficial use" existing at present is a statutory provision encompassing "domestic, agricultural, recreational and commercial and industrial uses."[9] This provision does not address the need for evaluation of the particular conditions relating to the individual water use. Essentially all applications of water to a productive enterprise are beneficial under appropriate conditions but may not be desirable in a particular situation. For example, use of water for industrial cooling or a variety of process purposes may be generally beneficial, but a once-through application may not constitute an efficient use of a scarce resource where recycling is a reasonable alternative. Therefore water policy should provide for consideration of conservation and efficiency concepts in any determination of whether a given use is beneficial.

A complete listing of all beneficial water uses is not feasible in view of the essentially limitless applications of water and the continuing shift in the relative importance of individual uses. The requirement that water be applied to beneficial use implies that, at a given time, some uses are more beneficial than others. Enumeration of specific uses recognized to be beneficial, as is done in the statement of policy developed by the State Water Control Board,[10] has the advantage of greater specificity, but an explicit statement that the list is not to be considered exclusive is needed in order to provide necessary flexibility.

8. Policy provisions concerning water conservation should be expanded to encompass the total spectrum of water use.

Existing policy provisions concerning water conservation[11] are limited to the objectives of minimizing industrial withdrawal and preventing waste of municipal water through plumbing and building codes and by means of metering. These fundamental provisions should be expanded to encompass other types of water-using activities and conservation measures. For example, agricultural uses should not be omitted. In addition, the policy should be explicit in requiring water suppliers to evaluate techniques such as pricing as a means of reducing water demand.

9. The statement of policy contained in drainage law should be qualified to reflect recognition that preservation of wetlands in their natural state is desirable under certain conditions.

Legislation authorizing creation of drainage projects was enacted prior to recognition of the value of wetlands and therefore contains an unrestricted policy in favor of draining wet agricultural lands and reclaiming marshes and swamps.[12] Passage of the Wetlands Act has provided a degree of protection to wetlands in coastal areas, but it would be beneficial for drainage law to be modified to indicate that alteration of

both tidal or freshwater wetlands should be undertaken only after full consideration of the environmental consequences of such action.

10. Policy related to channelization should require consideration of environmental factors prior to project approval.

Existing policy as developed by the State Water Control Board[13] contains provisions for minimizing adverse impacts during design, construction and operation of channelization projects, but these provisions do not address the issue of project approval. Consideration of adverse environmental consequences should be required prior to final project approval, and projects should be prohibited where potential environmental damage is large in relation to anticipated project benefits. State policy, therefore, also should provide environmental guidelines for project approval.

11. Certain administrative agencies should be required to publish all regulatory decisions, including a summary of the issues involved and a description of the relationship of each decision to relevant plans and policies.

Under Virgina's existing institutional structure for water resource management, final decisions on permit applications and other regulatory actions are made by citizen boards on the basis of staff input and other evidence presented at regularly scheduled meetings. Due to the discontinuous nature of this process and relatively frequent changes in board composition, decisionmaking is somewhat ad hoc in nature. This creates an inherent obstacle to consistency of action. Certain general concepts have been established as formal agency policy or general water resources policy, but additional policy elements are evolved informally as decisions are made, such as those relative to permit applications. Since some of these policy elements are likely to arise again and again, the decisionmaking body should have the benefit of reviewing past deliberations involving the same policy considerations. Such review would not, of course, insure the same result in similar proceedings, for circumstances vary and agency perspectives sometimes do change. Even so, any decision that conflicts with a previous action should be made in full awareness that precedent is being overridden, and not because of failure to consider all relevant information.

Although other programs might also be encompassed, regulatory actions of the State Water Control Board are good examples of where expanded reporting of factors considered in decisionmaking would strengthen the administrative process. In the process of issuing certificates of ground water right applicable to critical ground water areas, for instance, the Board must establish general principles concerning such factors as the extent of beneficial use. Recording these principles as they are established would assist the agency in its deliberations and also be instructive for certificate applicants. The same benefits would apply to reporting of actions on waste discharge permit applications.

12. Coordination of individual water resource development activities and regulatory programs with existing water resource policies and plans should be made mandatory.

Virginia's decentralized administrative structure has water resource management compartmentalized into a variety of relatively independent functions. In addition, policymaking and planning functions often are separated from program elements where direct control is exercised over water resource development projects. This absence of a mechanism for policy and plan implementation results partly from the state's limited authority to control water use. However, the state does exercise control over the construction of certain water resource development projects such as dams, and administration of these control programs should be consistent with relevant policies and plans.

An example of a state activity with no requirement that it be responsive to a comprehensive state policy on water resource development are the small watershed projects constructed under the Federal Watershed Protection and Flood Prevention Act.[14] At the state level of government, these projects are subject to control by the Virginia Soil and Water Conservation Commission. Although subject to some constraints, these projects can be large and can encompass a wide variety of authorized purposes—with no requirement that they be planned and implemented within the context of a comprehensive water resource management plan for the state. Such projects currently are viewed strictly as a local or regional undertaking for narrowly defined purposes.

