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The importance of ecology is being given its just recognition. All of the processes of life are based upon a complex and tenuous balance of nature and one of the most important weights on the scales is the estuarine complex. In this article, Mr. Heath emphasizes the importance of the conservation of our estuaries and after detailed observations of selected progressive state programs, he offers some model legislation for estuarine studies and management that would provide for a most effective method of conservation.

ESTUARINE CONSERVATION LEGISLATION IN THE STATES

*Milton S. Heath, Jr.**

"Bending your beauty aside, with a step I stand
On the firm-packed sand,
Free
By a world of marsh that borders a world of sea."
—Sidney Lanier, *The Marshes of Glynn*[1]

I. INTRODUCTION

An occasional poet has celebrated the estuaries of our land—the marshes, bays, sounds, inlets, and wetlands that line our coasts. And hunters, fishermen, and other solitaries have long tracked their vast areas. But, for much of our history, the estuaries have been largely untouched by permanent human in-roads. We have left them mainly to their natural denizens—shellfish, crustecea, finfish, and wildlife.

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1. LANIER, "The Marshes of Glynn," SELECTIONS FROM SIDNEY.

Offered the choice these original settlers doubtless would not have had it otherwise. Their reasons? . . . The very best:

> The esuarine complex is generally very fertile and productive of plant and animal life—more productive, in general, than either land or sea. This is due in large measure to the dynamics of the tidal cycles, which mixes fresh water with its burden from the land—all too often humus and the best top soil—with the mineral-rich sea water and the organic products of underwater decay that are not allowed to stay settled on the bottom.
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> Thus, a sort of constantly stirred rich broth is provided in a sheltered environment for small and microscopic plant and animal plankton to form the abundant food for successively higher links in the food chains that make up a web of life. The result is phenomenal. Perhaps two-thirds of all coastal sport fish are estuary-dependent during part of their lives.
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> Some single estuaries are the spawning grounds, nurseries, or growing-up places for two dozen or more species of commercially important shellfish, crustecea, and finfishes.[2]

But times are changing in the estuaries, as elsewhere.

Pollution of estuarine waters by soluble and solid wastes is taking an inevitable toll in reduced estuarine productivity. The pollution problem, though, is not unique to estuaries, and its solution in the coastal zone must almost necessarily be part of a larger scheme of management and control.

There is another source of restricted estuarine productivity, at the same time more tractable than water pollution and more localized in origins to the coastal zone: *i.e.,* physical alterations by man that reduce acreage of estuarine marshes and open waters. In 1967 the U.S. Fish and Wildlife Services tabulated that the 20-year record of loss of fish and wildlife estuarine habitat along the ocean coasts and Great Lakes shores. Their estimates showed that during this

2. *Hearings on Estuarine Areas before the Subcommittee on Fisheries and Wildlife Conservation of the House Committee on Merchant Marine and Fisheries,* 90th Cong., 1st Sess., 29 (1967).

period over 7 percent of the "basic area of important habitat" had been destroyed by dredging and filling. The percentage of habitat destroyed ranged to a high of 10 percent in New Hampshire, 10.3 percent in Connecticut, 13.1 percent in New Jersey, 15 percent in New York, and 67 percent in California.[3]

This article is concerned primarily with State legislation and programs addressed to estuarine problems, and more specifically, to the problems caused by physical alteration of the coastal zone. Initially, though, a brief sketch of the Federal background is in order.

The problems of our estuaries—both on their own account and as part of a broader front of marine resources problems generally—have recently generated a mounting crescendo of concern.[4] Federal interest has been expressed, in broad terms, through such congressional legislation as the Marine Resources and Engineering Development Act of 1966 and Sea Grant College and Program Act of 1966.[5] The former Act established a Cabinet level National Council of Marine Resources and Engineering Development in the Exe-

3. *Id.* at 31.

4. Estuarine problems have been the subject of a number of Congressional Committee hearings. *See generally, Hearings on the Nation's Estuaries: San Francisco Bay and Delta, California, before the Subcommittee on Conservation and Natural Resources of the House Committee on Government Operations,* 91 Cong., 1st Sess. (1969); *Hearings on the National Oceanographic Program before the Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries,* 91st Cong., 1st Sess. pts. 1 & 2 (1969). They have also generated a number of professional conferences, seminars and symposia—*e.g., Seminar on Law and the Coastal Margin,* sponsored by the Gulf Universities Research Corporation, September, 1968; *Seminar on Multiple Use of the Coastal Zone,* sponsored by the National Council on Marine Resources and Engineering Development, Williamsburg, Virginia, November, 1968; *Conference on Coastal Zone Management,* sponsored by the Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries, Washington, D.C., October, 1969; *First Annual Institute of Ocean Law,* sponsored by University of Miami Law Center and the International Oceanographic Foundation, Miami, Florida, December, 1969; *Seminar on Development of the Coastal Zone,* University of South Carolina College of Engineering, Columbia, South Carolina, January, 1970; *Conference on Management Systems for Resources of the Coastal Zone,* sponsored by Clemson and North Carolina State Universities, Charleston, South Carolina, (to be held June, 1970). Estuarine management and conservation is also becoming a subject of lively concern for state government. *See* footnotes 15-58 *infra,* and *see* THOMPSON AND CO., A PERSPECTIVE OF REGIONAL AND STATE MARINE ACTIVITIES, AND STATE AND LOCAL GOVERNMENT ACTIVITIES AND ROLES IN MARINE SCIENCE, ENGINEERING AND DEVELOPMENT (Clearinghouse for Federal Scientific and Technical Information No. PB 177765 and 177764, 1968).

