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Recommendations for Improving Water Resources Management in Virginia

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Introduction

Water resources management in the Commonwealth of Virginia is largely decentralized, with elements administered by a number of relatively independent agencies. This institutional framework has resulted from the development of laws to focus on specific problems as they have arisen. In some cases a new, independent agency has been created to administer the law.

This process has resulted in continual growth in the number of agencies and in the scope of individual agency responsibilities. Unfortunately, new laws and policies generally have not been implemented within the context of comprehensive water resources management. As a result, relationships between new and existing policies and programs have received inadequate attention. This has produced incompatibilities among related program elements and has placed demands on the existing institutional structure that cannot efficiently be accommodated.

This special report is a condensation of a study conducted at the Virginia Water Resources Research Center. Its purpose was to explore the institutional structure of water resources management in Virginia in order to identify constraints on efficient water resources management and to recommend modifications to alleviate existing impediments. Within this general goal, the following more specific objectives were pursued:

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Review the compatibility and consistency of the various water policies manifest by the legislature.

Identify areas of overlapping agency responsibilities.

Identify areas where implementation mechanisms are not adequate to carry out stated policy goals.

Identify situations where one agency has been assigned responsibility for developing policy while the authority for implementation has been granted to another agency.

Identify inadequacies in statutory language which prevent accomplishment of stated goals.

Examine statutory exemptions to determine whether they preclude the accomplishment of stated goals.

Identify policies and objectives which cannot be achieved because they ignore physical conditions.

Identify situations where legislation has attempted to address regulatory functions that might better be managed by an agency with a technical background within a policy framework.

Identify specific water situations which have statewide implications but are presently administered by local institutions with a limited perspective of statewide problems and needs.

Identify situations where tax money is given to one agency to implement a policy and at the same time funds are provided to another agency for activities that indirectly frustrate that policy.

This study by the Water Resources Research Center should not be confused with the concurrent study of governmental structure by the Commission on State Governmental Management, chaired by State Senator William Hopkins and often referred to as the "Hopkins Commission." In general, the objec

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Agency Responsibility

The State Water Control Board (SWCB) is the State's primary water resources management agency and excercises a wide range of water resource management responsibilities. One broad area of responsibility is administration of the water quality management program prescribed by Federal and State law. This inciudes such duties as establishment of water quality standards, issuance of waste discharge permits, and administration of the construction grants program for publicly owned waste treatment facilities. In addition to its water quality program, the SWCB is responsible for water resources policy formuiation, comprehensive river basin planning, designation of critical ground water areas and administration of allocation controls therein, State coordination of the National Flood Insurance Program, and administration of a dam safety program.

The Marine Resources Commission (MRC) exercises a variety of responsibilities. MRC enforces laws concerning the operation of commercial and recreational fisheries in the State's tidal waters, and possesses somewhat limited authority to adopt and enforce its own regulations concerning fisheries. The agency controls use of the publicly owned beds of the State's tidal waters, including operation of an extensive program of leasing shellfish grounds. It also has several responsibilities under the wetlands program, including development of guidelines for wetlands use, review of the decisions of iocal wetlands boards, and administration of permit programs where localities fail to act.

The Virgina Soil and Water Conservation Commission (**VSWCC)** excercises general supervision over State programs for soil conservation and certam water resource development projects in small watersheds. Primary responsibihty for implementation of these programs has been delegated to the State's soil and water conservation districts and other political subdivisions, but VSWCC provides various forms of coordination and assistance, including the exercise of certain regulatory authority concerning local implementation. One of the agency's most significant functions in water resources management is exercising its authority to approve or disapprove proposed projects involving federal funding under the small watershed program. Another important responstbihty is preparing erosion and sediment control guidelines for local programs to regulate land disturbing activities, and reviewing permit decisions by soil and water conservation districts.

The Governor's Council on the Environment (COE) exercises several responsibilities related to environmental protection. These duties include a continuing assessment of environmental conditions and choices confronting the Commonwealth coordination and review of the State's environmental program coordmation of environmental impact analysis procedures and permit processes, and environmental education

The State Department of Heaith (SDH) is responsible for a wide range of activities related generally to public health, several of which involve aspects of water resource management. A primary responsibility in this category is regulation of public water supplies. SDH also exercised control over certain waste disposal oyerations, including septic tank use and disposal of solid wastes and toxic substances, and acts in an advisory capacity to SWCB regarding large sewage treatment plants. Other relevant functions include seafood sanitation, radiation control, and mosquito control. SHD adminstratively encompasses Consolidated Laboratory Services, a state analytical and testing facility serving a variety of other agencies.

