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Water Quality Control: A Modern Approach to State Regulation

Richard C. Ausness
University of Kentucky College of Law, rausness@uky.edu

Frank E. Maloney

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INTRODUCTION

The American public of late has shown increasing concern over the quality of the environment.[1] Water pollution has long been recognized as a major threat to a better environment. Municipal, industrial, and agricultural operations all contribute to the pollution problem. Municipalities empty millions of gallons of inadequately-treated sewage into the nation's rivers and streams. Municipal wastes are almost exclusively organic in nature. Currently municipal wastes are estimated to average about ten million tons annually while industrial pollution averages approximately fifteen million tons.[2] Treatment in general is technologically feasible; the primary impediment is financial inability on the part of municipalities to initiate effective abatement measures. Industrial pollution, both organic and inorganic, involves even greater volumes of effluent than municipal operations. The situation is aggravated by the fact that treatment for inorganic industrial wastes is generally more complex and costly than the processes available for treatment of organic matter.[3] Agriculture contributes to the impairment of water quality through confinement livestock feeding operations and the use of chemical fertilizers, pesticides and herbicides.[4]

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** Frank E. Maloney, B.A. 1940, University of Toronto; J.D. 1942, University of Florida; Chairman, Water Law Subcommittee of the Florida Bar, 1956–1963; Counsel to the Florida Water Resources Study Commission, 1957; Principal Investigator, Water Law Studies of the University of Florida Water Resources Research Center, 1965–1970; Professor of Law, University of Florida, 1946–1970; Visiting Professor of Law, Vanderbilt University School of Law.

*** Richard C. Ausness, B.A. 1966, University of Florida; J.D. 1968, University of Florida; Assistant Professor of Law, University of Florida.

[1] *See generally,* Muskie, *Environmental Jurisdiction in Congress and The Executive,* 22 MAINE L. REV. 171, 171–76 (1970).

[2] Nebolsine, *Today's Problems of Industrial Waste Water Pollution Abatement,* 1 NAT. RESOURCES LAWYER 39, 40 (1968).

[3] Hines, *Controlling Industrial Water Pollution: Color the Problem Green,* 9 B.C. IND. & COM. L. REV. 553, 562 (1968).

[4] Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality, Part I: State Pollution Control Problems,* 52 IOWA L. REV. 186, 193 (1966).

THE MODEL WATER CODE

A Model Water Code has been drafted at the University of Florida in an attempt to provide a vehicle for comprehensive state regulation of water resources. The Code consists of six chapters. The first creates a two-tiered administrative system comprised of a State Water Resources Board and a number of regional water management districts administered by governing boards. This chapter also provides for a comprehensive state water plan while chapter two establishes a permit system for the regulation of consumptive uses of water. Chapter three provides for well construction standards and the licensing of the well drilling industry. Chapter four governs the construction of dams, impoundments and appurtenant works. Chapter five is concerned with water quality. Some of the prominent features of this portion of the Code are a water quality plan and the water quality standards contained therein; [5] construction permits for new outlets, disposal systems and treatment works; [6] discharge permits; [7] and the various enforcement powers available to both the state and local agencies.[8] Chapter six is an optional chapter on weather modification.

CHAPTER FIVE: WATER QUALITY REGULATION

This article introduces chapter five of the proposed Model Water Code as a basis for a state program of water quality control. Although the authors have designed it as part of an overall scheme for the regulation of water use and quality under a comprehensive state water plan, this chapter can be treated in many respects as a self-contained unit and it is on this basis that chapter five is offered in this form.

The text of each numbered section of the Code is followed by detailed commentary setting forth the origin or origins of the section and the reasons why the authors chose the particular approach adopted therein. A complete copy of chapter five of the Code without commentary is included at the end of the article.

§5.01 *Definitions*

When appearing in this code or in any regulation adopted pursuant thereto, the following words shall mean:

(1) Water Quality—Chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which may affect its use.

COMMENTARY. Under the Model Water Code the state and local agency must act not only to control pollution, but also to protect and im-

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[5] MODEL WATER CODE §§5.04–5.05.
[6] *Id.* at §5.07.
[7] *Id.* at §5.08.
[8] *Id.* at §§5.12–5.15.

prove water quality. The definition of water quality above is taken from a California statute,[9] which in turn is based upon language in the definition of "pollution" in the Suggested State Water Pollution Control Act drafted by HEW (hereinafter referred to as the Suggested State Act).[10] The California definition and subsection (1) should be read in connection with the term, as "water quality" is used in the definition of pollution in 5.01 (3).

> (2) Impairment of water quality—Any act or condition, including but not limited to pollution, which temporarily or permanently reduces, or threatens to reduce, water quality below the level established by the state board pursuant to this code.

COMMENTARY. This subsection requires reference to the definition of water quality in 5.01 (1). "Water quality" is a broader term than pollution and is inclusive of the latter as defined in 5.01 (3). Impairment of water quality must be ascertained by reference to the state water quality plan under sections 5.04 and 5.05. This definition is original.

> (3) Pollution—Any alteration of water quality, including change of temperature, taste, color, turbidity, or odor of the waters, or the addition of liquid, solid, radioactive, gaseous, or other substances to the waters or the removal of such substances from the waters which will render or is likely to render the waters harmful to the public health, safety, or welfare, industrial, agricultural, recreational or other lawful uses or to animals, birds or aquatic life.

COMMENTARY. Under most pollution control statutes the definition of pollution is of critical importance. In many states the regulatory agency cannot act to protect water quality until pollution is imminent or actually occurring. However, pollution is merely one aspect of the broader problem of water quality control. A statute which regulates only pollution will provide very little in the way of comprehensive planning, and will merely direct itself toward reducing existing pollution without effecting any preventive measures. Today, due to the influence of federal law, there is less emphasis on definitions of pollution, and increasing reliance on specific water quality standards.[11]

The HEW Suggested State Act has defined pollution very broadly.[12] However, most states have adopted somewhat more limited definitions of pollution [13] or have created exemptions for specific industries.[14] Under the

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[9] CAL. WATER CODE §13050 (g) (1956).

[10] DIVISION OF WATER SUPPLY & POLLUTION CONTROL, U.S. DEP'T OF HEALTH, EDUCATION & WELFARE, SUGGESTED STATE WATER POLLUTION CONTROL ACT, REVISED §2 (a) (1965) [hereinafter cited as SUGGESTED STATE ACT].

[11] SAX, WATER LAW PLANNING & POLICY 390 (1968).

[12] SUGGESTED STATE ACT §2 (a); *see also* ILL. ANN. STAT. ch. 19, §145.2 (a) (1963).

[13] *E.g.*, W. VA. CODE §2312 (28) (f.) (Cum. Supp. 1964).

[14] *E.g.*, MICH. STAT. ANN. §3.532 (1965); OHIO REV. CODE §6111.04 (c) (Baldwin 1964).

California definition of pollution, for example, there is no "pollution" unless (1) "Waters of the state" are affected, (2) the effect is caused by a present discharge of "sewage or industrial waste" and (3) the state waters are not only adversely but also "unreasonably" affected for beneficial uses, excluding, however, consideration of any health hazard. This latter exclusion exists because, under the California law, "pollution" is distinguished from "contamination," which is confined, in state waters, to the creation of an actual health hazard.[15]

The definition of pollution is not of overriding importance in the Model Water Code because the agency's regulatory powers are not dependent upon a finding of pollution. Pollution is merely one form of water quality impairment, although additional remedies, such as suit for civil damages, and in some cases, summary abatement, are available to the regulatory agency when pollution, as defined in this subsection, is found to exist. It should be noted that under the Model Water Code pollution includes *removal* as well as discharge of a substance into waters of the state. This definition of pollution was taken almost directly from a Georgia statute,[16] which in turn was modeled after the Suggested State Act.[17]

> (4) Wastes—Sewage, industrial wastes, and all other wastes, liquid, gaseous, solid, or radioactive, which may affect water quality.

COMMENTARY. This definition, along with the remaining subsections in section 5.01 are used in connection with section 5.07 concerning construction permits for outlets, disposal systems, and treatment plants. The broader term, "substance," is used in connection with discharge permits under section 5.08. The term "wastes" includes sewage, industrial wastes, and other wastes which are all defined elsewhere in section 5.01. This definition is adopted from the Suggested State Act.[18] However, the reference to pollution is replaced in the Model Water Code by a reference to water quality.

> (5) Sewage—Any and all waste substance, liquid or solid, associated with human habitation, or which contains or may be contaminated with human or animal excreta or excrement, offal or any feculent matter.

COMMENTARY. This definition was taken from the California water quality control act.[19] The term is also defined in many other state statutes [20] but does not appear in the Suggested State Act.