5. 33 U.S.C. §§ 1101-1108, 33 U.S.C. §§ 1121-1124.

cutive Office of the President, and a separate advisory study group, the Commission on Marine Science, Engineering and Resources. The National Council has published three annual reports that are a mine of information concerning oceanographic, marine, and coastal zone subjects.[6] The Commission has published its final report embodying a comprehensive plan for national action on "a broad array of marine problems ranging from the preservation of our coastal shores and estuaries to the more effective use of the vast resources that lie within and below the sea."[7]

The earliest Federal proposals of the past decade concerning estuarine protection contemplated a strong, centralized Federal control over dredging and filling activities in coastal wetlands. For example, the Dingell Bill, H.R. 25 introduced in 1967 by Rep. Dingell (90th Congress, 1st Session) would have required a permit from the Secretary of Interior (in addition to other permits required by law) for dredging and filling in any estuary of the United States. Such a permit could have been denied if the Secretary determined that the proposed work "will reduce the quality of the affected waters below applicable water quality standards, or . . . will unreasonably impair the natural values of any estuary."[8] Under these very broad standards, Federal views and determinations would almost certainly have superseded any contrary State position. Similar legislation had been before Congress a year earlier, in the preceding session.[9]

The federalized spirit of the Dingell Bill and its companions and relatives has not yet prevailed in Congress, although it may resurface again. The general tenor of more recent Federal proposals has been much more deferential to

6. NATIONAL COUNCIL ON MARINE RESOURCES AND ENGINEERING DEVELOPMENT; FIRST ANNUAL MARINE SCIENCES REPORT OF THE PRESIDENT, MARINE SCIENCE AFFAIRS—A YEAR OF TRANSITION (1967); SECOND ANNUAL MARINE SCIENCES REPORT OF THE PRESIDENT, MARINE SCIENCE AFFAIRS—A YEAR OF PLANS AND PROGRESS (1968); and THIRD ANNUAL MARINE SCIENCES REPORT OF THE PRESIDENT, MARINE SCIENCE AFFAIRS—A YEAR OF BROADENED PARTICIPATION (1969).

7. REPORT OF U.S. COMMISSION ON MARINE SCIENCE, ENGINEERING AND RESOURCES, OUR NATION AND THE SEA—A PLAN FOR NATIONAL ACTION, (1969).

8. H.R. REP. No. 25, § 12(b), 90th Cong., 1st Sess. (1967) (and related bills H.R. REP. No. 1397, 4755, 4780, 6174, 6512, 6719, and 6851).

9. H.R. REP. No. 13, 447, 89th Cong., 2nd Sess. (1966).

State jurisdiction. The 1969 Report of the Commission on Marine Science found that "the States must be the focus for responsibility and action in the coastal zone," and it recommended legislation to facilitate by Federal grants "the establishment of State Coastal Zone Authorities empowered to manage the coastal waters and adjacent land."[10] Bills to implement this approach are now pending in both houses of Congress (S. 2802 and H.R. 14,730).[11] Although the Adminsstration Bill on this subject has not yet been introduced, early indications are that it too will be consistent with this Commission recommendation.[12]

Until further legislation is adopted on the subject, the principal avenue for federal action will remain a system of permits administered by the Secretary of the Army covering any work that will affect "navigable waters" under the Rivers and Harbors Act of 1899.[13] As this law has been applied, its geographical scope has been narrower than that of the Dingell bill and of most of the State coastal wetlands legislation discussed in this article. In administering this permit requirement, the Secretary of the Army (acting through the District Engineers' Offices of the U. S. Army Corps of Engineers), has given substantial weight to the views of State agencies, which are broadly circularized by the Corps.[14]

II. EXPERIENCE IN THE STATES[15]

A. *General Summary*

(1) *Planning Programs.* Extensive planning programs for estuarine conservation and management have been undertaken, and in some instances completed, in California, Flori-

10. U.S. COMMISSION ON MARINE SCIENCE, ENGINEERING AND RESOURCES, *supra* note 7, at 55-57.
11. S. REP. No. 2802, H.R. REP. No. 14, 730, 91st Cong., 1st Sess. (1969).
12. N. Y. Times, Oct 19, 1969, at 45, col 1.
13. 33 U.S.C. § 403 (1964).
14. See, HEATH, STATE PROGRAMS FOR ESTUARINE AREA CONSERVATION 3 (of the Univ. of N. C. Institute of Government, 1968).
15. The information contained in this section is derived from a review of the applicable state laws and from correspondence with State agencies responsible for estuarine management, supplemented by information from Mr. George P. Spinner, Project Director for the Marine Resources Committee.

da, Maryland, Massachusetts, New Jersey, North Carolina, and Oregon. The completed California planning program involved San Francisco Bay and included interim permit controls over dredging and filling during the planning period; its twenty-three research and planning studies were budgeted at nearly one-quarter million dollars a year for several years.[16] The State of California is now involved in developing a comprehensive ocean area plan, to be submitted to the 1972 Legislature.

(2) *Regulation.* A common denominator of regulation in all or most of the states is participation in Corps of Engineers navigation permit proceedings, general water pollution control laws, fish and game regulations, and some controls exercised in conjunction with disposal or lease of state owned and underwater lands.

Legislative controls going beyond these routine features include—

(a) Permit requirements for dredging, filling and other alterations in coastal wetlands (Connecticut, Massachusetts, Maine, New Hampshire, North Carolina, and Rhode Island).[17] These laws usually go beyond the Corps of Engineers permits and state lands controls, in that the wetlands permits apply to privately owned uplands, not merely to state owned lands under navigable waters. In Massachusetts, the wetlands controls are accompanied by power to condemn lands if a "taking" is involved. In addition to its permit law, Massachusetts has enacted a related statute that permits a "rule-making" approach, authorizing the adoption of regulations to control wetlands alteration on a regional basis.[18]

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16. SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION, SAN FRANCISCO BAY PLAN 3 (1969).

17. No. 695, [1969] CONN. PUB. ACTS; MASS. GEN. LAWS ch. 130, § 27A (1965). ME. REV. STAT. ANN. §§ 12-4701 to -4702 (1964); N.H. REV. STAT. ANN. § 483:A:1 (1966); N.C. GEN. STAT. § 113-229 (1965); R.I. GEN. L. ANN. § 11-46.1-1 (1956).

18. MASS. GEN. LAWS ch. 130, § 105 (1932).

(b) Establishment of bulkhead lines to control leasing (Texas) or dredging and filling (Florida).[19]

(c) As previously noted, interim permit controls over dredging and filling o fcoastal marshlands were adopted by a regional agency in California, to forestall development during the planning period of the agency's program.[20]

(d) Some efforts have been made to use local zoning machinery for coastal marshland preservation, but such efforts have encountered serious legal obstacles in more than one state.[21] The State of Delaware has reflected on its Comprehensive Plan Map some coastal wetlands for conservation purposes. County zoning has been completed throughout the State.

(3) *Acquisition.* Massichusetts has enacted authority to acquire lands by condemnation if a "taking" is found by the court which reviews proposed wetland regulation.[22] At least three states have legislative authority for condemnation of estuarine lands, (Connecticut, New York, and North Carolina).[23] Most of the state programs, however, must rely on voluntary acquisition.