The Commission of Game and Inland Fisheries (CGIF) exercises a number of responsibilities related to management of the state's fish and wildlife resources. It has broad authority to adopt regulations concerning hunting, fishing, and trapping, and it is responsible for enforcement of these regulations and applicable laws, including those concerning boating and water safety. CGIF owns and manages a variety of lands and waters throughout the State, and also manages the fish and wildlife resources on other lands it does not own by means of cooperative agreements.The agency conducts stocking programs to replenish native populations of fish and game and to introduce new species. It also carries out a program of public education regarding fish and wildlife conservation. CGIF is unusual among State agencies because its operating funds are totally acquired from license sales and proceeds from federal taxes on outdoor recreational equipment.

The most significant function of the **State Corporation** Commission (SCC) in the area of water resources management is its regulation of hydroelectric and certain other dams within the State. A permit from the SCC is necessary prior to construction, and the Attorney General has held that SCC authority to specify flow releases is superior to that of other State agencies. SCC also regulates public utihties such as water and sewer companies.

The basic responsibility of the **Commission of Outdoor Recreation (COR)** is development and maintenance of a comprehensive plan for outdoor recreation in the Commonwealth. The agency exercises a degree of control over implementation of the Virginia Outdoors Plan through its control over Federal and State funds appropriated for outdoor recreation purposes. COR also is responsible for recommending streams for inclusion in the State's Scenic Rivers Program.

The Virginia Institute of Marine Science (VIMS) is primarily an educational and research-oriented agency. Research has largely been concentrated in the areas of physical and biological oceanography. Educational programs have been offered in affiliation with certain of the State's institutions of Higher education. VIMS provides advisory services concerning marine affairs to other State agencies and officials, and it serves with the Division of State Planning and Community Affairs (see below) as co-chairman of the Coastal Zone Advisory Committee which coordinates state involvement in the developing coastal zone management program.

Through its planning function, the **Division of State Planning and Community Affairs (DSPCA)** has the potential to exercise significant impact on water resources management. The agency is authorized to conduct statewide planning, including the preparation of a master plan, and to assist state agencies with internal planning. DSPCA also is authorized to review interagency operations, with the aim of identifying possible simplifications. DSPCA serves with VIMS as co-chairman of the State's Coastal Zone Advisory Committee, and is responsible for planning in connection with the State's coastal zone management program. Pursuant to a specific delegation of authority, DSPCA has identified a number of critical environmental areas, many of which involve waters of the State.

The 1976 session of the General Assembly adopted legislation that abolishes DSPCA effective July 1, 1976 and creates new agencies to perform various planning and management functions, including the Department of Planning and Budget, Department of Management Analysis and Systems Development, and the Department of Intergovernmental Affairs.

The basic mission of the **Virginia Port Authority (VPA)** is to carry out unified operation of the various ports of the State. Thus VPA is authorized to conduct a program to coordinate the previously independent port operations of the various port cities. The agency is also authorized to operate, develop, and promote port facilities within its control.

Once vested with major water resource management responsibilities, the **Department of Conservation and Economic Development (DCED)** now possesses largely ancillary functions arising from its authority to acquire and/or manage various types of land areas which may include or affect waters within the State. Primary activities in this category include forestry operations, ownership and management of recreational lands, and control of mined land reclamation.

Responsibilities of the **Department of Agriculture and Commerce (DAC)** related to water resources consist of control over pesticides and fertilizers, both of which are potential water pollutants.The pesticide control program is a combined Federal-State effort, with DAC's primary function being certification of applicators who use "restricted" pesticides. DAC also administers state law applicable to fertilizers, but its activities are limited to considerations of product quality and reports of sales.

The State Department of Highways (SDHW) is authorized to acquire property necessary for highway construction, including water rights, by eminent domain if necessary. It may also, with MRC concurrence, remove construction materialsfrom State-owned streambeds. Highway construction is potentially subject to environmental review where federal funds are involved, but this activity is exempted from the state requirement for an environmental impact report in connertion with state facilities costing $100,000 or more.

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tives of the Commission study were broader and it was less concerned with the functional issues of water resource management. The following was among objectives of the Hopkins Commission study but were not objectives of the Water Research Center study summarized In this report:

Assess whether the various water resource agencies are cost effective in discharging their statutory responsibilies.

Assess whether the present level of funding is adequate to discharge statutory responsibility.

Review or analyze all management functions of state government, not only those related to water resources.