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[15] GINDLER, WATERS AND WATER RIGHTS §228.2 (B) at 222–23 (Clark ed. 1967).

[16] GA. ANN. CODE §17–503 (f) (Supp. 1969).

[17] SUGGESTED STATE ACT §2 (a).

[18] *Id.* at §2 (b).

[19] CAL. WATER CODE §13005 (1956) (repealed by CAL. STAT. ch. 482, §17 (1969)).

[20] *E.g.*, S. C. CODE §70–102 (4) (1962); GA. ANN. CODE §17–503 (g) (Supp. 1969); N. Y. PUBLIC HEALTH LAW §1202 (d) (McKinney Supp. 1970).

(6) Industrial waste—Any and all solid, liquid or gaseous substances, excluding sewage, resulting from any producing, manufacturing or processing operations of whatever nature or from the development of any natural resource.

COMMENTARY. This definition was taken in modified form from California.[21] Although not defined in the Suggested State Act, the term is found in a number of state water pollution control statutes.[22]

(7) Other waste—Garbage, municipal refuse, chemicals and all other substances which are not sewage or industrial waste which may pollute the waters of the state.

COMMENTARY. This term was included as a miscellaneous category to encompass all wastes not included within the definitions of sewage or industrial waste. The definition was taken from the Iowa statute.[23]

(8) Sewage system—Pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances and facilities used for conducting wastes to an ultimate point for treatment or disposal.

COMMENTARY. This definition was taken from a provision of the Florida pollution control statute [24] which in turn was derived from the Suggested State Act.[25]

(9) Treatment works—Any plant or other works used for the purpose of treating, stabilizing or holding wastes.

COMMENTARY. This term appears in various state statutes [26] as well as the Suggested State Act.[27]

(10) Disposal system—Any system for disposing of wastes, either by surface or underground methods, including sewage systems, treatment works, disposal wells and other systems.

COMMENTARY. This subsection was taken directly from the Suggested State Act.[28]

(11) Outlet—The terminus of a sewer system, or the point of emergence of any sewage, industrial waste, or other wastes or the effluent therefrom, into the waters of the state.

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[21] CAL. WATER CODE §13005 (1956) (repealed by CAL. STAT. ch. 482, §17 (1969)).

[22] *See, e.g.*, IOWA CODE ANN. §455 B.2 (2) (West Supp. 1969); MICH. COMPILED LAWS ANN. §323.351 (b) (1967); TENN. CODE ANN. §70-301 (Supp. 1969).

[23] IOWA CODE ANN. §455 B.2 (3) (West Supp. 1969).

[24] FLA. STAT. §403.031 (8) (1967).

[25] SUGGESTED STATE ACT §2 (c).

[26] *E.g.*, FLA. STAT. §403.031 (7) (1967), N.Y. PUBLIC HEALTH LAW §1202 (j) (McKinney Supp. 1970)

[27] SUGGESTED STATE ACT §2 (d).

[28] *Id.* at §2 (e).

COMMENTARY. This definition is taken verbatim from a North Carolina statute.[29]

5.02 *Exception of Atmospheric Moisture*

No provision of this chapter shall apply to moisture contained in the atmosphere.

COMMENTARY. This provision has been inserted to negate any control over air pollution under this chapter that might otherwise be inferred from the inclusion of atmospheric moisture in the broad definition of waters of the state contained in 1.03 (8).[30] In some jurisdictions, the agency responsible for water quality and pollution control is vested with authority for air pollution as well.[31] However, it was felt that water quality should be regulated by the same agency that has responsibility for consumptive uses of water. A water-oriented agency such as that created under the Model Water Code probably would not be suited to handle air pollution problems. The solution lies in close cooperation between the respective agencies with, perhaps, overall supervision and coordination under a state natural resources board.[32] This section of the Code is original.

5.03 *Additional Powers and Duties of the State Board*

In addition to other powers and duties delegated to it under this code, the state board shall:

(1) Exercise general supervision over the administration and enforcement of this chapter within the state and all regulations and orders promulgated thereunder, and adopt, modify, repeal, promulgate, and enforce such regulations implementing or effectuating its powers and duties under this code as it may deem necessary.

COMMENTARY. A two-tiered administrative system operates under the Model Water Code. The State Water Resources Board greatly resembles the state agency found in the Model Water Use Act.[33] In addition, under

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[29] *See* N.C. STAT. §143–212 (1964).

[30] **§1.03 Definitions**

When appearing in this code or in any rule or regulation adopted pursuant thereto, the following words shall mean:

(8) Water or waters of the state—Any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state.

[31] DEL. CODE ANN. Title 7, §6002 (West Supp. 1968); MINN. STAT. ANN. §§116.01–116.09 (West Supp. 1969); ORE. REV. STAT. §§449.760–449.990 (1968).

[32] *See, e.g.*, proposal of Florida Governor's Natural Resources Committee Jan. 10, 1969. The Committee's suggestion that the Air and Water Pollution Control Commission be placed within the Florida Department of Natural Resources, however, has not been followed by the legislature.

[33] MODEL WATER USE ACT §201 (1958).

the Model Water Code, the state is divided into a number of water management districts. Each water management district will consist of a hydrologic unit such as a river basin and will be administered by a governing board. The state board is concerned with statewide planning and policy making, research, administration of grants, and general supervision and coordination of the activities of the various governing boards.

The governing boards of the water management districts administer the various permit systems established by the Code. In addition, the district may assume responsibility for flood control, recreation, and other water management functions.

While actual enforcement of water quality standards normally would be the function of the governing boards of the water management districts, the state board still retains substantial supervisory powers. These powers can be implied from section 1.06 (10) [34] which also gives the state board the authority to review and rescind any regulation of the governing board not in accord with the provisions of the Code. The administrative appeal section of this Code, section 1.20,[35] also permits review by the state board of local action *or failure to act.* Thus, if the governing board fails to enforce water quality standards, the state board may act in its stead. Section 1.20 (3) (c) [36] allows the state board to exercise all of the administrative and enforcement powers delegated to the governing board under this chapter. Thus, the residual enforcement power of the state board applies

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[34] **§1.06 General Powers and Duties of the State Board**

In addition to other powers and duties the state board is authorized to:

(10) Exercise general supervisory authority over all water management districts created under this code. The state board may review and rescind any regulation of a water management district to insure compliance with the provisions and purposes of this code.

[35] **§1.20 Administrative Review**

(1) Upon petition by any aggrieved person or upon its own motion, the state board shall at any time review any action or failure to act by a governing board.

(2) The evidence before the state board shall consist of the record before the governing board and any other relevant evidence which, in the judgment of the state board, should be considered to effectuate and implement the policies of this code.

(3) The state board may find the governing board's action or inaction to be appropriate and proper. Upon a finding that the action of the governing board, or the failure of the governing board to act, was inappropriate or improper, the state board may

(a) direct that the appropriate action be taken by the regional board,
(b) refer the matter to any other state agency having jurisdiction,
(c) take the appropriate action itself, or
(d) any combination of the foregoing.

In taking any such action, the state board is vested with all the powers of the governing board granted under this code.

(4) In the event of a dispute between two or more water management districts, the state board shall decide the issue on its own motion or on the motion of one of the parties.

(5) In the case of review by the state board under the provisions of this section, the state board may stay in whole or in part the effect of a decision or order of a governing board.

[36] *Id.*

to the provisions of this chapter. A similar power appears to be possessed by the state water quality board in California.[37] The California Water Code §13025 is the source of this subsection.

> (2) Administer any program of research in water pollution or water quality control, accept funds from the United States or any person to that end and support programs of research by other state agencies, universities, industries and private persons.

COMMENTARY. One of the primary duties of the state agency should be the administration of a comprehensive research program and a program for the collection of basic data.[38] Under this subsection, the state board is authorized to carry on research in the area of pollution control and water quality. This power is merely another facet of the state board's function as a planning and research agency. This material was adopted from a provision of the California Water Code.[39]

> (3) Collect and disseminate information relating to water pollution and the prevention, control and abatement thereof.

This section appears in the Suggested State Act.[40] A similar power is found in the Model Water Use Act.[41]

> (4) Cooperate with other state or interstate water pollution control agencies in establishing standards, objectives or criteria for quality of interstate waters originating in or flowing through the state.

COMMENTARY. This power is also included in the Suggested State Act.[42]

> (5) Administer any program of financial assistance for water pollution or water quality control and accept funds from the United States or any person to that end.
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> The state board is designated as the water pollution control agency of the State for all purposes stated in the Federal Water Pollution Control Act.

COMMENTARY. No meaningful water quality program can be implemented without a significant increase in funds available to finance construction of treatment and disposal facilities. The New York experience is illustrative: Up to the present time New York's statutory program ap-

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[37] *See* CAL. WATER CODE §13024 (1956) (repealed by CAL. STAT. ch. 482, §17 (1969)).