While land acquisition for estuarine conservation has been conducted only on a limited scale in most coastal states, extensive programs are underway or being planned in several states involving thousands of acres of land. States with substantial acquisition programs or plans include New Jersey, North Carolina, California, Maine, Connecticut, Rhode Island and Delaware. State acquisition is often supplemented by acquisition by private conservation groups and federal agencies.

19. FLA. STAT. §§ 253.122-123 (1965); TEXAS REV. CIV. STAT. art. 5415(e), (f) (1948) (temporary moratorium on permits).
20. CAL. GOV'T CODE § 7.2 (West, 1966).
21. Dooley v. Town Zoning Comm. of the Town of Fairfield, 151 Conn. 304, 197 A.2d 770 (1964); Morris Co. Land Dev. Co. v. Township of Parsippany-Troy Hills, 40 N.J. 539, 193 A.2d 233 (1963). *See* Heath, STATE PROGRAMS FOR ESTUARINE AREA CONSERVATION 5-8 (Institute of Government of the Univ. of N.C., 1968).
22. MASS. GEN. LAWS ch. 130, § 105 (1932).
23. CONN. GEN. STAT REV. § 26-17a (1968); N.Y. CONSERV. LAW § 423 (McKinney, 1967); N.C. GEN. STAT. § 113-226(a).

New York has pioneered a program of state-local cooperation under the Long Island Wetlands Act. This provides for state cost sharing in maintenance, operation and development of locally owned wetlands that have been dedicated to conservation purposes.[24]

(4) *Coordinated Regulation and Acquisition.* A coordinated program of regulation and acquisition is well illustrated by Florida's recently initiated statewide system of aquatic preserves. In these preserves (twenty-five of which are projected for the entire state) no more state-owned submerged lands would be sold, and no dredge or fill permits would be issued. An aquatic preserve will be established for biological or aesthetic or scientific reasons, singly or in combination.[25]

(5) *Budget.* Low levels of funding for land acquisition or reguulation programs have often hampered state estuarine conservation activities, but there are exceptions. For example, the State of Maine has spent $5 million for park lands plus $20,000 annually for water fowl wetlands. Connecticut is spending about $200,000 in the current biennium for acquisition, after spending about $500,000 in the preceding biennium. California's planning budget has been substantial (almost one-quarter million dollars annually for several years). North Coralina is spending in the current biennium $500,000 for acquisition, almost $100,000 for estuarine planning, and about $80,000 for staff services. Passage of a multi-million dollar Green Acres bond issue by New Jersey voters in 1964 has resulted in large state salt-marsh acquisitions. In other states substantial operating and acquisition budgets may evolve for some programs now in the planning state or just getting underway. Use of U. S. Land and Water Conservation funds for estuarine acquisitions represents a significant potential funding source.

(6) *Program Goals.* For most of the states only limited information is available on program goals, except in broad

24. N.Y. CONSERV. LAW §§ 360 (e), 394 (McKinney, 1967).
25. FLORIDA INTER-AGENCY ADVISORY COMMITTEE ON SUBMERGED LAND MANAGEMENT, A PROPOSED SYSTEM OF AQUATIC PRESERVES (Rep. No. 2 to Trustees of the Internal Improvement Fund, 1968).

terms suggestive of holding the line to the extent feasible, or of attempting to acquire or control all remaining undeveloped acreage. Among states or areas that have established fairly definite program goals are Florida (with its 25 projected aquatic preserves) and the San Francisco area (with its completed Bay Plan).

(7) *Agency.* A considerable diversity of administering agencies exist. In several states (Massachusetts, New York and Rhode Island) there is coordinated administration by several operating divisions of a single natural resources department, though with some local participation in control decisions. Administration is divided in most other states among several agencies. Combined boards, such as the Maine Wetlands Control Board, are used in several New England states to make decisions on permits for wetland alterations or leasing of state lands.

(8) *Coordination.* Little formal provision appears to be made for coordination of development and conservation, except by boards with diverse representation(such as the wetlands control boards) or in the exceptional case where all affected program interests are concentrated within a single state department. The general pattern is one of informal coordination among affected state agencies.

9. *Litigation.* There has been a great quantity of litigation in the coastal states concerning ownership of tidelands, marshlands and other estuarine lands. The cases have been summarized and analyzed at length in standard texts and treatises,[26] as well as in monographs concerning the law of particular states.[27] The content of these cases is a rich mix-

26. 1 WATERS AND WATER RIGHTS §§ 6, 36 (Clark ed. 1967); 1 WATERS AND WATER RIGHTS § 36 (1904); 1 SHALOWITZ, SHORE AND SEA BOUNDARIES 83 (U.S. Dep't of Commerce, 1969); 2 SHALOWITZ SHORE AND SEA BOUNDARIES 453 (U.S. Department of Commerce, 1962).

27. 1 HEYMAN, POWERS: REGULATION—LEGAL QUESTIONS, (Report Prepared for San Fransisco Bay Conservation and Development Commission, vol. 1, 1968); PLAYGER AND MALONEY, CONTROLLING WATERFRONT DEVELOPMENT, (Pub. Admin. Clearing Service of the U. of Fla. Studies in Public Administration No. 30, 1968); HEATH, STATE PROGRAMS FOR ESTUARINE AREA CONSERVATION, (Institute of Government of the Univ. of N.C., 1968); RICE, ESTUARINE LANDS OF NORTH CAROLINA—LEGAL ASPECTS OF OWNERSHIP, USE AND CONTROL, (Institute of Government of the Univ. of N.C., 1968); Clineburg and Krahmer, THE LAW PERTAINING TO ESTUARINE LANDS IN SOUTH CAROLINA, (Univ. of S.C. School of Law, 1969).

ture of legal rules, together with equitable principles such as the so-called "public trust" concept—a doctrine which places some limitations, rarely if ever precisely defined, upon the transfer by State Governments or other public entities of submerged lands and other publicly-owned trust property.[28]

In sharp contrast to the plethora of case law concerning ownership of estuarine lands is the dearth of reported cases interpreting and applying the State statutes and regulations governing alteration of coastal wetlands. There is one leading case on the subject, which interpreted the Massachusetts dredge and fill permit statute, *Commissioner of National Resources et al. v. S. Volpe & Co., Inc.*[29] In *Volpe,* a suit was brought by the Massachusetts Commissioner of Natural Resources and Director of Marine Resources to enjoin the furtherance of a coastal marsh fill project, which was part of a plan for construction of houses with water rights for boating in a channel and basin that were to be improved by dredging. The fill project would have violated a condition imposed by the Director against filling the marsh under the Massachusetts dredge and fill permit statute (see Item 2, supra). Defendant claimed that no use of any value could be made of the land without filling. A permanent injunction decree granted by the trial court was reversed by the Massachusetts Supreme Judicial Court. While the appellate court agreed that this application of the statute served a valid public purpose, it remanded the case for taking of further evidence needed to enable the court to competently pass upon the inherent just compensation question embedded in this case. The directions from the appellate court posed a series of questions to be explored, bearing primarily upon the issue: would property be "taken without just compensation" if there were no substantial possible use of the land (alone, or perhaps in conjunction with other land) while subject to the filling restriction which would yield the owner a fair return on his investment or on the fair market value of the land free of the restriction?

28. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention,* 68 MICH. L. REV. 473, 485-489 (1970).

29. 349 Mass. 104, 206 N.E.2d 666 (1965).

There was speculation that the ultimate response to these issues upon the return of the case to the appellate court would resolve unanswered questions concerning the constitutionality of estuarine protection laws.[30] However, no such answers, have been forthcoming, nor seem likely to be. The Commonwealth of Massachusetts, having encountered a highly unfavorable trial judge upon the remand of the case, concluded that the better part of wisdom would be to drop the case.[31] Since that time, the rule-making statute previously noted (Item 2, *supra*) has been enacted in Massachusetts, and the Department of Natural Resources now regards this statute as a far better vehicle for implementing its program objectives than the older dredge-and-fill permit statute.

The attorney whose advice is sought upon these issues can refer at best to the results of some more-or-less analogous decisions in related fields, such as flood plain zoning and wampland use regulation.[32] Commentators have pointed to several factors as likely to weigh significantly in the balance, *e.g.*:

> Landowners may validly be required to bear the external costs of their own actions, but government may not require owners to do something for the public benefit without compensation.[33] (Or, economic losses imposed by governmental enhancement of its resource position in its "enterprise capacity' 'must be compensated, but losses imposed by governmental action in its "arbitral capacity" need not be compensated.)[34]
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> Careful drafting of regulations to adequately spell out permitted profitable uses of land will (of course) enhance the chances of passing the test of constitutionality.[35]

30. HEYMAN, *supra* note 27, at 33-35, 75.
31. *Seminar on Multiple Uses of the Coastal Zone*, sponsored by the Nat'l Council on Marine Sciences and Eng'ring Dev., Williamsburg, Va., Transcript for November 13, 1968, at 135-137.
32. Dooley v. Town Zoning Comm. of the Town of Fairfield, 151 Conn. 304, 197 A.2d 770 (1964); Morris Co. Land Dev. Co. v. Township of Parsippany-Troy Hills, 40 N.J. 539, 193 A.2d 233 (1963).
33. Dunham, *A Legal and Economic Basis for City Planning*, 58 COL. L. REV. 650, 664 (1958).
34. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 63 (1964).
35. Beuchert, *Recent Natural Resources Cases*, 4 NATURAL RESOURCES J. 445 (1965).

> But, the courts have traditionally taken the view that every property owner must be afforded a reasonable range of alternative uses of his property, and the courts will be very reluctant to authorize "sterilization" of land through land use regulations.[36] Nevertheless, some State courts have apparently sustained land use regulation, clearly found by legislative judgment to be essential and closely linked to comprehensive, evenhanded planning intended to promote the welfare of an entire region, even though the regulations result in a very substantial diminution in land value.[37] The San Francisco Bay Plan at least proceeds on this theory in not providing for compensation to owners whose land use is restricted by dredging and filling restrictions.[38]

Plainly, no simple or all-embracing answer is available. At the very least, a careful review of the trend of decisions and public policy in the particular jurisdiction will be necessary as the basis for an answer.

B. *Some Illustrative State Programs*

There follows a more detailed description of some of the state programs—selected either because they are among the more advanced programs, or to illustrate a particular feature.

California. California has recently concluded an extensive planning program for estuarine conservation in one area, the San Francisco Bay, begun with enactment of a legislative framework in 1965 and completed in 1969. The planning agency, the San Francisco Bay Conservation and Development Commission was directed to study the bay, prepare a comprehensive conservation and development plan for the bay and its shoreline, and (as an interim measure) to protect the bay during the planning period by controlling dredging

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36. Green, NEW TRENDS IN ZONING AS RECOGNIZED BY COURT DECISIONS, 6TH ANNUAL INSTITUTE ON PLANNING AND ZONING, (SE. LEGAL FDN. September, 1965).

37. HEYMAN. *supra* note 27.

38. SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION, SAN FRANCISCO BAY PLAN 40 (1969).

and filling by permits during the planning period.[39] Through 1966 the Commission had issued 25 interim permits and denied 5 permits.

Presently about 50% of the San Francisco Bay is state owned, 20% city or county owned, 5% federally owned and 25% privately owned.

This study commission completed 23 separate staff or consultant reports dealing with the bay as a resource; with predicted future development; with planning for transportation, and for land and water use; and with plan implementation. The annual Commission budget was substantial—*e.g.*, $243,924 in fiscal year 1967.

A similar planning process has been proposed for the Humboldt Bay area in California, but has not been activated.

The San Francisco Bay Commission, in April 1968, published a comprehensive 7-volume report on Powers and Money Needed to Carry Out the Bay Plan.[40] (A summary phamphlet version is also available). This report reviews in detail the alternatives available to the area for controlling bay filling activities, and for planning, administering and financing a program. The report provides an excellent source of information in depth for other states and areas. It includes a useful analysis of the pros and cons of the various revenue and organizational options, and an extensive review of the legal precedents bearing upon regulation of estuarine land use. In January 1969 the Bay Commission published and submitted to the State Legislature the "San Francisco Bay Plan" and "San Francisco Bay Plan Supplement." (Available from Department of General Services, Documents and Publications in Sacramento, combined price $5.00)[41]

39. CAL. GOV'T. CODE § 7.2 (West, 1966).
40. Prior to publication of the reports on Powers and Money, the Commission had published some 22 other reports on the Bay as a resource, background for planning, transportation planning, and land and water use planning. Legal aspects of the report on Powers and Money were covered in 1 HEYMAN, REGULATION—LEGAL QUESTIONS.
41. In addition to the work of the San Fraicisco Bay Commission, the State of California through its Resources Agency is now involved in preparing a comprehensive ocean area plan for legislative submission in 1972. The Department of Navigation and Ocean Development has been designated as California's "Coastal Zone Authority."