Federal funding for such projects is allocated on a competitive basis with others throughout the nation, with no requirement that they be in conformity with a comprehensive state plan. For this reason, attempts to impose project constraints at the state level can be expected to generate some resistance, since these might affect a project's competitive position. One external control designed to broaden input during the authorization process is the project notification and review procedure required by the U.S. Office of Management and Budget where federal funding is sought.[15] This permits interested agencies to comment on the proposal as it relates to relevant plans and insures that any such comments will be part of the record to be considered by the funding agency. This procedure may adversely affect funding where small watershed projects are inconsistent with a state water plan, but does not necessarily preclude funding in such cases. It should be noted that, in many cases, considerable planning input by interested agencies has been achieved on an informal basis. Thus problems of coordinating the funding of small watershed projects may be largely hypothetical at present. The existing institutional structure, however, creates an inherent potential for such problems, suggesting the need for continuing efforts to insure that coordination problems do not develop.

One means to achieve a greater degree of coordination between small watershed projects and water resource plans is to add the State Water Control Board to the ex officio membership of the Soil and Water Conservation Commission. This approach is suggested by the fact that the Commission as presently constituted is a composite body with representation of two other agencies having related functions, including the Department of Agriculture and Commerce and the Department of Conservation and Economic Development. Since the Commission's basic responsibilities have been expanded to include comprehensive water resources management and water quality control, addition of the Water Control Board to the Commission's membership would be a logical development.

13. The State Corporation Commission's authority to regulate dam construction should be transferred to the State Water Control Board.

Since construction of dams is a fundamental component of water resource development, regulatory authority for such construction should be vested with an agency having primary responsibility for water resource management. Under existing state law, a permit from the State Corporation Commission is necessary for the construction of dams in navigable waters of the state, for hydroelectric purposes, or in connection with the interstate transmission of electricity.[16] The Commission's regulatory authority has been held by the Attorney General of the Commonwealth to be superior to that of other state agencies with regard to dam construction and/or operation—in particular, for specification of minimum flow releases.

The Commission traditionally has regulated public utilities such as power companies, where the focus of regulation is on rates, adequacy of service, and general business affairs. It is recommended that these aspects of power company operations remain within the regulatory jurisdiction of the Commission. Dam construction, by contrast, arises infrequently and requires considerations outside the scope of normal Commission operations and staff capabilities. Therefore the regulation of dam construction is not logically a Commission responsibility and should be transferred to the State Water Control Board, where greater compatibility exists between agency mission and regulatory function.

14. The wastewater management functions of the State Department of Health should be transferred to the State Water Control Board.

The State Water Control Board has been granted general authority for water quality management in the Commonwealth, but the State Department of Health is authorized to perform certain specific wastewater management functions. At present the two agencies have joint responsibility for major sewage treatment and disposal facilities.[17] The Department has sole responsibility for control of septic tank use[18] unless a direct discharge to surface water results and also regulates sewage disposal at marinas[19] and other recreational facilities.[20] The Department has regulatory authority with respect to solid wastes[21] and radioactive material,[22] both of which are potential sources of water pollution. Granting direct wastewater management functions to more than one agency tends to fragment the program and reduce its potential effectiveness, especially since in this instance the two agencies involved are answerable to different secretaries in the Governor's Cabinet.

Since several of the Department's regulatory functions apply primarily to subsurface waste disposal, their separate administration has tended to divide the state's water quality program into surface and subsurface components. Although the authority of the Board theoretically encompasses both surface and ground water, the division of authority hinders the application of uniform policies on a program-wide basis. To date, considerably more emphasis has been placed on protection of surface water quality than on ground water quality. The division of authority also tends to limit agency perspectives and is a potential source of bias in the evaluation of specific project proposals, since alternatives involving effluent discharge to surface water may be viewed differently than are those with a subsurface discharge.

Another detrimental impact of the division of responsibilities between agencies is that it often serves as an impediment to the citizen seeking action regarding a waste management problem. The involvement of more than one agency tends to obscure specific responsibilities, and referrals from one agency to another can complicate a problem and impede its solution.

Therefore it is recommended that State Department of Health responsibilities for all sewage treatment facilities be transferred to the State Water Control Board. With regard to major facilities, the Department should continue to perform a preliminary review of applicants' plans and provide advisory input concerning health aspects. However, the technical review of plans is logically a Board function. In the case of septic tanks, the fact that they are a significant source of water pollution indicates the need for integration of controls with the primary wastewater management program. Some degree of local implementation can likely be maintained, but greater coordination with state efforts to protect water quality is necessary.

Maintenance of Department responsibilities concerning solid wastes and radioactive materials appears to be justified by considerations not related to water quality. Existing administrative provisions for coordinating these programs with the water quality management program are adequate at present. However, certain provisions for coordination are based solely on informal agreements and are not specified by law. For example, the State Water Control Board input into the solid waste management program depends on an interagency agreement between the Board and Health Department.[23] The existing agreement indicates a high degree of cooperation between the agencies, but formalization of this and other informal agreements by incorporation into legislation is recommended as a means to strengthen the institutional framework for coordination.

15. The definition of "sewerage system" contained in the State Water Control Law should be modified to exclude industrial waste systems since it may lead to confusion concerning the authority of the Health Department.

At present this definition[24] includes conduits for conducting industrial wastes to the point of disposal. Another provision[25] states that sewerage systems are under the joint supervision of the Department of Health and State Water Control Board. When read together, these provisions appear to give the Health Department authority over industrial waste systems, an interpretation that is in conflict with other provisions of the law which grant sole regulatory authority in this area to the Board. Therefore, the definition should be modified such that industrial waste systems are not encompassed. The potential problem posed by the existing definition will be eliminated if the previous recommendation concerning transfer of the Department's wastewater management function to the Board is accepted.