[38] Note, *Water Pollution—State Control Commission*, 17 VAND. L. REV. 1394, 1371 (1964).

[39] CAL. WATER CODE §13024 (1956) (repealed by CAL. STAT. ch. 482, §16 (1969)).

[40] SUGGESTED STATE ACT §4 (f).

[41] MODEL WATER USE ACT §605 (c) (1958).

[42] SUGGESTED STATE ACT §4 (c).

parently has been little more effective than the common law approach.[43] There appears to have been no significant improvement in the quality of New York streams even after the 1949 Water Pollution Control Act. Although one reason has been the lack of coordination and cooperation among the various state agencies, the major factor has been the resistance of affected municipalities. Treatment of pollution can place a substantial financial burden on cities, which would in many instances cause a tax increase of well over one hundred percent. On numerous occasions New York voters have defeated local bond issues earmarked for sewage treatment facilities in that state. It was hoped at first that enforcement could be achieved through voluntary compliance, but no such cooperation has been forthcoming from municipalities and industrial polluters have likewise shown little tendency to cooperate voluntarily. Thus, enforcement could only be had through long and costly court proceedings on a case-by-case basis.[44]

Financial inability has rendered enforcement difficult against municipalities in Oregon as well.[45] The same or similar problems exist with enforcement of water pollution control statutes against industries, the principal impediment to compliance usually being financial. This situation is, no doubt, the same in most other jurisdictions. Some relief is now available from the federal government in the form of construction grants for municipalities under the Federal Water Pollution Control Act.[46]

Under the Model Code the state board would administer financial assistance through a water resources development account pursuant to this subsection. The state board is officially designated as the water pollution control agency of the state in order to qualify for funds under the Federal Water Pollution Control Act of 1965.

Under the Clean Water Restoration Act of 1966,[47] Congress authorized grants of up to fifty percent to the states to meet the administrative expenses for a planning agency in formulating a comprehensive water quality control and abatement plan for a river basin. These funds are available upon request of the governor of a single state or a majority of the governors when more than one state is involved. The plan must comply with the applicable water quality standards within the basin and must recommend treatment works and sewer systems that will provide the most effective and economical means of collection, storage, treatment, and purification of wastes for both municipal and industrial systems. The plan must also call for the maintenance and improvement of the water quality standards

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[43] Note, *Water Pollution Control in New York*, 31 ALBANY L. REV. 50, 60 (1967).

[44] *Id.*

[45] Quesseth, *Water Pollution Control Laws of Oregon*, 3 WILLAMETTE L. J., 284, 291–92, (1965).

[46] 33 U.S.C. 466 (1956), *as amended*, (Supp. II, 1967).

[47] CLEAN WATER RESTORATION ACT OF 1966 §101, 33 U.S.C. 466 (1956), *as amended*, (Supp. II, 1967).

within the basin and adequate facilities to finance the plan.[48] It is suggested that each of the water management districts could qualify for assistance under this federal legislation.

This section is modeled after the Suggested State Act.[49] Similar provisions, however, are found in virtually every state pollution control statute.

5.04 *Water Quality Plan*

(1) The state water quality plan shall consist of the following:

(a) Water quality standards for all waters of the state. Such standards will consist of receiving water standards and where applicable, effluent standards.

(b) Water quality objectives for planning and operation of water resource development projects for water quality control activities, and for the improvement of existing water quality.

(c) Other principles and guidelines deemed essential by the state board for water quality control.

(d) A program of implementation for those waters which do not presently meet established water quality standards.

COMMENTARY. The state board will develop the state water quality plan. While the governing boards of the various water management districts will work closely with the state board on this project, the ultimate responsibility will rest with the state board. It is essential that some agency exercise responsibility for planning and coordination of a statewide pollution control program. In the past many regulatory agencies failed to recognize the necessity of long-range planning. Nearly all of the statutes empower and encourage the control agencies to engage in planning, but too often the agency has concentrated on day-to-day administration and planning has been neglected.[50]

The main feature of the state water quality plan is the establishment of water quality standards. This aspect of the plan is hardly new. Under the Suggested State Act, the state pollution control agency may establish such standards but is not required to.[51] No mandatory guidelines are set out in the Suggested State Act for the board to follow in formulating such standards other than a requirement that they "protect the public health and welfare and the present and prospective future use of such waters." The Federal Pollution Control Act of 1965 requires the various states to classify streams and adopt standards for interstate waters sufficient to meet the approval of the Department of the Interior.[52]

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[48] Edwards, *The Legislative Approach to Air and Water Quality,* 1 NAT. RESOURCES LAWYER 58, 64 (1968).

[49] SUGGESTED STATE ACT §3 (e).

[50] Hines, *supra* note 4, at 233.

[51] SUGGESTED STATE ACT §6.

[52] For a complete discussion of water quality standards *see* COMMENTARY §5.05 *infra.*

Another element of the plan is the establishment of water quality objectives. This concept appears in the California Water Code [53] as part of the state policy for water quality control. As such, it basically represents a planning objective. The drafters of the Model Water Code have added the phrase "and for the improvement of existing water quality." This addition somewhat changes the import of the original; coupled with the fact that it appears in a *plan* rather than a policy, the provision has become a mandatory directive for water quality improvement rather than a mere planning objective.

Subpart (c) confers authority upon the state board to insert whatever additional regulations, information, and directions it feels necessary.[54]

One of the primary benefits of establishing a water quality plan is that it forces the regulatory agency to formulate concrete proposals for administrative action immediately, rather than waiting until a water pollution situation becomes intolerable. Subsection (d) is intended to encourage the state board to set realistic standards since it will have to state in detail how it will achieve the desired water quality at the same time it establishes the particular standards. This program of implementation provides notice to water users and the general public of what measures the board has promised to take, and should include financial planning as well as enforcement measures.

A prominent objective in such an enforcement scheme should be the consolidation of small and inefficient treatment plants. The principal weakness of the California program has been its failure to encourage groups of communities to consolidate their waste treatment facilities into one efficient operation. The San Francisco area regional board has a long record of encouraging local governmental agencies to undertake integrated planning for sewerage systems and waste disposal facilities, yet no master plan has been devised to replace small overladen facilities with large efficient plants to serve wide areas.[55]

Subpart (a) of this section is original; subpart (b) was taken in modified form from the California Water Code.[56] Subpart (c) is also derived from California,[57] while subpart (d) is original.

(2) The state water quality plan shall be periodically reviewed and may be revised.

COMMENTARY. The state water quality plan may, and should, be periodically reviewed in light of changing conditions. In particular, the plan should provide for changing water use patterns as reflected in the state

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[53] CAL. WATER CODE §13142 (b) (1956).

[54] *See, e.g.*, CAL. WATER CODE §13142 (d) (1956).

[55] Note, *Regional Control of Air and Water Pollution in the San Francisco Bay Area*, 55 CALIF. L. REV. 702, 718 (1967).

[56] CAL. WATER CODE §13142 (b) (1956).

[57] *Id.* §13142 (d).

water use plan and the operation of the permit system since the quantity of water available and its time pattern of distribution affect the quantity, quality and time pattern of wastes which can be discharged into the receiving waters.[58] This subsection is original.

> (3) During the process of formulating or revising the state water quality plan the state board shall consult with and carefully evaluate the recommendations of concerned federal, state, and local agencies, particularly the governing boards of the various water management districts.

COMMENTARY. The state water quality plan was inspired by a similar approach in the California Water Code. One significant difference, however, is that under the Model Water Code the water quality plan is formulated at the state level rather than by the governing boards of the various water management districts. On the other hand, in California, the regional water quality boards develop local water quality plans and submit them to the state board for approval. It can be argued that the local board is more responsive and better informed about local problems. Under the procedure outlined above, however, the state board can utilize local knowledge and expertise, while retaining the ability to make independent inquiries and judgments. It is hoped that this approach will enable the standards to reflect local conditions and needs, while avoiding undue influence by dominant economic interests and pressure groups, although all affected parties should be consulted at this stage whenever possible.

While the state board has ultimate responsibility for drafting the water quality plan, it is expressly directed to seek the advice and expertise of other federal, state, and local agencies, particularly the governing boards of various water management districts. One important aspect of sound planning is affirmative action to coordinate the pollution control efforts of agencies with common interests. State acts usually authorize participation in cooperative programs, but local agencies have seldom taken the initiative to seek out areas of mutual interest with other groups.[59] This subsection requires such action. Portions of this subsection were taken from the California Water Code.[60]

> (4) The state board shall not adopt or modify the state water quality plan or any portion thereof until a public hearing is held. At least 90 days in advance of such hearing the state board shall notify any affected governing boards, and shall give notice of such hearing by publication within the affected region pursuant to section 1.09 of this code.[61]

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[58] Bower, *Some Physical, Technological and Economic Characteristics of Water and Water Resources Systems: Implications for Administration*, 3 NAT. RES. J. 215, 219 (1963).