Connecticut. The removal of sand and gravel from lands under tidal and coastal waters, and the erection of structures and works in tidal, coastal and navigable waters, are regulated by the Connecticut Water Resources Commission.[42] This affords some control over dredge and fill projects. The 1969 Connecticut Legislature enacted a wetlands protection law (Public Act 695) designed to preserve wetlands and prevent their destruction, by means of dredge and fill permit requirements.[43] This act is administered by the Department of Agriculture and Natural Resources. The State of Connecticut claims title to all lands below mean high water. However, no demarcation lines have been established, and over the years private interests have reportedly exercised claims including most of the tidal marshes.

The Connecticut Board of Fisheries and Game is authorized to acquire tidal marsh by gift, lease, purchase or condemnation. Reportedly, the State has lost about half of its tidal marshes since 1914. Of some 14,800 acres that remain, the Board of Fisheries and Game owns about 4,400 acres (up from 4,200 as reported in the first edition of this report) and hopes to acquire another 6,500 in the next few years. The Board is recommending acquisition of the remaining acreage by private conservation agencies or municipalities. A wetlands committee has been organized by private conservation groups, and the U.S. Bureau of Sports Fisheries and Wildlife is studying the establishment of a national wildlife refuge.

As indicated above, acquisition of tidal marsh is primarily performed by the Board of Fisheries and Game, while regulatory powers are vested in the Water Resources Commission and the Department of Agriculture and Natural Resources. Spending for tidal marsh acquisition by the Board of Fisheries and Game during this biennium is expected to total about $200,000 (compared with $500,000 for the previous biennium reported in the first edition of this report).

42. CONN. GEN. STAT. REV. §§ 25-10 to -18 (1968).
43. No. 695, [1969] Conn. Pub. Acts.

At the state level, coordination of conservation and development activities in estuaries is carried out by the State Development Commission and the State Highway Department, on behalf of development, and by the Department of Agriculture and Natural Resources, the Park and Forest Commission, the Board of Fisheries and Game, and the Water Resources Commission on behalf of conservation. A comprehensive state plan for development has been prepared by these agencies and is coordinated with local and regional plans.

Florida. Florida authorizes the designation of a "bulkhead line" along or offshore from tidal lands.[44] Beyond such a bulkhead line no filling or bulkheading is allowed; in one county (Manatee) in addition no dredging is allowed beyond the bulkhead line.

Bulkhead lines are fixed by the local city or county governing body, subject to the approval of the Trustees of the Internal Trust Fund (composed of the Governor and six state cabinet officers). A preliminary biological, ecological and hydrological study is required from the State Board of Conservation. In this connection the Board of Conservation has issued a circular containing guides for evaluating marine productivity and adopting standards for waterfront development. The Trustees of the Internal Fund placed a moratorium on dredging and filling until these studies could be completed.

A major recent development has been the establishment of a state-wide system of aquatic preserves by the Governor and Cabinet sitting as the Trustees of the Internal Improvement Trust Fund.[45] Eleven preserves were established on the Atlantic coast and 14 on the Gulf Coast. These preserves mean that no more submerged land would be sold and no dredge-fill permits to create waterfront real estate would be issued. Traditional uses such as boating, swimming, sport and commercial fishing, bona fide navigation channels and docks would be allowed or continued. The aquatic preserve

44. FLA. STAT. §§ 253.122-123 (1965).
45. FLA. INTER-AGENCY ADVISORY COMMITTEE ON SUBMERGED LAND MANAGEMENT, *supra* note 25.

concept assumes that some of Florida's coastal areas are of special value to the State in their natural condition and should be dedicated in perpetuity as aquatic preserves, to be managed so as to protect and enhance their basic natural qualities for public enjoyment and utilization. An aquatic preserve will be characterized as being one or a combination of three interrelated types—biological (to preserve or promote certain forms of animal or plan life), aesthetic (to preserve certain scenic qualities or amenities), or scientific (to preserve certain features, qualities or conditions for scientific or educational purposes). The preserves would be defined so as to include only lands or water bottoms owned by the State, though neighboring private lands might later be added pursuant to arrangements negotiated with the State. (The concept is described at length in Report No. 2 of the Florida Inter-Agency Advisory Committee on Submerged Land Management: "A proposed System of Aquatic Preserves.")

The Inter-Agency Advisory Committee also reviewed all bulkhead lines in Florida and recommended that bulkhead lines either be relocated to or set at the line of mean high water unless the public interest dictated otherwise, a recommendation that was adopted by the Trustees.

Old and large conveyances of submerged land by the State to private individuals or firms and conveyances of actual submerged land as swamp and overflow land (because of erroneous meander line surveys) reportedly remain as major problems in estuarine management and conservation in Florida. As a remedy for these problems, statewide coastal planning and zoning have been considered but not yet carried beyond the discussion stage, and a priority system to identify activities needing waterfront locations has been proposed. In this context, the Chief of Survey and Management of the Florida Department of Natural Resources has indicated that golf courses, government centers, subdivisions and expressways running lengthwise of bays and sounds should be regarded as non-priority uses.

Maine. In addition to general water pollution control and pesticide control legislation, Maine's principal regulatory

controls for estuarine protection involve: (1) a 1967 coastal wetlands alteration permit law,[46] and (2) Corps of Engineers permits for alteration of coastal wetlands. The 1967 wetland control law prohibits filling, removing, dredging or draining of sanitary sewage into wetlands bordering coastal waters, without a permit from the municipality (or county) affected, issued with the approval of the Wetlands Control Board. Approval may be withheld if the proposal threatens public health, safety or welfare, would adversely affect abutting owners, or would damage conservation of water supplies or wildlife or fisheries. The 1970 Maine Legislature has enhanced the protection of estuarine and coastal waters by enacting laws that prohibit discharge of oil into coastal waters, and that require all commercial or industrial development proposals which may substantially affect the environment to be approved by the State Environmental Improvement Commission.[47]

Both the Inland Fisheries and Game Department, and the State Park Commission have current coastal land acquisition programs. The U.S. Bureau of Sports Fisheries and Wildlife is acquiring about 4,000 acres of salt marsh as National Wildlife Refuge Areas.