16. A mechanism is needed to insure coordination of surface mining controls with the state's water quality management program.

Surface mining is a significant source of water pollution, particularly in those parts of the state where coal is a major economic resource. The manner in which the actual mining operation is conducted as well as the subsequent land reclamation process must be administered in a manner consistent with water quality objectives.

Regulations of surface mining, including approval of operation and reclamation plans, is the responsibility of the Department of Conservation and Economic Development.[26] Although the Department appears to be the logical agency to administer this program, provision should be made for input from the State Water Control Board to insure full consideration of water quality factors. The Board should have a legislative mandate to participate in proceedings involving establishment or modification of regulations and should be required to review and comment on certain surface mining proposals prior to final Department action. Review should be reserved for large projects or those with potentially significant environmental impacts on the basis of other factors.

17. The state's sediment control programs should be administered as an integral component of the water quality management program.

In terms of quantity, sediment is the most significant water pollutant. In addition, many other substances are carried into streams and other waters along with the sediment itself. Somewhat belatedly, "runoff" or "non-point" pollution has been recognized as a major factor in water quality management.

Under existing law, responsibility for control of sediment at the state level is divided among several agencies, primarily the State Water Control Board, the Virginia Soil and Water Conservation Commission, and the Department of Conservation and Economic Development. Of primary concern here is coordination between the Water Control Board and the Soil and Water Conservation Commission (the responsibilities of the Department of Conservation and Economic Development were discussed in the previous recommendation).

Both the Board and the Commission exercise significant responsibilities regarding sediment control. The need for thorough coordination between the two agencies arises because the Board is responsible for water quality planning and allocation of waste loads to state waters[27] while the Commission has been designated as the lead agency for coordinaing non-point source control activities.[28] The Commission also exercises regulatory authority under the Virginia Erosion and Sediment Control Act[29] and administrative responsibilities regarding local erosion and sediment control programs and soil and water conservation district programs.[30] Thus the effective implementation of Board-prepared water quality plans and waste load allocations depends to a significant degree on Commission actions in carrying out its own responsibilities.

It is therefore essential that the Commission's activities be coordinated with applicable water quality plans and waste load allocations. In order to accomplish such coordination, provisions for input from the Water Control Board should be expanded, especially with regard to the state activities under the Erosion and Sediment Control Act. Board input presently is required where guidelines are being established, but this agency also should be mandated to review and comment on state actions at the operational level. For example, the Board position on specific projects should be a mandatory part of the evidence where the state is reviewing local action on a permit request. Similarly, Board input should be required where a state agency or other project requires review and approve by the Commission. Board review of all permit actions may not be necessary, and in the interest of administrative efficiency, guidelines based on such factors as project size could be developed for identification of the projects to be encompassed by such review.

Another mechanism to improve coordination in the non-point pollution control effort is the addition of the State Water Control Board to the ex officio membership

of the Virginia Soil and Water Conservation Commission. This action has been discussed in a previous recommendation.

18. Provisions of the erosion and sediment control program which authorize certain state level control and review of local decisions should be expanded.

The erosion and sediment control program involves both state and local participation. Under current law,[31] state responsibilities exercised by the Virginia Soil and Water Conservation Commission include: (1) preparation of guidelines for erosion and sediment control, (2) development of control programs for localities failing to adopt their own, (3) review of final decisions under programs administered by soil and water conservation districts, and (4) the exercise of direct regulatory authority where land-disturbing activities are proposed by state agencies, or where the applicant proposing land-disturbing activities involving land within the jurisdictions of more than one local program chooses to apply for approval to the Commission.

One needed expansion in the Commission's authority is provision for direct state administration of an erosion and sediment control program in localities electing not to adopt their own programs. If a political subdivision fails to adopt controls, it is not likely to administer properly a program developed for it by the Commission.The state may take legal action to require local enforcement, but this approach may achieve only limited success if resistance to enforcement continues at the local level. The Wetlands Act provides precedent for state administration of controls where a local option is not exercised, since it calls for the Marine Resources Commission to administer a permit program in areas without local programs.[32]

The authority of the Commission to review permit decisions of soil and water conservation districts has no impact at present since existing erosion and sediment control programs have been enacted by counties, cities, and towns and not by the districts. This authority should be expanded to allow review of permit decisions made by counties, cities, and towns in order to provide state control over actions having a potential impact extending beyond the local jurisdiction. Again the wetlands program provides a precedent for this institutional arrangement.

The effectiveness of the program also would be enhanced by specifically granting to all affected parties the right to appeal local decisions to the Soil and Water Conservation Commission where a significant environmental impact is a potential project consequence. The Erosion and Sediment Control Law at present does not specify the parties having the right of appeal, with the possible result that parties other than the local permit-granting authority and the applicant might be excluded. Appeals without merit would be controlled by the limitation of the right of appeal to those parties likely to be directly affected and the restriction of the right to those cases where the likelihood of significant environmental damage can be shown.

19. The State Water Control Law should be amended to specifically authorize the Commission of Game and Inland Fisheries and the Marine Resources Commission to enforce regulations concerning pollution from boats.