[59] Hines, *supra* note 4, at 233–34.

[60] CAL. WATER CODE §13144 (1956).

[61] **§1.09 Adoption of Regulations by the State Board**

(1) The state board shall adopt, promulgate, and enforce such regulations as may be necessary or convenient to administer the provisions of this code.

COMMENTARY. Generally, where decision is required concerning water quality standards in a particular area, hearings are necessary to obtain some sense of the public feeling about the matter and to afford affected parties an opportunity to present their cases.[62] Therefore, in the Model Water Code, a public hearing is provided before adoption of the water quality plan or any portion thereof.

Normally, the state board would adopt portions of the state plan on a regional basis to insure that all affected persons may conveniently attend the hearings. The final decision of the state board, however, would not be subject to challenge unless it was clearly unreasonable in light of the evidence presented at such hearings or obtained independently by the board. While each governing board participates in the formulation of portions of the water quality plan pertaining to its water management district, as an affected party, it may nevertheless record its opposition to the plan or some provision of it at the public hearings. This subsection is modeled after a provision of the California Water Code.[63]

5.05 *Water Quality Standards*

(1) It is recognized that due to variable factors no single standard of quality and purity of the waters is applicable to all waters of the state or to different segments of the same waters.

(2) The state board shall group all waters of the state into classes and adopt water quality standards for each class. Such classification shall be made in accordance with considerations of best usage in the interests of the public.

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(2) Regulations affecting the public interest other than regulations relating to the internal organization and operation of the state board shall be adopted as follows:

(a) The proposed regulations shall be contained in a resolution adopted by the state board at a regular or called meeting and included in the minutes of its proceedings.

(b) Within ten days of the adoption of such resolution, notice of the regulation in the form of a summary thereof (or in full, at the discretion of the state board) shall be published once in four newspapers of general circulation in the state. This notice shall fix the time and place for a public hearing before the state board to be held not less than ten nor more than twenty days from the date of publication.

(c) Opportunity shall be afforded interested persons to present their views at such public hearing either orally or in writing or both, at the discretion of the state board. Objections may be raised to both the nature and form of such regulation. Following such hearing the state board may amend, revise or rescind the resolution, which action shall be set forth in minutes of its proceedings, and by resolution adopt the regulation as proposed or as amended, or revised, or may determine that no regulation is necessary.

(d) Upon the adoption of any regulation as provided, a copy thereof certified by the chairman shall, within five days of the adoption thereof, be filed in the office of the secretary of state and shall become effective fifteen days after such filing except as hereafter provided.

(e) Regulations relating to the internal organization or management of the state board not affecting the public interest, shall be adopted by resolution recorded in the minutes of its proceedings and shall become effective immediately upon the filing of a copy thereof, certified by the chairman, in the office of secretary of state.

[62] *See* FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, U.S. DEPARTMENT OF THE INTERIOR, GUIDELINES FOR ESTABLISHING WATER QUALITY STANDARDS FOR INTERSTATE WATERS 8, 9 (1966).

[63] CAL. WATER CODE §13147 (1956).

(3) In preparing the classification of waters and the standards of purity and quality above mentioned, the state board shall give consideration to:

(a) The size, depth, surface area covered, volume, direction, and rate of flow, stream gradient and temperature of the water;

(b) the character of the land bordering, overlying or underlying the waters of the state and its peculiar suitability for particular uses, and with a view to conserving the value of said land, encouraging the most appropriate use of the same for economic, residential, agricultural, industrial, or recreational purposes.

(c) The past, present, and potential uses of the waters for transportation, domestic and industrial consumption, bathing, fishing and fish culture, fire prevention, the disposal of sewage, industrial and other wastes, and other possible uses, and

(d) the extent of present defilement or fouling of the waters which has already occurred or resulted from past discharge therein.

(4) The water quality plan adopted by the state board shall contain standards of quality and purity for each of the various classes in accordance with the best interests of the public.

(5) In preparing such standards, the state board shall give consideration to:

(a) The extent, if any, to which floating solids may be permitted in the waters;

(b) the extent, if any, to which suspended solids, settleable solids, colloids or a combination of solids with other substances suspended in water may be permitted;

(c) the extent, if any, to which organisms or virus may be permitted in the waters;

(d) the extent of the oxygen demand which may be permitted in the receiving water;

(e) the extent, if any, to which the temperature of the waters may be altered;

(f) the minimum dissolved oxygen content of the waters that shall be maintained;

(g) the limits of other physical, chemical, biological, or radiological properties that may be necessary for preserving the quality and purity of the waters of the state;

(h) the extent to which any substance must be excluded from the the water for the protection and preservation of public health, and

(i) the value of stability and the public's right to rely upon standards as adopted for a reasonable period of time to permit institutions, municipalities, commerce, industries and others to plan, schedule, finance, and operate improvements in an orderly and practical manner.

COMMENTARY. An extended discussion of these various properties of water may be found in Waters and Water Rights, Volume 3 §201,[64]

[64] 3 GINDLER, *supra* note 15, at §201.

and a Primer on Water Quality.[65] A modern trend in water resources legislation is the effort to provide for water quality rather than solely to prevent water pollution,[66] and an important aspect of this new approach is the establishment of water quality standards or guidelines for waterbodies. The purpose of such standards is to flesh out the legislature's policies concerning the type of water quality impairment that is deserving of abatement. Quality standards are a form of pollution gauge; they facilitate enforcement and yet are basically preventive in character.

These water quality standards can be divided into two categories. One type of standard is concerned with the nature of the effluent discharged into the water. This "effluent standard" is expressed in terms of either strength or amount of the effluent or the degree of treatment required.[67] The second type of standard involves a determination of the quality required for the waters receiving effluent. Under this "stream" or "receiving water" approach a minimum level of acceptable quality is established for each zone of a stream.[68] Because the individual characteristics of each water area must be considered in the formation of receiving water standards, they are more difficult to establish than effluent standards.

According to one authority, opponents of water quality standards have argued that once such standards are adopted, they will create vested rights which cannot later be impaired by alteration of the standards. According to this view, once the state has formulated a regulatory policy, and persons have materially changed position in reliance upon it, a later change of standards might amount to an unconstitutional taking of property unless just compensation is provided.[69] Indeed, the existence of substantial injury to persons who have reasonably relied on a former regulation would be significant in determining the reasonableness of the regulation as a means for accomplishing the desired end.

The argument has a number of weaknesses, however. First, if the purpose of the regulation has sufficient social importance to outweigh the interests of the individuals being injured, the regulation may be upheld as reasonable.[70] Since water pollution is a matter of great public concern, this fact should be of considerable importance. Also, under most state pollution statutes including the Model Water Code, it is difficult to see how

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[65] Swenson and Baldwin, *A Primer on Water Quality*, 20 U.S. DEPARTMENT OF THE INTERIOR (Geological Survey) (1965).

[66] *See* MARTIN, BURKHEAD, BURKHEAD & MUNGER, RIVER BASIN ADMINISTRATION AND THE DELAWARE 79, 80 (1960); 3 GINDLER, *supra* note 15, at 7.

[67] *E.g.*, MD. ANN. CODE art. 96 A §23 (Supp. 1970); MISS. ANN. CODE §5929–04 (Supp. 1968); OHIO ANN. CODE §6111.03 (Supp. 1970).

[68] Hines, *supra* note 4, at 225–26.

[69] *See* Penn. Coal Co. v. Mohan, 260 U.S. 393, 413–16 (1922); Dunham, *Griggs v. Allegheny County: Thirty Years of Supreme Court Expropriation Law*, SUPREME COURT REVIEW 63, 65–71 (1962).

[70] *See* Williamson v. Lee Optical, Inc., 348 U.S. 483 (1955).

anyone could successfully claim detrimental reliance on a water quality standard since changes will seldom be drastic or unexpected. Inherent in the concept of quality standards is the capacity to adopt to changing use requirements.