The Wetlands Control Board consists of the Commissioner of Sea and Shore Fisheries, the Commissioner of Inland Fisheries and Game, the Forest Commissioner, the Chairman of the Highway Commission, and the Chairman of the Water Improvement Commission. The Department of Sea and Shore Fisheries has general responsibility for coastal fisheries. Land acquisition is a function of the Inland Fisheries and Game Department (for water fowl) and the State Park Commission for recreational park purposes. Wetland acquisition for water fowl purposes is proceeding at about $20,000 annually. Twenty-three miles of waterfront valued at $3 million are owned by the State Park Commission, and another $4 million in bond issues was authorized by the 104th Legislature.

46. ME. REV. STAT. §§ 12-4701 to -4709 (1964).
47. ME. REV. STAT. §§ 38-541 to -557, 38-481 to -488 (1970).

Massachusetts. In addition to water pollution control legislation, Massachusetts' principal regulatory controls for estuaries consist of: (1) a statute prohibiting the removing, filling or dredging of any bank, flat, marsh, meadow or swamp bordering on coastal waters, without specific local and state permission or restrictions;[48] and (2) a related statute authorizing a "rule making" approach, under which the Commissioner of Natural Resources with the approval of the Board of Natural Resources may adopt regulations concerning alteration or pollution of coastal wetlands; if these regulations are found in court to constitute a "taking" of property, the Department may proceed to condemn the land in fee or lesser interest by eminent domain.[49] This legislation was enacted after extensive studies and reports. The Department of Natural Resources regards the rule-making authority as the more promising approach. It permits the Department to move on a regional basis to preserve wetlands without waiting for actual development commitments. Under this law, for example, the Department has established a wetlands protective area covering 8,000 acres on the North Shore of Massachusetts (increased from 3,500 acres since the first edition of this report).

The Department of Natural Resources administers the program through several of its divisions. Program goals being carried out through a series of estuarine studies, are to maintain the estuaries in as near as possible to present conditions consistent with management programs. Estuarine research is currently supported at about $120,000. The conservation efforts are coordinated by the Department of Natural Resources with the State Department of Public Works, and Division of Water Pollution Control, and the U.S. Corps of Engineers, Bureau of Commercial Fisheries and Bureau of Sports Fisheries.

The Massachusetts wetlands permit legislation has been sustained in lower court tests. A test case that reached the State Supreme Court was returned to the trial court for fur-

48. MASS. GEN. LAWS ch. 130, § 27A (1965).
49. MASS. GEN. LAWS ch. 130, § 105 (1932).

ther findings.[50] The rule-making authority has apparently not yet been litigated.

New Jersey. A large-scale estuarine acquisition effort is underway in New Jersey. Passage of a $60 million Green Acres bond issue in 1961 has reportedly resulted in acquisition of about 13,000 acres of salt marsh by the Division of Fish and Game, and another 10,000 acres are being acquired.[51] Previously, the Division had acquired about 23,000 acres. The U.S. Bureau of Sport Fisheries expects to control over 50,000 acres when its acquisition plans are completed. Upon completion of all of these programs about 90% of the high value coastal salt marsh of New Jersey is expected to be protected. Under the Green Acres program, total state and local land acquisition in the coastal counties has been about 53,000 acres. An additional 10,000 acres acquisition is projected in these counties under the program.

Other than the usual fish and game regulations, water pollution controls, and local zoning regulation, the protection of estuaries is provided mainly through control over state-owned lands.

The State Department of Conservation and Economic Development is responsible for estuarin land acquisition, and the State Department of Health for pollution control. Coordination of state estuarine programs largely involves these two agencies. 1969 operating expenses for estuarine areas protection were $110,000, projected 1970 operating expenses are $130,000. (Corresponding figures for 1967 and 1968 were $93,000 and $142,000). For capital expenses, see "Acquisition," above.

New York. New York exercises regulatory controls in estuaries through a series of laws controlling fish, shellfish and wildlife, water pollution and legislation which regulates dredging or other alterations of shore lines and underwater state lands. Further controls are exerted locally where underwater lands are owned by towns. The state lands under

50. Commissioner of National Resources v. S. Volge & Co., Inc., 349 Mass. 104, 260 N.E.2d 666 (1965).

51. N.J. REV. STAT 13:8A-1 to -18 (1937).

water are under the direct control of the Office of General Services. A permit from this office is required before any dredging of state lands can be carried out. The decision on whether or not this dredging is permitted is coordinated with the Conservation Department.

Under the Park and Recreation Land Acquisition Bond Act of 1960,[52] The State Conservation Department was authorized to purchase wetlands throughout the State, and has acquired two tracts of nearly 250 acres of tidal marsh. Under the Fish and Game Law the State may purchase land from any source,[53] and under the Conservation Law the Water Resources Commission may take land by eminent domain.[54]

The Long Island Wetlands Act permits the State Government to enter cooperative agreements with the towns and counties on Long Island to preserve and enhance tidal marshes.[55] Where wetlands owned by towns or counties have been dedicated to conservation purposes, costs of maintenance and operations are shared by the State on a 50-50 basis with the local government. Cooperative agreements may also provide for development of dedicated wetlands by the State Conservation Department with its own personnel. 16,500 acres of wetlands are now under cooperative agreements with the townships. Program goals are to extend the agreements to about 16,000 acres of remaining township lands, which constitute the bulk of significant Long Island wetlands.

The State Conservation Department is primarily responsible for estuarine conservation programs. Condemnation powers are vested in the Water Resources Commission. Average annual State expenditures under the Long Island Wetlands Act are projected at about $15,000.

North Carolina. To supplement the normal complement of regulatory controls and land acquisition powers (including condemnation authority),[56] North Carolina in 1969 adopted

52. N.Y. CONSERV. LAW §§ 1-0701 to 0715 (McKinney, 1967).
53. N.Y. CONSERV. LAW § 361 (McKinney, 1967).
54. N.Y. CONSERV. LAW § 423 (McKinney, 1967).
55. N.Y. CONSERV. LAW § 360(e) (McKinney, 1967).
56. N.C. GEN. STAT. § 113-226(a) (1965).

a comprehensive estuarine legislative package embodying the recommendations of an interagency study committee. Laws were enacted to require permits for dredging or filling in the estuaries or in the state-owned lakes,[57] and to prohibit littering of navigable waters or erection of signs or other structures in such waters without a permit.[58] $500,000 was appropriated for state acquisition of high priority estuarine lands identified by the interagency committee. In addition $94,000 was appropriated to begin preparation of a long range plan for estuarine conservation and management, and another $80,000 was appropriated to meet staffing needs for the augmented estuarine programs.

Administrative responsibility for estuarine functions in North Carolina is vested mainly in the Commissioner of Commercial and Sports Fisheries, a division head of the Department of Conservation and Development. The Commissioner's responsibilities are coordinated, and in some respects shared, with the Departments of Administration of Water and Air Resources.