The law currently provides for enforcement of State Water Control Board regulations concerning boat pollution by all law enforcement officers of the state.[33] This provision should be maintained, but enactment of specific enforcement authority for the agencies responsible for enforcement of boating laws concerning safety equipment and boat operation appears desirable in view of the maxim that a duty considered to be everyone's responsibility is really no one's responsibility. The enforcement of one agency's regulations by other agencies is a situation generally to be avoided, but the Water Control Board is not as well equipped to enforce controls regarding boats as are these other agencies. Therefore specific vesting of enforcement authority in the Commission of Game and Inland Fisheries and Marine Resources Commission is desirable.

20. "Beneficial use" should be defined in the Ground Water Act in a manner consistent with Recommendation 7.

The Virginia Ground Water Act of 1973[34] now contains no definition of beneficial use, and the statutory definition referred to in Recommendation 7 is too broad to provide workable guidelines. This lack of a meaningful definition takes on special significance since the beneficial use requirement is the only control applicable to "grandfathered" uses. Without a definition mandating consideration and possible imposition of conservation practices, the State Water Control Board has no effective authority to restrict excessive withdrawals under grandfathered rights. Therefore a definition encompassing such considerations should be included in the act.

21. All exemptions to the regulatory provisions of the Ground Water Act, except uses below some specified magnitude, should be abolished.

Some exemptions are necessary due to the large number of small uses which have negligible impact on the resource. Individual regulation of each of these small uses poses a substantial administrative burden. One blanket exemption applicable to all uses below a specified magnitude could cover all individual domestic and other uses of negligible impact. Listing of other categorical exemptions as is done in the act[35] creates problems of interpretation and leads to development of unforeseen regulatory loopholes. Specific exemption of any domestic use raises the question of whether public water supplies are included. While public use may be given special priority in the allocation system, it should not escape regulation. Public water supplies are used for many purposes other than those usually described as domestic. Agricultural use should not be exempted except when under a specified magnitude. To grant complete exemption of any large use is to interject an uncontrollable variable in an allocation program that is likely to destroy its overall effectiveness.

22. Provisions of the Ground Water Act authorizing the issuance of permits should be expanded to include requirements for permit duration.

The only provision of existing law concerning permit duration is one authorizing cancellation or modification in cases of will violation of permit conditions or of the act.[36] Thus it appears that a permit grants an unalterable right in perpetuity, so long as it continues to be exercised legally. Since the future cannot be foreseen, however, granting water rights under these conditions is an unsound management concept. Amortization of investment would be one factor in determining the permit period, but the statute should establish a maximum period to which all permits are subject. Water users should be authorized to apply for renewal of rights at the date of termination, and certain preference could be shown to such established uses. In the case of municipal use, renewal should be assured unless water use actually declines. In other

cases, however, the management agency should have the authority to assign a particular water right to a different application if this is more clearly in the public interest.

23. Certificates of ground water right issued pursuant to the Ground Water Act should be transferable.

Existing law does not address the transferability issue, creating doubt as to whether transfers would be legally recognized. Specifying that ground water rights are explicitly transferable would facilitate more efficient ground water allocation. The need for continuous governmental review would be decreased if water rights were a marketable commodity free to move toward "higher uses" by means of individual transactions. Historically, substantial impediments have existed to the transfer of water rights, even where the concept of transferability has been given explicit governmental recognition. Governmental monitoring has been viewed as necessary to protect the rights of third parties and the public in general from possible detrimental effects associated with such transfers. Nevertheless, transferability offers several potential advantages and should be recognized as valid in Virginia—subject to a minimum of constraints to protect the public interest.

24. The scope of the Ground Water Act should be broadened to apply to surface waters which immediately affect or are affected by alterations of the ground water resources, and to water-short areas in the state.

Water resources cannot be used most effectively unless the institutions for management recognize the physical processes affecting the resource and provide mechanisms for dealing comprehensively with problems. An allocation program generally should encompass both surface and ground water due to the interdependencies between these phases of the hydrologic cycle. Evaluation of any water supply problem, of course, should consider both surface and ground water development alternatives. This expansion of the scope of the act should not preclude application of indepenent controls to either source of water where this is dictated by special considerations.

25. Alternatives should be developed for administration of critical ground water areas which insure more effective local participation.

Administration of critical ground water areas now is vested in the State Water Control Board. In lieu of direct state regulation, authority exists for establishing voluntary agreements among ground water uses, [37] but statutory guidelines for such agreements do not exist. An alternative arrangement offering certain advantages of both state and local administration is creation of a special administrative board composed of state and local appointees. Local representation on this decisionmaking body would provide a better mechanism for local input than the present system of public hearings and comments. However, state control should be maintained by providing that a majority of the special board members be state appointees. Board involvement

in the program should be continued by designating a ground water committee from its policymaking body to serve as state representatives on the special board.

26. Provisions of the Ground Water Act relating to the responsibilities of the Health Department should be more explicit.

The act currently states that responsibilities for administration and enforcement of the Ground Water Act lie with the State Water Control Board and the Department of Health jointly.[38] This statement is not accurate since all the enumerated responsibilities of the act are vested in the Board, with the apparent role of the Department limited to regulation of public water supply wells consistent with its other legislative mandates. Therefore, the statement regarding "joint" responsibility should be deleted from the act and the Department's role more clearly defined in order to avoid possible conflict concerning authority.