Existing Institutional Structure

A basic aspect of water resources management in Virginia is the absence of direct State control over water withdrawal. With the exception of a special ground water program, water allocation is performed by Judicially developed and administered doctrines of law. In the case of streams, the major source of water used in the State, water rights are defined by the riparian doctrine and exist by virtue of ownership of land in contact with a stream.

Despite this lack of direct State involvement in allocation, the State does perform a number of regulatory and other functions related to water resources management. Fourteen administrative agencies exercise significant water resource management responsibilities. In some cases, water-related responsibilities are the sole or principal agency mission; in others, they constitute only incidental agency functions. The one-paragraph descriptions in the columns to the left provide an overview of the distribution of management responsibilities among these agencies.

Recommendateons

The study conducted at the Water Research Center developed 26 recommendations for modification of existing law and instutional structure. These recommendations range from minor revisions of statutory language to major transfer and alteration of specific agency responsibilities. Beginning on the next page is a listing of the proposed changes with each recommendation followed by a brief discussion.

Recommendations

State Water Policy

1. Environmental criteria for approval of channelzation projects[1] should be established, as a part of policy.

Existing policy provisions are limited to min mizing adverse impacts during design, construction, and operation, and do not address the issue of project approval. Consideration of adverse environmental consequences 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.

2. Policy provisions concerning water conservation[2] should be expanded to encompass the total spectrum of water use.

Existing conservation provisions 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 techniques such as pricing to be evaluated as a means of reducing water demand.

3. The policy statement that all uses of state water must be beneficial[3] should contain a statement that the enumerated uses are not intended to be an exclusive listing.

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. A very general definition of beneficial use is best in any policy statement. Enumeration of specific uses recognized as beneficial 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.

Water Resources Development

4. 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 compartalized 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 as noted in Recommendation 25. 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 Potection and Flood Prevention Act.[4] At the state level of government these projects are subject to control by the VSWCC. 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. This permits interested agencies to comment on the proposal and insures that any such comments will be considered by the funding agency. 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. Therefore oversight must be provided to insure that coordination problems do not develop.

5. The State Corporation Commission's authority to regulate dam construction[5] 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 SCC is necessary for the construction of dams in navigable waters of State, for hydroelectric purposes, or in connection with the interstate transmission of electricity. The SCC'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 SCC traditionally has regulated public utilities such as power companies, where the focus of regulation is on rates, adequacy of service, and general business affairs. Dam construction, by contrast, arises infrequently and requires considerations outside the scope of normal commission operations and staff capabilities. Therefore the requlation of dam construction is not logically a SCC responsibility and should be transferred to the SWCB, where greater compatibility exists between agency mission and regulatory function.

Critical Ground Water Areas

6. "Beneficial use" should be defined in the Ground Water Act,[6] and that definition should encompass a concept of conservation and efficiency and should not be limited to type of water use.

The Act now contains no definition of beneficial use, and the general concept as contained in State water policy is limited to specification of of 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 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. Under the Act as it now stands, it is questionable whether the SWCB's authority to restrict excessive withdrawals by requiring adoption of water conserving practices can be applied to existing users qualifying for exemption under the grandfather clause. The SWCB should be authorized to require conservation practices with in statutory guidelines, with' such requirements subject to review by the courts.

7. 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 exemptionscreates 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 maybe 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 under a "grandfather provision" would be to irterrject an uncontrollable variable in an allocation progam that is likely to destroy its overall effectiveness.

8. 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 willful violation of permit conditions of the Act. 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. 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.

9. 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.

10. 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 resource, and to water-short areas in the State.

Water resources cannot e 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 phaases 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 independent controls to either source of water where this is dictated by special considerations.

11. 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 SWCB. In lieu of direct state regulation, authority exists for establishing voluntary agreements among ground water uses, 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 sytem of public hearings and comments. However, state control should be mamtained by providing that a majority of the special board members be state appointees. SWCB involvement in the program should be continued by designating a ground water comittee from its policymaking body to serve as state representatives on the special board.

Water Quality Management

12. The wastewater management functions of the State Department of Health should be transferred to the State Water Control Board.

The SWCB has been granted general authority for water quality management in the Commonwealth, but the SDH is authorized to perform certain specific wastewater management functions. At present the two agencies have joint responsibility for major sewage treatment and disposal facilities.[7] The SDH has sole responsibility forcontrol of septic tank use.[8] The SDH also has regulatory authority with respect to solid wastes[9] and radioactive material,[10] both of which are potential sources of water pollution. Granting direct wastewate rmanagement 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 SDH'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 SWCB 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 of 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 beviewed differently than are those with a subsurface discharge.