III. SUGGESTED STATE LEGISLATION FOR ESTUARINE STUDIES AND MANAGEMENT

It seems obvious that state governments potentially have a large role to play in the conservation and management of estuarine areas during the years to come. In the preceding section, the experience of some of the leading states in this field has been reviewed. Although this experience may not identify and definitive solutions, it does point toward some promising approaches for effective State action. In this section, two of those approaches are set forth in the form of suggested State laws patterned after some of the legislation already reviewed—(1) A suggested State law to provide for a comprehensive State estuarine study as the basis for a comprehensive estuarine plan; and (2) A suggested State law to provide for permits (and optional rule-making) for estuarine dredging and filling activities.

57. N.C. GEN. STAT. § 113-229 (1969).
58. N.C. GEN. STAT. § 76-40 (1963).

The two suggested acts set forth here are drafted for state-wide application. These acts could be adapted, with some revision, to regional or less-than-statewide application, subject to analysis of any potential constitutional issue that might arise.

A. *A Suggested Act to Provide for A Comprehensive State Estuarine Study*

This suggested State Estuarine Studies Act is patterned after recent North Carolina legislation providing for studies of its estuaries, and recent California legislation providing for a regional study of the San Francisco Bay area.[59]

A few explanatory observations are in order:

1.—This suggested Act would supply the basis for a comprehensive study of all the estuaries of a state. With minor modifications it could be converted from a statewide act to a regional enabling act for a single estuarine area. (See the California legislation cited above.)

2.—As drafted, the suggested Act would vest responsibility for the study in a particular state department. If desired, this could be changed to provide for study by an inter-agency group, a legislative study commission or the like.

3.—Such technical provisions as the title, enacting clause, repealer, and effective date should be conformed to individual state practice.

4.—Section 4 includes an appropriation which might for tactical or other reasons be placed in a separate Act.

5.—If interim protection against wetlands alterations is felt necessary pending the completion of estuarine studies, a temporary permit could be required for dredging and filling activities during the planning or study period. Permit provisions could be adapted from the

59. *See*, N.C. GEN. STAT. § 146-64 (1960); CAL. GOV'T. CODE § 7.2 (West, 1966).

Dredge and Fill Permit Act (section B., *infra*). A simple interim permit requirement similar to the one included in the California legislation cited above might provide along the following lines

> (a) During the period necessary for the Department to complete the detailed study and to prepare the comprehensive plan, any person or agency wishing to place fill in any of the coastal estuaries or to dredge submerged materials therefrom shall secure a permit from the Department.
>
> (b) The Department shall take action upon the permit, either granting or denying the permit, within 60 days after it receives the application. The permit shall be automatically granted if the Department fails to act within such 60-day period. A permit may be granted for a project if the project is either (1) necessary to the public health, safety or welfare, or (2) of such nature that it will not adversely affect the comprehensive plan being prepared. The Department shall provide by regulation for the issuance of permits, without compliance with with the above procedure, in cases of emergency or for minor repairs or improvements.
>
> (c) If the Department denies a permit the applicant may submit another application after 90 days from the date of such denial.[60]

STATUTE A

AN ACT TO PROVIDE FOR A COMPREHENSIVE STUDY OF THE ESTUARIES OF THE STATE, AND FOR RELATED PURPOSES.

The General Assembly of ..... do enact:

Section 1. The Department of ..... (fill in name of appropriate agency) is hereby directed to study the estuaries of the State with a view to the preparation of a comprehensive and enforceable plan for the conservation of the

60. CAL. GOV'T. CODE § 7.2 (West, 1966).

61. *See*, N.C. GEN. STAT. § 113 (1969); No. 695, [1969] Conn. Pub. Acts; MASS. GEN. LAWS ch. 130 § 27A, 105; ME. REV. STAT. § 12-4701 to -4709 (1964); N.H. REV. STAT. § 483-A:1 - 483-A:5 (1966).

resources of the estuaries, the development of their shorelines, and the use of the coastal zone of the State. In connection with such study and plan, the Department may call upon affected State and local agencies for advice and assistance; may accept grants, contributions, and appropriations from any public or private source; may arrange for consultant studies and research and for other professional services; and may designate one or more advisory committees to assist and advise in carrying out the study and planning. Such study may include an analysis of all characteristics of the coastal zone, including: the quality, quantity and movement of estuarine waters, the ecological balance of the estuaries, and the economic interests of the coastal zone. Such study may examine all present and proposed uses of the estuaries and coastal zone; may give consideration to the plans of cities, counties, and regional State agencies for the coastal zone; and may take into account varying needs, problems, and resources of the respective estuarine regions of the State. In preparing the comprehensive estuarine plan the Department shall consider and evaluate the effectiveness of existing regulations and controls, existing land acquisition programs, and other existing governmental programs affecting estuarine resources; and shall recommend such modification in these regulations and controls and programs, or adoption of additional regulations, controls and programs, as it deems desirable.

Section 2. The Department shall file an interim report by ..... and a final report by ..... with the Governor for transmission to the State Legislature.

Section 3. The final report shall contain:

(a) The results of the Department's detailed studies.

(b) The comprehensive plan proposed by the Department for the conservation of the resources of the estuaries, the development of their shorelines, and the uses of the coastal zone.

(c) The Department's recommendations of the appropriate agency or agencies to maintain and carry out the comprehensive plan.

(d) The Department's estimate of the approximate sums of money that will be needed to maintain and carry out the comprehensive plan.

(e) Such other information and recommendations as the Department deems desirable.

Section 4. There is hereby appropriated to the Department for the conduct of the study and preparation of the comprehensive plan authorized by this Act the sum of .....

Section 5. All laws and clauses of laws in conflict with the provisions of this Act are hereby repealed.

Section 6. This Act shall become effective upon its enactment.

B. *A Suggested Act to Provide for Permits for Estuarine Dredging and Filling Activities*

This suggested Act is patterned after State legislation of recent years providing for the regulation through permits and other means of dredging and filling activities in and about estuarine waters.

A few explanatory observations are in order:

1.—This suggested Act would apply to dredging and filling in "estuarine waters, tidelands or marshlands." The definition of these terms or their equivalents is one of the critical drafting problems of the statute.

The particular terms used in this Act were derived from the North Carolina Statute cited above. Other alternative or equivalent terms that have been suggested or used in other similar measures include "coastal wetlands" and "navagible

waters." Whatever the choice of phraseology, however, there is likely to be a need for some definition of these key terms.