27. Procedures for granting state consent for construction in tidal waters should be coordinated so the state speaks with a single voice.

The authorization process for a construction project involving tidal waters is likely to encompass a permit from the Marine Resources Commission; a permit from the State Water Control Board; a permit from the local wetlands board, which is subject to review by the Commission; and a permit from the U.S. Army Corps of engineers, which is conditioned on Board certification of acceptability regarding water quality protection *and* an expression of overall state consent from the Council on the Environment.[39]

Due to the existence of several permit procedures, it is possible for some permits to be issued but ultimate authorization of an activity by the state to be denied. Existing constraints and operational procedures make it possible to avoid certain types of conflicting decisions but not assure any overall consistency. For example, it appears possible for the Commission to issure a permit even though the applicant is denied overall state consent, and consequently the Corps permit. This situation could arise in cases where the Council and the Commission have substantive differences in perspective, especially since the Council position is intended to represent a synthesis of views based on the comments of state agencies under the public notice procedure of the Corps. Hence, the Commission may find a proposal acceptable, but the state position—based on broad consideration of project consequences—may be negative.

The probability of this occurrence may be low, since the Commission itself is under legislative mandate to consider a wide range of factors before acting on a permit request, including the views of other state agencies. Nevertheless, administrative procedures should be designed to insure against such possibilities, and also should be streamlined so they are not confusing or frustrating to the applicant. Individual expressions of state consent such as the Commission permit, therefore, should be withheld until all necessary reviews of local action and any federal certifications and approvals have been coordinated. In this way, conflicting decisions can be resolved internally and a single state position may be issued.

Legislative changes adopted by the 1976 General Assembly providing for the Council to consolidate and coordinate environmental permit processes[40] provide a potential mechanism for implementation of this recommendation.

28. The state should conduct planning and coordinate its policies in order to better manage the conflict between urban expansion and the shelfish industry. This topic should be a fundamental aspect of the developing coastal zone management program.

A basic incompatibility exists between urbanization and shellfish protection, and the present lack of planning and consistent policies is resulting in a somewhat arbitrary elimination of shellfish growing areas as urbanization continues. Since the title to the shellfish grounds is held by the state, the shellfish grower as a leaseholder receives no compensation when grounds are removed from production, even though his principal means of livelihood may be eliminated. Thus, urban expansion not only destroys a state resource but also harms the shellfish industry by preempting a traditional economic activity. Acceptance by the state of this situation produces a policy inconsistency, since the state not only leases shellfish grounds but also promotes the shellfish industry—at least to the extent of funding supportive research, conducting a management program, and promoting consumption of seafood.

This problem directly involves three governmental functions of the Commonwealth through which controls over certain activities are exercised. Included are the health responsibilities of the State Department of Health, the shellfish management program of the Marine Resources Commission, and the water quality program of the State Water Control Board. The Department exercises regulatory authority with respect to shellfish sanitation, and has the power to condemn contaminated shellfish growing areas. The Commission serves in a regulatory capacity regarding the taking of shellfish, operates a leasing program for the use of state-owned submerged beds for shellfish growing, and promotes and assists the industry in a number of ways. The Board possesses regulatory authority concerning discharge of waste effluents, which constitutes a form of control over urban development. Thus, the state exercises some degree of control over all the separate aspects of the conflict between the shellfish industry and urbanization.

These elements of the same problem, however, usually have been treated separately and without adequate coordination. What is needed is the development of a comprehensive water quality control plan for the tidal area which gives thorough consideration to the present or potential location of waste treatment and discharge facilities in proximity to productive shellfish areas. This need can be met through consideration of the shellfish industry in the water quality planning presently being conducted by the State Water Control Board and political subdivisions. Better planning also is needed regarding future shellfish developmental activity. The Marine Resources Commission shell planting program and other activities related to shellfish improvement should be planned and coordinated with water quality control plans to assure that today's investment in development will not be condemned out of existence tomorrow.

29. Granting the Marine Resources Commission greater regulatory authority should be considered as a means of achieving more efficient management of fisheries resources.

Much of the control over harvesting of fish and shellfish (harvesting seasons, size limits, equipment, etc.) exists in the form of legislation rather than regulations adopted by the Marine Resources Commission. A principal weakness of this situation is the lack of flexibility imposed by the meeting schedule of the General Assembly. While physical conditions affecting fishing operations may change rapidly, changes in legislation can be accomplished only during those limited periods each year when the General Assembly is in session. If detailed controls were removed from legislation and included in the regulatory authority of the Commission, timely modification of regulations could be made and this would tend to encourage more efficient utilization of marine resources. Besides contributing flexibility, acceptance of the scientific management agency concept also suggests the transfer of detailed regulatory decisionmaking responsibilities from the legislature to the management agency. An underlying premise of this concept is that technical decisions be delegated to specialists with the management expertise that most legislators lack.