Therefore it is recommended that SDH responsibilities for sewage treatment facilities and septic tanks be transferred to the SWCB. Maintenance of the existing administrative structure concerning solid wastes and radioactive materials may be justified by considerations not related to water quality, and because existing arrangements for this purpose appear adequate at present. Even so, these programs must be closely coordinated with water quality management.

13. 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. Prevention is the only effective means of controlling water pollution from areas being mined, since no cost effective technique has been identified for controlling pollution from areas already mined. 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.

Regulation of surface mining,[11] including ap proval of operation and reclamation plans, is the responsibility of the DCED. Although the DCED appears to be the logical agency to administer this program, provision should be made for input from the SWCB to insure full consideration of water quality factors. The SWCB should have a legislative mandate to participate in proceedings involving establishment or modification of regulation, and should be required to review and comment on all surface mining proposals prior to final DCED action.

14. Administration of the State's erosion and sediment control program should be more closely coordinated with water quality management.

In terms of quantity, sediment is the most significant water pollutant; therefore it is essential that applicable controls be administered as an integral aspect of water quality management. Existing statutory provisions[12] for administration do not fully recognize this need. State responsibilities in the program are exercised by the VSWCC. Due to its traditional involvement with erosion control and its relationship to the special districts authorized to implement control programs the VSWCC may continue to be the most effective administering agency— but present provisions for input from the SWCB with regard to water quality are inadequate. SWCB input 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 SWCB position on specific projects should be a mandatory part of the evidence where the state is reviewing local action on a permit request. Similarly, SWCB input should be required where a state agency or other project requires an erosion and sediment control permit from the VSWCC.

15. 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, state responsibilities exercised by the VSWCC 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 finai 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 VSWCC.

One needed expansion in VSWCC 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 VSWCC. The Wetlands Act provides a precedent for this approach since it calls for the MRC to administer a permit program in areas without local programs.

The authority of the VSWCC to review permit decisions of soil and water conservation districts 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 inistitutional arrangement.

Marine Resources Management

16. 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 MRC;[13] a permit from the SWCB;[14] a permit from the local wetlands board,[15] which is subject to review by the MRC; and a permit from the U.S. Army Corps of Engineers,[16] which is conditioned on SWCB certification of acceptability regarding water quality protection[17] and an expression of overall state consent from the DSPCA. 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 do not assure any over all consistency. For example, it appears possible for the

MRC to issue a permit even though the applicant is denied overall state consent, and consequently the Corps permit. This situation could arise in cases where DSPCA and MRC have substantive differences in perspective, especially since the DSPCA 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
MRC 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 MRC 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 MRC 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 COE to consolidate and coordinate environmental permit processes provide a potential mechanism for implementation of this recommendation.

17.The authority of the Marine ResourcesCommis sion to control the use of subaqueous beds should be extended to Back Bay.

At present, Back Bay beds are controlled by the CGIF,[18] apparently because of the area's significance as a fish and wildlife habitat. The need for a consistent management policy for all subaqueou beds suggests that permit-granting authority for Back Bay be reassigned to MRC. No permit for any activity that might affect fish and garne, however, should be issued until CGIF recommendations have been received and evaluted. Merger of the two permit programs in this manner should increase efficiency of operation and maintain protection of fish and game resources.

18. Permit fees and/or rovalties for tidal developments should be reviewed frequently to assess whether they are adequate to cover (a) administrative expenses and (b) rehabitation 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 re source 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 amou nts genera l ly are specif ied by statute,[19] 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.

19. 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 MRC. 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 MRC, 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 decision making 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 MRC 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
28.1-84 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 I imits 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.

20. Wetlands legislation[20] should be amended to broaden the right to appeal decisions of local wetlands boards.

Enactmentof wetlands legislation bythe Gen eral 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

In most cases, moreover, there is no direct incentive for local landowrrers and governments to support the preservation of marshes. The local owners ordinarily will be inclined to drain, dredge, or fill marshes to get the maximum value for their land. Such actions usually are supported by local chambers of commerce, which tend to place economic considerations above ecological values and the significance of wetlands as a public resource. The governing bodies of communities with small tax bases and in creasing expenses typically are quite receptive to the proposals of commercial developers. The need for an increased tax base, provided by housing and commercial developments, is frequently cited as justification for destruction of marshes, in spite of the fact that increased housing and growth generally results in increased governmental expenses. Thus it appears that local interests, viewing a decision from a local perspective, are not likely actively to support wetlands preservation.

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 MRC, and groups of 25 or more freeholders of property within the county or municipality in which a proposed project is to be located. 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.