Nevertheless, some states have rejected the establishment of broad standards in favor of action on a case-by-case basis. Many of those states that are proceeding with the development of standards are doing so in gradual stages. Some have formulated broad minimal standards applying to all waters while others have adopted an area-by-area approach to standard establishment.[71]

The establishment of water quality standards involves a number of difficulties. The state board is directed to consider all relevant physical characteristics of the water resource in setting standards. Since all streamflows vary widely during the seasons of the year, and from year to year, the state board can only look to averages, or to historic low flows (since pollution problems are usually greatest in time of low flow). In selecting a figure, the agency must choose a period of time over which to measure because the measuring period will have a significant effect on the outcome. Selection of the historic low-flow as a measure will result in much of the stream's assimilative capacity being unused. If some common average is chosen, however, the stream would be polluted frequently.[72]

It is difficult to determine the precise standards which should be set for certain pollutants to achieve a desired degree of stream purity. For example, there is often no immediate and dramatic cause and effect relationship between the amount of a pollutant present and the death of fish. Sometimes it is asserted that the state of knowledge concerning factors that influence water quality is not adequate to allow standards to be set intelligently. Although extensive research is greatly needed, it would appear that sufficient information is available to permit creation of workable standards.[73]

Another area of uncertainty is the dilutive and assimilative capacity of the stream itself.[74] In many instances the water-quality objectives established for state waters leave available in particular waters an assimilative capacity to dilute and purify waste discharges to some extent. The agency's water quality and pollution control techniques may result in the division of this assimilative capacity among the various waste dischargers.[75]

The state board must set standards for floating solids, suspended solids, organisms, oxygen demand, temperature, dissolved oxygen and other phys-

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[71] Hines, *supra* note 4, at 223.
[72] SAX, *supra* note 11, at 389.
[73] Hines, *supra* note 4, at 225.
[74] SAX, *supra* note 11, at 389.
[75] 3 GINDLER, *supra* note 15, §229 at 230.

ical, chemical, biological or radiological properties such as taste and odor, color, pH and turbidity. The state board may also determine the extent to which any substance should be excluded from receiving waters.

In addition the state board must determine the procedures to be followed in establishing water quality standards. No doubt the state board would follow New York's stream classification procedures since much of the text of section 5.07 was modeled after the New York statute. New York's water quality control agency follows a four-step procedure in classifying streams and it is suggested that the state board operating under the proposed model code would classify receiving waters by a similar process.[76] First, a survey is made of the basin to obtain the basic data needed to determine the classes which will be assigned to the various waters within the basin. The second step then involves the preparation and publication of a report to serve as a basis for a public hearing before the classifications are adopted. All affected parties are given full opportunity to be heard at these meetings. The third consists of the public hearing itself. Finally, the agency, after making any adjustments it deems proper as a result of the public hearing, adopts the classifications it has made and files them with the Secretary of State.

Subsections (1) through (5) were taken almost verbatim from the New York statutes.

> (6) The state board may impose such effluent standards as it deems necessary to maintain or improve water quality.

COMMENTARY. The state board is permitted to establish effluent standards in addition to receiving water standards, but is not obliged to do so. Effluent standards are preferred by the interests subject to regulation because they are well defined and usually promote equality of regulation among similar types of waste-creating operations. The precision and simplicity of effluent criteria make establishment and enforcement of statewide water quality standards a feasible administrative undertaking. On the other hand, effluent standards are relatively inflexible and cannot be adapted easily to varying local conditions.[77] Moreover, in setting effluent standards which, taken together, will produce precisely the desired water quality, no room may be left for the entry of new industry or expansion by existing plants.[78] This subsection of the Code is original.

> (7) The state board by regulation may modify classifications and upgrade the standards of quality.

COMMENTARY. The Model Water Code permits the state board to

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[76] Note, *Particular Problems of Water Pollution under New York and Federal Law*, 10 BUFFALO L. REV. 473, 495–96 (1961).

[77] Hines, *supra* note 4, at 226.

[78] SAX, *supra* note 11, at 400.

modify water quality standards. Critics of the standards approach to pollution control have expressed fear that the standards will become permanently fixed at too low a quality level.[79] Experience has shown, however, that state water quality standards can be upgraded if the control agency is committed to such a program.[80] This provision is original.

5.06 *Additional Powers and Duties of the Governing Board*

In addition to other powers and duties delegated to them by this code, the governing boards of the water management districts shall:

(1) Issue, revoke, modify or deny, in accordance with the requirements of the state board, permits for the discharge or removal of any substance into the waters of the state and for the installation, modification or operation of disposal systems or any part thereof.

COMMENTARY. A number of state water quality programs authorize the creation of special agencies to operate on a district or regional basis. California was among the first states to place planning for water pollution control on a regional basis.[81] In California, these regional districts have primary responsibility for pollution control within their territory,[82] while the state agency acts primarily in an overseeing and coordinating capacity. In other states the regional or district organizations serve a supporting function to the state agency.[83]

Presently, Florida authorizes the state pollution control agency to delegate its authority, thereby allowing counties to create local pollution control agencies.[84] Such counties may enact water quality standards similar to or more stringent than the state agency's guidelines.[85] In addition, the counties may establish a system for discharge permits.[86]

The experience of the Dade County pollution control agency in Florida has shown that there are significant advantages to enforcement at a local, rather than a state level. The local unit is closer to the immediate problem and is frequently more responsive than a state agency. Perhaps the most distinct advantage of a local agency is that it overcomes the image of the distant state agency. Permits for construction or operation of businesses or individual facilities are handled from one easily accessible office. Contractors know that permits can be processed in three days rather than the ten days which would be required if they had to be forwarded to the state

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[79] GRAHAM, DISASTER BY DEFAULT 189 (1966).

[80] *Id.* at 226, note 196.

[81] Note, *Regional Control of Air and Water Pollution in the San Francisco Bay Area,* 55 CALIF. L. REV. 702, 718 (1967).

[82] CAL. WATER CODE §13052 (1956) (repealed by CAL. STAT. ch. 482, §17 (1969)).

[83] *See, e.g.,* MINN. STAT. ANN. §115.18 (1964); N.J. STAT. ANN. §58.12–9 (1966); VA. CODE §21–142 (1) (1960).

[84] FLA. STAT. §403.182 (1967).

[85] FLA. STAT. §403.182 (1) (b) (1967).

[86] FLA. STAT. §403.182 (2) (1967).

office. Dade's analysis facilities are local and immediate. Water samples are analyzed locally and each stream and waterbody within the county is tested monthly.[87]

It was felt, however, that enforcement by county agencies would not be as sucessful as enforcement by more broadly based regional boards created along hydrologically sound lines. The drafters of the Code have taken the position that the multi-county water management districts are better suited for this responsibility than county boards. The governing board's control over consumptive uses of water will enable it to coordinate pollution control with other water problems within its jurisdiction.

In the proposed Model Water Code, therefore, the state board retains supervisory authority over the operation of the water quality program while administration and enforcement at the regional level is delegated to the governing board.

This subsection is derived from an Arkansas statute; [88] however, a comparable provision also appears in the Suggested State Act.[89]

> (2) Require the prior submission of plans, specifications, and other data relative to the construction of disposal systems or any part thereof in connection with the issuance of such permits or approvals as are required by this Act.

COMMENTARY. This subsection authorizes the governing board to enforce the provisions of 5.07 (2) requiring the prior submission of plans of disposal systems for approval by the board. This provision is taken from the Suggested State Act.[90]

> (3) In accordance with the state water quality plan, issue, modify, or revoke orders: (a) prohibiting or abating discharges or removals of various substances into the waters of the state; (b) requiring the construction of new disposal systems or any parts thereof or the modification, extension, or alteration of existing disposal systems or any parts thereof or the adoption of other remedial measures to maintain or upgrade water quality.

COMMENTARY. The subsection concerns the governing board's responsibility to control water quality through the issuance of discharge permits. Subsection (b) permits the governing board to impose certain duties, such as construction of a treatment facility, as a condition to granting a discharge permit.

This provision was adopted with some modification from an Arkansas statute.[91] A comparable section is found in the Suggested State Act.[92]

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[87] CODE OF METROPOLITAN DADE COUNTY, Ordinance 67–95 §1 (1967).
[88] ARK. STAT. ANN. §47–804 (8) (1964).
[89] SUGGESTED STATE ACT §4 (i).
[90] *Id.* §4 (1).
[91] ARK. STAT. ANN. §47–804 (6) (1964).
[92] SUGGESTED STATE ACT §4 (n).

(4) Require proper maintenance and operation of disposal systems.

COMMENTARY. This subsection was taken from section 4 (n) of the Suggested State Act.

(5) Exercise all incidental powers necessary to carry out the objectives of this code.

COMMENTARY. One such function of the governing board might be to assist individual polluters in planning and constructing treatment facilities. This scientific and engineering advice is especially needed by the small businesses and municipal corporations which are serious polluters but lack the capital and technical knowledge necessary to abate the pollution caused by their activities.[93] This provision is found in the Suggested State Act.[94]

5.07 *Permits for New Outlets, Disposal Systems, and Treatment Works*

(1) No person shall without having obtained a written permit from the governing board:

(a) Begin construction of any new outlet for the discharge of sewage, industrial wastes or other wastes, or the effluent therefrom into the waters of the state, including coastal waters.