Although any action to transfer greater regulatory authority to the Commission would require careful evaluation of the state's seafood laws and total regulatory structure, the following sections of the *Virginia Code* are examples of detailed statutory controls that are potential candidates for transfer:

28.1-49.1 — size limits for certain marine fish
28.1-50 — bag limits for certain marine fish
28.1-51 — specifications of the size of mesh and length and depth of certain nets
28.1-82 — seasons for taking oysters from the public rocks
28.1-83, — restrictions on the design and use of tongs for taking oysters
28.1-124 — size limits for oysters
28.1-163 — seasons and size limits for scallops
28.1-167 — size limits for crabs
28.1-170 — seasons for taking crabs

The fact that certain geographical exceptions have been enacted for some of the above-listed provisions indicates the limitations of generalized controls. Some flexibility is provided by the General Assembly's ability to modify such controls, but legislative action on such matters is certainly more cumbersome and less efficient than an administrative procedure. The General Assembly might better provide broad policy objectives and leave implementation to the agency.

30. Permit fees and/or royalties for tidal developments should be reviewed frequently to assess whether they are adequate to cover (a) administrative expenses and (b) rehabilitation or management programs made necessary as a result of the development or use.

The amount of all such fees or royalties in connection with use of the state's tidal waters and their beds should be based on an assessment of the resource being utilized and the potential of the activity for environmental damage. Since tidal waters are a public resource, all administrative and other costs associated with private exploitation should be borne by those seeking authorizing permits. Fees should be reviewed at frequent intervals and maintained at realistic levels. Fee revision is complicated by the fact that fee amounts generally are specified by statute,[44] an arrangement that retards change. Therefore a need exists to expand administrative discretion, under legislative policy guidelines, for determining appropriate fee schedules.

The need for commitment of state funds to a broader range of resource management problems also should be evaluated. Since current permit revenues generally are credited to the Special Public Oyster Rock Replenishment Fund, the principal emphasis of the existing program appears to be rehabilitation of shellfish grounds. No comparable funds exist in other areas such as commercial fisheries, sportfishing, or wetlands. Hence, a comprehensive evaluation of management needs seems essential, and should be coordinated with a review of procedures designed to produce revenues.

31. Rental fees and lease conditions associated with assignment of shellfish planting grounds should be reevaluated in terms of their impact on the state's marine resources management program.

Under existing law,[42] riparian owners can have areas of adjacent bottoms not exceeding one-half acre assigned for exclusive use without payment of rent. Other state-owned bottoms, with certain exceptions, are subject to assignment to any resident of Virginia or qualified company for use as shellfish planting ground. Annual rent for such bottoms is $1.50 per acre, except for planting ground in Chesapeake Bay where the annual rent in waters fifteen feet or more in depth is subject to determination by the Marine Resources Commission (subject to a $0.75 per acre minimum). Such leases generally remain in effect for a period of 20 years.

These conditions for assignment should be periodically reevaluated. Fees should be reviewed in relation to administrative costs and other management expenses. Any modification in fees should be preceded by an analysis of the impact on the industry, but the state management program should not be hindered by unrealistic fee schedules. Lease duration should also be reviewed. The existing 20-year duration may unnecessarily reduce flexibility needed in management of tidal bottoms, indicating the need for consideration of shorter lease periods.

32. Policy and legal controls applicable to public oyster beds should be reevaluated in light of present conditions.

Reservation of extensive oyster beds for public (non-commercial) use is a long standing concept developed at a time when natural oyster conditions were much different than at present. According to the Marine Resources Commission, much of the protected grounds now are largely barren and unproductive.[43] At the same time, commercial shellfishermen are feeling the pressure of reduced acreage suitable for oyster planting as the result of development and associated water quality problems. These factors suggest a reappraisal of public policy on shellfish bed allocation and management.

33. The authority of the Marine Resources Commission to control the use of subaqueous beds should be extended to Back Bay.

At present, Back Bay beds are controlled by the Commission of Game and Inland Fisheries,[44] apparently because of the area's significance as a fish and wildlife habitat. The need for a consistent management policy for all subaqueous beds suggests that permit-granting authority for Back Bay be reassigned to the Marine Resources Commission. No permit for any activity that might affect fish and game, however, should be issued until Game Commission recommendations have been received and evaluated. Merger of the two permit programs in this manner should increase efficiency of operation and maintain protection of fish and game resources.

34. Wetlands legislation should be amended to broaden the right to appeal decisions of local wetlands boards.

Enactment of wetlands legislation by the General Assembly constitutes recognition of the fact that a large part of the cost of wetlands development is borne, not by the private developer, but by other segments of society. Fishermen pay for wetlands development in reduced catches; consumers in higher prices for fish and oysters; sportsmen and nature enthusiasts in lost recreation opportunities; and the neighboring landowners in increased flood damage. Hence, society—the larger public—must bear the cost of estuarine destruction.

On the other hand, the benefits from marsh development generally go to the localities involved. Therefore it might be anticipated that local landowners and governments have a direct incentive to fill and develop wetlands. However, this natural tendency does not appear to have influenced the operation of local wetlands boards. In fact, the decisions to date appear to have adhered to a preservationist philosophy. Of course this philosophy is subject to change with the passage of time, indicating a continuing need for review of local decisions from a more broadly based perspective.

The General Assembly has given some recognition to the need for state review of local wetlands decisions, but the mechanism is unnecessarily restricted by the provisions for appeal of local decisions. At present, the right is restricted to applicants for permits, the Marine Resource Commission, and groups of 25 or more freeholders of property within the county or municipality in which a proposed project is to be located.[45] In further recognition of the statewide interest in wetlands protection, the right to appeal the decisions of local wetlands boards should be made available to any group of 25 or more citizens of the Commonwealth where a demonstrable interest in wetlands exists and a proposed project has potentially significant environmenal impacts.