21. The State should establish a formal policy and conduct long range planning on the impact of urban expansion on the shellfish 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 policy and planning 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 pre-empting 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 SDH, the shellfish management program of the MRC, and the water quality program of the SWCB. The SDH exercises regulatory authority with respect to shellfish sanitation, and has the power to condemn contaminated shellfish growing areas. The MRC 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 SWCB 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 presentorpotential 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 SWCB and political subdivisions. Better planning also is needed regarding future shellfish developmental activity. The MRC 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.

22. 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 MRC, much of the protected grounds now are largely barren and unproductive. At the same time, commercial shell fishermen 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.

23. Boating safety laws[22] should be amended to grant specific authority for enforcement in tidal waters to the Marine Resources Commission.

The MRC presently is enforcing these laws, apparently by virture of a provision giving enforcement authority to all law enforcement officers of the Commonwealth. This activity appears to be a logical extension of MRC responsibilities, but should be expressly mandated by the General Assembly. The existing authority of the CGI F could be left in tact, with the enforcement by the MRC supplementing rather than replacing this authority.

The general adequacy of the state control over boating safety in tidal waters should be assessed. The CGIF, the principal agency responsible for enforcement, is primarily active in inland waters, and the program of the MRC 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 MRC.

Other Recommendations

24. The Division of State Planning and Community Affairs (Department of Planning and Budget after July 1, 1976) 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 a sunrealistic, 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.

25. 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. 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 but administrative controls established by that legislation apply only to ground-water 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 interregional 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 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.

26. Certainadministrativeagenciesshould be required to publish all regulatory decisions, including summary of the issues involved and a description of the relationship of each decision to relevant plans and policies.

Under Virginia'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 reiative to permit

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water supply planning. Since merger of the former Division of Water Resources with the SWCB, the scope of the state planning effort has narrowed and now is focused on water quality. For example, the format of the applications. Since some of these policy elements are likely to arise again and again, the decisionmaking body should have the benefit of reviewing pastdeliberations 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 thatconflictswith a previous action should be made in full awareness that precedent is being overridden, and notsimply reflect failure to consider all relevant information.

Although other programs might also be encompassed, regulatory actions of the SWCB 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 SWCB must establish general principles concerning such factors as the extent 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 perm~t applications

YOUR COMMENTS WELCOMED

This report is a condensation, in draft form, of the findings and recommendations of a long-term study of the institutional structure of water resources management in Virginia. Comments are invited on any or all of the recommendationscontained herein. Any comments received will be taken into consideration as the full final report is prepared.

Footnotes

1. "Commonwealth of Virginia Water Resources Policy," Virginia State Water Control Board, Richmond, Va. June, 1974, sec. 3.3 -2,3.3-3.
2. *Id.,* sec. 3.4.
3. *Id.,* sec. 3.2.
4. Watershed Protection and Flood Prevention *16 U.S.C.A.* 1001 *etseq.* (1974).
5. Va. *CodeAnn.,* sec. *62.1-80etseq. (1973*).
6. Groundwater Act of 1973, Va. *Code Ann.* sec. 62.1-*44.83 et seq. (Supp.* 1975).
7. Va. *Code Ann.* sec. 62.1-3 (Supp. 1975).
8. *Id.,* sec. 32-9 (1973).
9. *Id.,* sec. 32-9.1 (Supp.1975).
10. *Id.,* sec. 32-414.1 *et seq.* (1973), *as amended* (Supp.1975).
11. *Id.,* sec. 45.1-180 *et seq.* (1974), *as amended* (Cum. Supp.1974). sec. 45.1-198 *et seq.* (1974), *as amended* Cum. Supp. 1974).
12. Erosion and Sediment Control Law, *Va. Code* sec. 2.1-89.1 *et seq.* (1975).
13. Va. *Code Ann.* sec. 62.1 -3 (Supp. 1975).
14. *Id.,* sec. 62.144.5 (1973).
15. *Id.,* sec. 62.1-13.5(4) (Supp. 1975).
16. 33 *U.S.C.A.* 403 (1970).
17. Federal Water Pollution Control Act Amendments of 1972, 33 *U.S.C.A.* 1251 *et seq.* (1976 Supp.),sec.1341.
18. Va. *Code Ann.* sec. 62.1-5 (Supp.1973).
19. *See,* e.g., *Va. Code Ann. Sec.62.1-3 (Supp.1975).*
20. *Va. Code Ann.,sec.* 62.1-13.1 *et seq. (1973),as amended* (Supp.1975).
21. *Id.,* sec. 28.1-82 *et seq.* (1973), *as amended* (Supp. 1975).
22. *Id.,* sec. 62.1-166 *et seq.* (1973), *as amended* (Supp. 1975).

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