(b) Begin construction of any new disposal system for the discharge of sewage, industrial wastes, or other wastes or the effluent therefrom, into the waters of the state including coastal waters, or make any change in, addition to or an extension of any existing disposal system or part thereof which would materially alter the method, the volume, or the effect of treating or disposing of the sewage, industrial wastes or other wastes.

(c) Begin construction of any new treatment work for the treatment of sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the state including coastal waters, or make any change in, addition to or extension of any existing treatment plant or part thereof which would materially alter the method, volume, or the effect of treating said wastes.

(2) No permit for any new outlet or the construction of a new disposal system or the modification or the extension of an existing disposal system shall be issued by the governing board until the plans have first been submitted to and approved by it.

COMMENTARY. An earlier section of the Model Water Code defines outlet,[95] disposal system,[96] and treatment works.[97] In order that large discharge facilities will operate in such a manner as to reduce impairment

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[93] MURPHY, WATER PURITY 97, 98 (1961).
[94] SUGGESTED STATE ACT §4 (o).
[95] MODEL WATER CODE §5.01 (11).
[96] *Id.* at §5.01 (10).
[97] *Id.* at §5.01 (9).

of water quality to a minimum, it is necessary to insure that they are constructed properly. Therefore, the governing board must issue a construction permit before work may commence on such facilities. It is intended that the governing board shall not only act as supervisor in this respect, but also cooperate in every way with any party seeking to construct such facilities and make available to such party any information that will assist him in planning and constructing the most efficient facilities possible. Subsection (1) was modeled after a Florida statute.[98] Subsection (2) is original.

5.08 *Discharge permits*

(1) (a) No person shall discharge any substance into the waters of the state which may affect the quality of waters of the state without first obtaining a permit from the governing board of the area affected by such discharge.

(b) No person who is a citizen, domiciliary, or political agency or entity of this state shall discharge any substance into waters outside of the boundaries of the state which could affect the quality of waters of the state without first obtaining a permit from the governing board of the area affected by such discharge.

(c) The state board may authorize the governing boards to exempt certain types of discharges from the requirements of this subsection if it is clearly established that there will be no significant impairment of water quality from such discharges.

COMMENTARY. This provision requires a discharge permit for virtually any activity that might impair water quality. The term "substance" has been used instead of "waste," to avoid creating an exception regarding discharges of pesticides and herbicides, particularly those intentionally discharged into a stream for a specific purpose.[99] Not only discharges into waters of the state including coastal waters are covered by this section, but also discharges outside the boundaries of the state in cases where the state retains some jurisdiction over the discharger.

Subpart (c) allows the state board to authorize (but not require) the governing boards to exempt certain discharges which are so minimal that no impairment of water quality is likely to result.

Subpart (a) is modeled after a provision in the Model Water Use Act.[100] Subpart (b) is a modification of a section of the California Water Code.[101] Subpart (c) is original.

(2) The permit may be granted only if the governing board determines that such discharge will not lower water quality in the affected water below the standards set for that class of water pursuant to the

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[98] FLA. STAT. §403.061 (18) (1967).

[99] *See* 3 GINDLER, *supra* note 15, §228.2 at 228.

[100] MODEL WATER USE ACT §602 (a) (1958).

[101] CAL. WATER CODE §13260 (West Supp. 1970).

state water quality plan. Permits may also be denied if the governing board determines that such discharge would not be consistent with water quality improvement objectives established for the affected water pursuant to the state water quality plan.

COMMENTARY. This subsection subjects the granting of permits to the maintenance of water quality standards and other provisions of the state water quality plan. Since compliance with the water quality standards is capable of relatively accurate determination, any questionable action of the governing board can be easily reviewed by the state board or the courts in light of such standards. The governing board may also deny permits for discharges that would not be comparable to water quality *improvement* objectives set out in the state plan. This subsection is original.

(3) The procedure for permit applications shall be governed by the provisions of section 1.18 of this code. All information required by such form must be furnished and when information filed by any person pursuant to this section is not adequate in the judgment of the governing board, the board may require such person to supply such additional information as it deems necessary.[102]

COMMENTARY. This subsection provides for permit application forms and states that the requisite information must be furnished thereon before the governing board takes action on the application. Much of the language in the last sentence is taken from the California Water Code; [103] the rest is original.

(4) No discharge into the waters of the state pursuant to the terms of a permit issued under this section shall create a vested right to continue such discharge. All discharges into waters of the state are privileges, not rights.

COMMENTARY. While every effort should be made to protect the economic security of permit users, permission to discharge under a permit cannot be considered a vested right. There is no such right at common law, and any tendency in that direction would be inimical to the concept

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[102] **§1.18 Application and Notice**

(1) Applications for a permit required under the provisions of this code shall be filed with the water management district on an appropriate form provided by the governing board.

(2) Upon receipt of the application the governing board shall cause a notice thereof to be published in a newspaper having general circulation within the affected area. The notice shall be published at least once a week for two consecutive weeks. In addition, the governing board shall send a copy of such notice to any person who has filed a written request for notification of any pending applications affecting this particular designated area. This notification shall be sent by regular mail prior to the date of last publication.

(3) This section shall not be applicable to permits or licenses issued under the provisions of chapters three and six of this code.

[103] CAL. WATER CODE §13260 (e) (West Supp. 1970).

of comprehensive planning and development of water resources. This position is expressly stated in this subsection. It also appears in the California Water Quality Control Act.[104] This provision is particularly significant in connection with subsection (5) below.

(5) Permits may be modified, suspended or revoked by the governing board after a hearing pursuant to section 5.12 of this code:

(a) For any material false statement in the permit application.

(b) For wilful or negligent violation of the conditions of the permit.

(c) For refusal to allow inspection of facilities as provided under section 5.10 of this code.

(d) After a determination by the governing board that the water quality of the affected water has fallen below the water quality standards established by the state board pursuant to the water quality plan or any subsequent modification thereof.

(e) In order to protect the public health, safety, or welfare.

(f) To protect any domestic consumptive uses or water uses exercised pursuant to the provisions of chapter two of this code.

(6) Discharge permits shall be issued for a term of ten years. Renewals shall be treated in the same manner as initial applications.

COMMENTARY. Permits may be modified, suspended or revoked as a punitive measure for violations of the code. However, permits may also be affected by a change in the condition of the water source, the existence of new users, or new provisions in the state water quality plan. This does not mean that permittees are subject to loss of the right to discharge at the whim of the state or governing board, but it does indicate that the nature of water resources requires that a continual adjustment of various discharges be made. In particular, this subsection should not be interpreted to give present users an absolute preference over future users on the basis of priority alone. Modification of the discharge permit, particularly when receiving water quality standards are upgraded or new users must be provided for, does not mean that the discharger's operation will be terminated. Rather, modification means that the discharger must take some measures to adjust the volume or strength of his effluent. This may indicate that additional treatment will be required. However, the same condition would theoretically obtain under the common law in a reasonable-use jurisdiction when a riparian initiated a new use. These subsections are original.

5.09 *Pollution of Underground Waters; Permits*

(1) No person shall use any cavity, sink, driven or drilled well for the purpose of draining any surface water or discharging any sewage, industrial or other wastes into the underground waters of the state

[104] *Id.* at §13263 (g).

without first obtaining a discharge permit from the governing board under the provisions of section 5.08 of this code.

(2) This section shall not limit the exercise by the state board of health of any powers delegated to it by statute over the underground waters of the state.

COMMENTARY. Water demands are satisfied from both surface and ground water sources. These sources are both subject to pollution, but of the two ground water pollution is much more difficult to correct.[105] Once a ground water source becomes contaminated, it may remain in that condition for years, whereas surface water sources flush themselves regularly.[106] Since the definition of waters of the state covers ground water, all provisions of chapter five are applicable to it. However, since many pollution control statutes exclude or ignore ground water, it was felt that it should be expressly included.

It should be emphasized that salt-water intrusion is distinguished from water quality insofar as chapter five is concerned. The governing board's powers over salt-water intrusion are exercised through section 1.21 which establishes a salt-water barrier line and through the various provisions of chapter two and chapter three. This section is taken, with minor changes, from the Florida statutes.[107]

5.10 *Inspections*

(1) The governing board shall have the power to enter at reasonable times upon any private or public property other than dwelling places for the purpose of inspecting and investigating conditions relating to water quality.

COMMENTARY. This power has already been delegated to the governing board in §1.16(2).[108] However, subsections (2) and (3) provide some elaboration. This subsection is a somewhat modified form of the inspection provision in the Suggested State Act.[109]

(2) Such investigation shall include such engineering studies, bacteriological, biological, and chemical analyses of the water and location and character of the source or sources of contamination as may be necessary.