35. Boating safety laws should be amended to grant specific authority for enforcement in tidal waters to the Marine Resources Commission.

The Commission presently is enforcing these laws, apparently by virtue of a provision giving authority to all law enforcement officers of the Commonwealth.[46] This activity appears to be a logical extension of Commission responsibilities, but should be expressly mandated by the General Assembly. The existing authority of the Commission of Game and Inland Fisheries, the principal agency responsible for enforcement, is primarily active in inland waters, and the program of the Marine Resources Commission may be in need of expansion since it is voluntary to the extent that no prescribed statutory responsibilities exist. If deficiencies exist with regard to the state effort, specific enforcement authority and any necessary appropriations should be granted to the Marine Resources Commission.

WATER-ORIENTED RECREATION

36. Water resource development projects should be fully coordinated with outdoor recreation planning.

Water resource development projects can have significant adverse or beneficial effects on water-oriented outdoor recreation, therefore creating a need for coordination of such projects with planning by the Commission of Outdoor Recreation (COR). Small watershed projects within the jurisdiction of the Virginia Soil and Water Conservation Commission serve as an example of a problem area. Such projects are subject to review by COR and other agencies prior to funding and construction, but review during the latter stages of planning does not adequately substitute for involvement at earlier stages. COR has indicated a need for a greater degree of coordination in assessing the recreational potential of proposed small watershed projects from the early stages of planning.[47] Therefore COR should be advised of proposed projects from their inception and involved in all phases of planning. Similarly, mechanisms should be developed to facilitate early COR involvement in water resource developments such as those currently regulated by the State Corporation Commission.

37. Provisions of the Scenic River Act relating to creation of advisory committees to assist in management of scenic rivers should be amended to provide for attachment of such committees to the management agency designated in each case rather than to the Commission of Outdoor Recreation.

The act currently provides for an advisory committee to be appointed by the Commission of Outdoor Recreation when the General Assembly designates a stream as a scenic river.[48] However, the Commission's primary responsibilities in this program consist of study of potential scenic rivers for possible recommendation of scenic status, a duty that is fulfilled prior to designation. Therefore it appears desirable that the advisory committee appointed at the time of scenic designation be attached to the management agency also selected at the time of designation. This modification may also serve to reduce local opposition to scenic river designation since more effective local input to stream management would be assured.

MISCELLANEOUS RECOMMENDATIONS TO UPDATE THE VIRGINIA CODE

38. References to the Commissioner of Water Resources in legislation concerning impoundment of surface waters (Sections 62.1-104 to 62.1-115) should be deleted.

Existing provisions of the act provide for notification of the Commissioner when riparian owners apply to circuit courts for authorization to store floodwaters, with the Commission to notify the State Water Control Board. Statutory language should provide for direct notification of the Board since the position of Commissioner was abolished in 1972 and related responsibilities transferred to the Water Control Board.

39. Section 62.1-85 should be modified by substituting the State Water Control Board for the Director of Conservation and Economic Development.

This section, which concerns application to the State Corporation Commission for licenses to construct dams, requires a copy of the application to be sent to the Director of Conservation and Economic Development. Since the primary water resource management responsibilitites of the Department of Conservation and Economic Development have been transferred to the State Water Control Board, this copy of the application should be sent to the Board for evaluation and formal comment. The need for this suggested modification of existing law would be eliminated by acceptance of the previous recommendation for transfer of the dam licensing authority from the State Corporation Commission to the State Water Control Board.

40. The restriction in Section 62.1-44.19 limiting its applicability to sewage systems designed to serve more than 400 persons should be deleted.

This statement requiring a waste discharge certificate from the State Water Control Board should be modified to reflect the fact that the National Pollutant Discharge Elimination System adopted by Virginia pursuant to the Federal Water Pollution Control Act Amendments of 1972 requires certificates from the Board for smaller systems as well.

41. Title 28.1 relating to marine resources management should be modified by replacing all references to the "Commission of Fisheries" and "Commissioner of Fisheries" with the new titles of "Marine Resources Commission" and "Commissioner of Marine Resources," respectively.

Section 28.1-2.1 indicates that the old titles are to be construed to be the same as the new designations, but the name changes have been effective since 1968 and should be fully incorporated into the *Code* upon the next reprint of volume 5A.

42. Section 29-125 should be amended to delete language that might be interpreted as giving the Commission of Game and Inland Fisheries the power to modify legislation.

This section currently vests in the Commission "... the necessary power to determine when, to what extent, if at all, and by what means it is desirable to restrict, extend or prohibit in any degree the *provisions of law*[1] obtaining in this state ... [emphasis added]" for taking fish and game. The remainder of this provision and subsequent section of the *Code* specify the process for adoption of fishing and hunting regulations, which is an appropriate function for the agency. However, the above-quoted language suggests that such regulations can modify legislative provisions, a result that is not intended and would likely constitute an improper delegation of legislative functions. Therefore, the section should be modified such that this interpretation is foreclosed.