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[105] MURPHY, *supra* note 93, at 14–15 (1961).

[106] WRIGHT, THE COMING WATER FAMINE 114–55 (1966).

[107] FLA. STAT. §§387.02, 387.03, 387.09 (1967).

[108] **§1.16 General Powers and Duties of the Governing Board**

In addition to the other powers and duties allowed it by this code, the governing board is authorized to: (2) enter at all reasonable times upon any property other than dwelling places for the purpose of conducting investigations and studies or enforcing any of the provisions of this code, being liable, however, for actual damage done.

[109] SUGGESTED STATE ACT §9 (a).

COMMENTARY. This subsection was taken from the Iowa statutes.[110] It indicates the extent to which studies and investigations may be made.

(3) The governing board may require the maintenance of records relating to the operation of disposal systems, and any authorized representative of the governing board may examine and copy any such records or memoranda pertaining to the operation of disposal systems. Copies of such records shall be submitted to the state board upon request.

This subsection is taken from the Suggested State Act.[111]

5.11 *Fees*

The state board may establish fees for the issuance and renewal of any permits established under this chapter. All funds collected under this provision shall be credited to the water development account.

COMMENTARY. Fees for the issuance of discharge permits could be nominal, or they could be such as to resemble an effluent charge that is proportioned to the volume and strength of the effluent discharged. In the latter case, such fees could contribute significantly to the financing of the water quality program. This section is modeled after a provision of the Model Water Use Act [112] which deals with consumptive use permits.

5.12 *Administrative Enforcement*

(1) If the governing board has reason to believe that a violation of any provision of this chapter has occurred, it shall serve written notice upon the violator. The notice shall specify the provision of the code, or regulation alleged to be violated, and the facts alleged to constitute a violation thereof, and may include an order that corrective action be taken within a reasonable time.

(2) If, after a hearing under the provisions of section 1.19,[113] the gov-

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[110] IOWA CODE ANN. §455 B. 12 (West Supp. 1969).

[111] SUGGESTED STATE ACT §9 (b).

[112] MODEL WATER USE ACT §415 (1958).

[113] **§1.19 Proceedings before the Governing Board**

(1) All proceedings before the governing board concerning the issuance, modification and revocation of permits or the enforcement of any provision of this code by the governing board shall be conducted in accordance with the provisions of this section.

(2) Parties affected by action of the governing board shall be timely informed by the governing board of the time, place, and nature of any hearing; the legal authority and jurisdiction under which the hearing is to be held; and the matters of fact and law asserted. In fixing the time and place for hearings, due regard shall be had for the convenience and necessity of the parties or their representatives.

(3) The governing board is authorized to administer oaths to witnesses, make findings of fact and determinations of law, and otherwise regulate the course of the hearing.

(4) (a) The governing board may require the production of books, papers, or other documents and issue subpoenas to compel the attendance and testimony of witnesses.

(b) If any person shall refuse to obey any subpoena as issued or shall refuse to testify or produce any books, papers, or other documents required by the subpoena, the governing

erning board finds that a violation has occurred it shall affirm or modify its order previously issued, or issue an appropriate order or orders for the prevention, abatement or control of the condition involved or for the taking of such other corrective action as may be appropriate.

(3) Any order issued under subsection (1) above shall become effective after ten days unless a hearing is requested. However, any order issued after a hearing may prescribe the date by which the violation shall cease by fixing reasonable timetables for necessary action.

(4) If after a hearing the governing board finds that no violation is occurring, it shall rescind the order issued under subsection (1) above.

(5) The governing board may enforce its orders by injunction pursuant to the provisions of section 5.14 of this act.

COMMENTARY. Enforcement has consistently been a major weakness of state pollution regulation.[114] The non-enforcement problem is rooted in the essential unwillingness of the control agency to bring the full weight of the enforcement machinery to bear on the polluter.[115] To the

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board may petition the circuit court of the county where such person is served with subpoena or where he resides to issue its rule nisi to such person requiring him to obey the same unless such person shows sufficient cause for failing to obey said subpoena. The governing board shall deposit with said court when such subopena is issued in its behalf, the per diem and mileage allowable to secure the attendance of such witnesses.

(5) The governing board or any party to a proceeding before it may cause the deposition of witnesses residing within or without the state to be taken in the manner prescribed by law for deposition in civil actions before the circuit courts of this state.

(6) A full and accurate record of proceedings before the board shall be taken and shall constitute the sole record for the purposes of judicial review.

(7) Each witness who appears by order of the governing board shall receive for his attendance the same fees and mileage allowed by law to witnesses in civil cases, which shall be paid by the parties at whose request the witness is subpoenaed.

(8) The governing board shall not be bound by the technical rules of evidence but may exclude irrelevant, immaterial or unduly repetitious evidence. Parties to the hearing shall have the right to present their case or defense by oral or documentary evidence, to cross-examine, and to submit rebuttal.

(9) The governing board is authorized to hold conferences for the purpose of consolidating applications for a hearing, selecting dates for a hearing satisfactory to the parties, exploring all feasible methods to eliminate surprise and delay and to shorten the hearing, including arrangements for the parties in advance of the hearing to exchange written qualifications of professional expert witnesses, and maps, charts, engineering analyses and other items contemplated for introduction as evidence and to encourage stipulations among the parties directed toward the same or similar ends.

(10) When a number of applications are pending on a water source having a common factual background, the governing board may consolidate such applications for hearing and report the hearing by a common transcript.

(11) A hearing examiner may preside over any proceeding under this section before the governing board regarding issuance of a permit and, subject to final approval by the governing board, exercise in its name any and all of the powers enumerated in this section.

[114] Stein, *Programs in Water Pollution*, 2 NAT. RES. J. 388, 406 (1962).

[115] Hines, *supra* note 4, at 227.

largest group of polluters, private industry, pollution control is not "economical" from the standpoint of corporate profit, and industry generally is not concerned with aesthetic and recreational interests.[116] Extreme measures are seldom required against industrial polluters, however, because the threat of adverse publicity is often sufficient to insure compliance. In the recent efforts to abate pollution of the Detroit River in Michigan, which involved some controversial proposed orders by the state agency, every polluter ultimately signed a stipulation with the commission, and no cases went to final adjudication. This appears to be the general pattern throughout the nation. While there is no single explanation for this pattern, certainly a major reason is the strong desire by those charged with pollution to avoid adverse publicity.[117]

On the other hand, enforcement against municipal pollution is often more complex. Municipalities have always posed a dilemma in state enforcement of pollution control laws. Minnesota has found a rather drastic solution to the problem. When a municipality fails to comply with pollution abatement orders, state legislation authorizes the control agency to assume the powers of administrative officers of the municipality relating to construction, installation, or operation of treatment facilities.[118] The agency may also compel cooperation between two or more municipalities if such cooperation is determined to be necessary.[119] There is no specific provision in the Model Water Code regarding enforcement against cities; since financial problems are usually responsible for noncompliance, it is hoped that the agency will be in a position to offer financial aid for treatment facilities in order to make compliance possible.

The governing board utilizes the same procedures in determining whether a violation of this chapter has occurred as it does in administering other provisions of the Code. It should be emphasized that this procedure is the normal one used in all but extremely urgent cases of pollution. The governing board's order must allow a reasonable amount of time for corrective action; however, financial inability is no defense for noncompliance. The order becomes final in ten days unless the defendant requests a hearing. If the governing board affirms its order after the hearing, the polluter will still have a reasonable time to comply. Again, however, financial hardship alone will not normally justify such an extension.

Some of the practical problems of instituting such hearings, and enforcing orders will involve the determination of the source and nature of the particular stream or other pollution problem, securing the necessary evidence of pollution, such as chemical analysis of water, and other matters.[120] This section is adapted with some modifications from the notice

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[116] MURPHY, *supra* note 93, at 136.
[117] SAX, *supra* note 11, at 388.
[118] MINN. STAT. ANN. §115.48 (1964).
[119] *Id.* at §115.49.
[120] Quesseth, *supra* note 45, at 291–92.

and hearing provisions of the Florida Air and Water Pollution Control Act.[121]

5.13 *Summary Abatement*

(1) The governing board may order any person to abate, terminate, modify or decrease pollution which constitutes, or threatens to become, an immediate and serious hazard to public health, safety, and welfare, or a serious and immediate hazard to fish or wildlife.

COMMENTARY. Summary abatement proceedings may be used to cope with extremely serious cases of water pollution. The governing board under the Code, however, is authorized to make use of this remedy in cases of a serious and immediate hazard to fish and wildlife as well.

The phrase "serious and immediate" constitutes the standard which must be applied in connection with this section. "Serious" refers to either irreparable harm or to very extensive harm. A large fish kill, for example, may be extensive because it causes substantial harm to many species. On the other hand, the total destruction of a rare species may be irreparable without being extensive in relation to the total ecology of the area. Summary abatement would be available in either case.

The term "immediate" means that the damage would occur within the ten day period before an order issued under section 5.12 becomes effective. This subsection is original but bears some resemblance to the Model Water Use Act §603 (a) (1958).

(2) Orders issued under this section shall be final and conclusive unless the affected person requests a hearing pursuant to section 1.19 of this code within ten days after receipt of a copy of the order.[122]

COMMENTARY. This subsection was taken from the Model Water Use Act §603 (b) (1958).

(3) If a hearing is requested, the orders of the governing board shall not be stayed during pendency of the hearing or any review thereof.

COMMENTARY. This subsection differs somewhat from the Model Water Use Act from which it is derived. Under the Model Water Use Act, the orders of the control agency will be stayed unless the agency determines that a danger to public health or safety exists. This implies that summary abatement is available under the Model Water Use Act under circumstances where this remedy would not lie under the Model Water Code. Under the Code, orders of the governing board will not be stayed pending appeal. It is the drafters' belief that summary abatement should only be available in cases of genuine emergency. The fact that an appeal is made from the order will have no effect on the emergency condition itself.

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[121] FLA. STAT. §403.121 (1967).

[122] MODEL WATER CODE §1.19.

The Model Water Code differs in one material respect from the Model Water Use Act in that under the latter no provision is made for the protection of fish and wildlife. Under the Model Water Use Act the agency's orders will not be stayed if "public health and safety may be adversely affected." Under the Model Water Code, however, the agency's orders will not be stayed under any circumstances, including those instances where only fish and wildlife are adversely affected. This subsection is modeled after the Model Water Use Act §603 (c) (1958).

5.14 *Injunctions*

(1) Whenever it shall appear that any person, as defined in section 1.03 (5) of the code, is causing or threatens to cause an impairment of water quality in violation of any order of the governing board, the governing board may institute proceedings in a court of competent jurisdiction for injunctive relief from the appropriate circuit court to prevent the continuance of such action.[123]

(2) In a petition for injunctive relief, any previous findings of the governing board after due notice and hearing shall be prima facie evidence of the fact or facts found therein. The court shall grant the injunction without the necessity of showing a lack of adequate remedy at law upon a showing by the governing board that such person is violating or is about to violate the provisions of this code or is violating or about to violate any order or determination of the governing board with respect to this code.

(3) In such suit, the governing board may obtain injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions as the facts may warrant.

(4) No provision of section 1.20 [124] shall apply to this section.

COMMENTARY. Injunctive relief is the ordinary method of enforcing orders of the governing board if voluntary compliance is not forthcoming, although criminal penalties are also available. The Suggested State Act also provides for injunctive relief as a means of enforcing orders of the regulatory agency,[125] but the state attorney general, rather than the agency itself, must bring the action. The Model Water Use Act has no specific provision for injunctive relief other than a general authorization of the agency to seek judicial enforcement of its orders.[126]

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[123] **§1.03 Definitions**

When appearing in this code or in any rule or regulation adopted pursuant thereto, the following words shall mean:

(5) Person—any and all persons, natural or artificial, including any individual, firm, association, organization, partnership, business trust, corporation, company, the United States of America, the State and all political subdivisions, districts, municipalities and public agencies thereof.

[124] MODEL WATER CODE §1.20.

[125] SUGGESTED STATE ACT §10.

[126] MODEL WATER USE ACT §202 (8) alt. 2. (1958).

A water user against whom an injunction has been obtained may appeal only through the courts. No provision for such an appeal is specifically made in the statute, so the state administrative procedure act would apply. Normally, a water user could appeal an order of the governing board to the state board under section 1.20 of the Code.[127] Since an injunction would issue only where the polluter has refused to avail himself of the hearing provisions of section 5.12 or has refused to comply with a final order of the governing board, no further administrative appeal would lie.

Subsections (1) and (2) were taken from the Suggested State Act.[128] Subsection (3) appears in a section of the Florida statutes concerning the authority of the State Board of Conservation over oil and gas drilling operations.[129] Subsection (4) is original.

5.15 *Civil Penalties*

(1) Whoever causes pollution of the waters of the state which results in harm to the fish or fish food, or which results in other damage is liable to the state for damages and the reasonable costs and expenses of the state incurred in tracing the source of the discharge and in restoring the waters to their former condition.

(2) Upon the request of the state board or any state agency or the alleged violator, the governing board may consider and assess these damages. If the amount so assessed is not paid within ninety days, the governing board may institute civil action in the appropriate court for a judicial determination of liability and damages.

(3) All funds received by the state board pursuant to this section shall be deposited in the water resources development account.

(4) Nothing herein shall give the governing board the right to bring an action on behalf of a private person. Nothing herein shall prohibit the governing board from proceeding forthwith to obtain a judicial determination of the liability and damages.

COMMENTARY. This provision allows the governing board to force polluters to pay the costs of restoring a watercourse to its former state. The governing board may assess damages itself or institute a civil suit for damages. It should be noted that this section does not apply to every impairment of water quality, but only to pollution as defined in section 5.01 (3) of the Code.

Subsections (1), (2) and (4) are taken from a Florida statute.[130] Subsection (3) is original.

5.16 *Local Jurisdiction: Conflicts*

No provision of this chapter or any ruling of the state board or a governing board is a limitation:

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[127] MODEL WATER CODE §1.20.

[128] SUGGESTED STATE ACT §10 (b).

[129] FLA. STAT. §377.34 (1) (1967).

[130] *Id.* at §403.141.

(1) On the power of any local governmental agency to adopt and enforce additional regulations, not in conflict therewith, imposing further conditions, restrictions, or limitations with respect to the disposal of waste or any other activity which might impair water quality.

(2) On the power of any state or local governmental agency to declare, prohibit, and abate nuisances.

(3) On the power of any state agency in the enforcement or administration of any provision of law which it is specifically permitted or required to enforce or administer.

(4) On the right of any person to maintain at any time any appropriate action for relief against pollution under the common law.

COMMENTARY. Those counties and municipalities which seek to enforce stricter controls over water quality are free to do so under the Model Water Code. Several Florida counties presently have pollution control programs and a number of others are planning to establish their own programs. State agencies, such as state boards of health or fresh water fish and game commissions, may also continue to exercise some powers over water quality.

Subsection (4) guarantees the common law remedies against pollution. This section is taken from the California Water Code.[131]

CONCLUSION

Do the weaknesses of current state pollution abatement efforts require abandonment of the area in favor of a federally conceived and directed program? While local remedies are not appropriate for the control of large-scale interstate pollution, the drafters of the Model Water Code feel that they still may be applicable to a broad program of statewide water quality control.

Failure of the states to take affirmative enforcement measures may ultimately lead to further federal intervention. In the final analysis, however, the nature and extent of federal intervention will probably be determined by the success of the state pollution abatement programs. In turn, the likelihood of an effective state response to water pollution will depend on both the authority and financial support the states make available to their pollution control agencies.

In the past there has been a tendency at both state and federal levels to provide legal authority but not the financial support necessary for effective enforcement, then to blame the administrative agency for its failure to properly utilize the tools it had available, and finally to transfer the enforcement responsibility to a new agency. Increased emphasis, therefore, must be given to adequate financial support for state pollution enforcement agencies.

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[131] CAL. WATER CODE §13002 (West Supp. 1970).

Furthermore, if the water quality control agency is to function effectively, it must proceed after careful statewide planning and not on the case-by-case basis that has characterized past state enforcement action. States must also recognize that water pollution is a consumptive use of water. From this viewpoint, it is appropriate to make one state agency responsible for both types of consumptive uses, since effective pollution control, which makes water available for use or reuse, is often the most effective way of conserving a state's water supplies.

The primary purpose of the Model Water Code, including this chapter, is to provide a model for the development of a comprehensive regulatory program which would take into account the hydrologic interrelationship of all types of water resources in the state, provide greater certainty to water rights than is possible under the common law, and still retain sufficient flexibility through the use of limited permits and the establishment of an administrative agency to make realistic long-range plans for the conservation and wise use of the state's water resources and the elimination of waste. In the final analysis, however, it must be remembered that the mere passing of laws and transferring of authority will not solve the technical and fiscal problems that must be faced if the state is to achieve a truly successful program of water resources management. State regulation of water quality will be only as effective as the enforcement that the people of the state are willing to support and pay for. It is the hope of the authors that the model presented herein may provide a modern and efficient mechanism for the achievement of that desired goal.