43. Section 10-21.5 concerning membership of the Commission of Outdoor Recreation should be amended by replacing the reference to the Division of Industrial Development and Planning with Department of Intergovernmental Affairs and to reflect the modified title of the Commissioner of Highways and Transportation.

Abolition of the Division of Industrial Development and Planning and modification of the title of the former State Highway Commissioner creates a need for updating this section.

44. Reference in Section 10-171 of the Scenic Rivers Act to the Division of Water Resources of the Department of Conservation and Economic Development should be deleted.

Deletion of the reference to this former agency is necessary as a result of the abolition of the Divison in 1972 and the transfer of its authority and personnel to the State Water Control Board.

FOOTNOTES

1. *See* the section of this report entitled "Other Agencies and Governmental Bodies" for a discussion of the role of the courts of the state in allocating water among competing users.
2. *Va. Code Ann.,* sec. 62.1-44.83 *et seq.* (Cum. Supp. 1976). *See* the section of this report concerning the State Water Control Board.
3. *Va. Code Ann.,* sec. 62.1-44.8 (1973).
4. *Va. Code Ann.,* sec. 10-17.107 *et seq.* (Cum. Supp. 1976).
5. *Id.,* se. 15.1-427 *et seq.* (1973), *as amended* (Cum. Supp. 1976).

6. *Id.,* sec. 62.1-13.1 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
7. *Id.,* sec. 21-89.1 *et seq.* (1975), *as amended* (Cum. Supp. 1976).
8. Va. House of Delegates, H.B. 767 (1976).
9. *Va. Code Ann.,* sec. 62.1-10(b) (1973).
10. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.2 (1974).
11. *Id.,* sec. 3.4.
12. *Va. Code Ann.,* sec. 21-293 (1975).
13. Virginia State Water Control Board, "Commonwealth of Virginia Water Resources Policy," sec. 3.3 (1974).
14. 16 *U.S.C.A.* 1001 *et seq.* (1974).
15. *See* the section of this report entitled "Other Agencies and Governmental Bodies."
16. *Va. Code Ann.,* sec. 62.1-80 *et seq.* (1973).
17. *Id.,* sec. 62.1-44.18 (1973).
18. *Id.,* sec. 32-9 (1973).
19. *Id.,* sec. 32-63.1 (1973).
20. *Id.,* secs. 35-43 *et seq.;* 35-54 *et seq.* (1976).
21. *Id.,* sec. 32-9.1 (Cum. Supp. 1976).
22. *Id.,* sec. 32-414.1 *et seq.* (1973), *as amended* (Cum. Supp. 1976).
23. Virginia State Department of Health and Virginia State Water Control Board, "Memorandum of Understanding Between the Virginia State Department of Health and the Virginia State Water Control Board on the Disposal of Solid Wastes (Refuse) as It may Affect Ground or Surface Waters," March 1975.
24. *Id.,* sec. 62.1-44.3(11) (1973).
25. *Id.,* sec. 62.1-44.18 (1973).
26. *Id.,* sec. 45.1-180 *et seq.;* 45.1-198 *et seq.* (1974).
27. The Board is responsible for carrying out these responsibilities as required by the Federal Water Pollution Control Act Amendments of 1972 (33 *U.S.C.A.* 1251 *et seq.* (Supp. 1976).
28. Memorandum: Establishment of a Non-Point Source Pollution Coordinating Committee, from Earl J. Shiflet, Virginia Secretary of Commerce and Resources, March 10, 1976.
29. *Va. Code Ann.,* sec. 21-89.1 *et seq.* (1975), *as amended* (Cum. Supp. 1976).
30. *Id.,* sec. 21-1 *et seq.* (1975), *as amended* (Cum. Supp. 1976).
31. *Id.,* sec. 21-89.1 *et seq.* (1975), *as amended* (Cum. Supp. 1976).
32. *Id.,* sec. 62.1-13.9 (1973).
33. *Id.,* sec. 62.1-44.33 (Cum. Supp. 1976).
34. *Id.,* sec. 62.1-44.83 *et seq.* (Cum. Supp. 1976).
35. *Id.,* sec. 62.1-44.87 (Cum. Supp. 1976).
36. *Id.,* sec. 62.1-44.102 (Cum. Supp. 1976).
37. *Id.,* sec. 62.1-44.91 (Cum. Supp. 1976).
38. *Id.,* sec. 62.1-44.86 (Cum. Supp. 1976).
39. *See* the section of this report concerning the Marine Resources Commission.

40. *Va. Code Ann.,* sec. 10-184.2 (Cum. Supp. 1976).
41. *Id.,* sec. 62.1-3 (1973).
42. *Id.,* sec. 28.1-108 (Cum. Supp. 1976).
43. Virginia Marine Resources Commission "Seventy-Fourth and Seventy-Fifth Annual Reports," pp. 14-15 (fiscal years ending June 30, 1972 and June 30, 1973).
44. *Va. Code Ann.,* sec. 62.1-5 (1973).
45. *Id.,* sec. 62.1-13.11 (1973).
46. *Id.,* sec. 62.1-184 (1973).
47. Virginia Commission of Outdoor Recreation, "The Virginia Outdoors Plan 1974," p. 71 (1974).
48. *Va. Code Ann.,* sec. 10-170(b) (1973).

Virginia Water Resources Research Center
Blacksburg, Va. 24061
Telephone (703) 951-5624