(The term "tidelands" is relatively straightforward and may not require statutory definition. The definition used here was adapted from a glossary contained in Shalowitz, *Shore and Sea Boundaries* (U.S. Department of Commerce, 1962, Vol. 1, p. 318.))

The term "marshlands" is less precise, and is more likely to need statutory definition in order to resolve conflicting demands of advocates and opponents, or simply to provide an adequate standard to guide the administrator. At the minimum, the draftsman should seek to ensure that the statute covers those classes of marsh intended by the sponsors to be included. The rather general definition used here is derived from the North Carolina statute cited above. More specific and detailed definitions of "marshlands" have been proposed or adopted. For example, the definition of the term "wetland" in the Connecticut statute cited above is as follows:

> "Wetland" means those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; but upon which may grow or be capable of growing some, but not neecssarily all, of the following: Salt meadow grass (Spartina patens), spike grass (Distichlis spicata), black grass (Juncus gerardi), saltmarsh grass (Spartina alterniflora), saltworts (Salicornia Europaea, and Salicornia bigelovii), Sea Lavendar (Limonium carolinianum), saltmarsh bulrushes (Scirpus robustus and Scipus paludosus var. atlanticus), sand spurrey (Spergularia marina), switch grass (Panicum virgatum), tall cordgrass (Spartina pectinata), hightide bush (Iva frutescens var. oraria), cattails (Typha angustifolia, and Typha latifolia), spike rush (Eleocharis rostellata), chairmaker's rush (Scirpus americana), bent grass

(Agrostis palustris), and sweet grass (Hierochloe odorata).[62]

The most challenging of these problems is in defining the basic concept of the statute—whether (as in this Model Act) that concept be "estuarine waters" or an analogous one such as "navigable waters." At least three alternative approaches may merit consideration: defining by *exclusion,* by *inclusion,* or by *delineation of land area.*

In defining by exclusion, one would be leaving the task of assigning meaning primarily to the administrators and the courts, subject to such exclusions as are specified in the statute. (Example: "For the purposes of this statute, the term 'navigable waters' shall not include reservoir projects owned or operated by the United States.") In some circumstances this approach may have much to commend it—*e.g.,* if a concept such as "navigable waters" has been adequately defined in the jurisdiction by judicial decisions.

In defining by delineation of land area, one might limit the application of the statute to certain counties of other political subdivisions (such as those counties bordering the ocean). While this approach might in some circumstances offer an acceptable compromise, in theory it would ordinarily be the least satisfactory alternative.

Defining by inclusion is likely to be quite difficult, and indeed might be infeasible or undesirable. It may prove possible, however, to define by inclusion with clarity and to the sponsor's satisfaction. In the North Carolina statute cited above, what may be regarded as a definition by inclusion was achieved by means of a convenient cross reference to an existing source, to wit:

> "Estuarine waters" include all estuarine waters of the State up to the dividing line between coastal fishing waters and inland fishing waters agreed upon by the Department of Conservation and Development and the Wildlife Resources Commission, within the meaning of G.S. 113-119.[63]

62. No. 695, [1969] Conn. Pub Acts.
63. N.C. GEN. STAT. § 113-229 (1969).

A somewhat comparable device used in the Connecticut statute cited above provides for an initial inventory of all tidal wetlands, followed by the establishment by the administrator of the boundaries of each wetland area on a map, following notice and hearing. The specifications for the map and the procedural details of the hearing are set forth in the statute.

2.—In subsection (e) of Section 1 of the suggested Act, only the most general standard of the "public interest" is expressed as a guide for the admiistrator's discretion in deciding whether to grant or deny permits. It may be felt that greater specificity is needed, either as a matter of constitutional law or for practical reasons. The draftsman will be guided by conditions prevailing in his jurisdiction. For example, in the North Carolina statute cited above there was included immediately preceding the sentence containing the "public interest" standard the following: "In passing upon the application for permit, the Department shall consider, among other things, (1) the value and usefulness of the project . . ., (ii) the effect of the proposed dredgink and filling on the use of the water by the public, (iii) the value and enjoyment of the property of any riparian owner, (iv) public health, safety and welfare, (v) the conservation of public and private water supply, (vi) wildlife, or fresh water, estuarine or marine fisheries." A comparable but simpler standard set forth in the Maine statute cited above permits withholding of approval when, in the opinion of the agency, "the proposal would threaten the public health, safety or welfare, would adversely affect the value or enjoyment of the property of abutting owners, or would be damaging to the conservation of public or private water supplies or of wildlife or fresh-water, estuarine or marine fisheries."

3.—A comprehensive set of notice and hearing procedures is spelled out in subsection (g) of Section 1 of this Act. There may be disagreement with some policy choices reflected in these provisions (for example, the incorporation by reference in paragraph (3) of certain judicial procedures). The details may be unnecessary in some jurisdic-

tions. In any event, these procedural provisions should be carefully evaluated before including them in a statute of this nature.

4.—The criminal sanction provided in subsection (k) of Section 1 presumes the existence of a general penalty for misdemeanors. If such provision is not made in the particular state, or if a different penalty is desired for the purposes of this statute, a more detailed penalty section may be necessary.

5.—The suggested Act by its terms would require dredging and filling permits for activities of State and local governments, as well as for private projects. Patricular jurisdictions may consider it appropriate to consider a more limited scope for its permit requirements (*see,* for example, the North Carolina and Massachusetts statutes cited above).

6.—It may be considered desirable to cover inland as well as coastal-area dredging and filling in the statute. This might be achieved by substituting for "estuarine waters" the broader term "navigable waters." Or, certain inland waters might be specifically selected for coverage in the Act. (For example, the North Carolina statute cited above is applicable to "state-owned lakes," both man-made and natural, as well as to estuarine waters.)

7.—The Suggested Act does not include a policy declaration or statement of purpose. If it is felt that such a provision is desirable, the following section of the Connecticut statute cited above would provide a useful model:

> It is declared that much of the wetlands of this state has been lost or despoiled by unregulated dredging, dumping, filling and like activities and that remaining wetlands of this state are all in jeopardy of being lost or despoiled by these and other activities; that such losses or despoilation will adversely affect, if not entirely elminate, the value of such wetlands as sources of nutrients to finfish, crustacea and shellfish of significant economic value; that such loss or despoliation will destroy such wetlands as habitats for plants and animals of sig-

> nificant economic value and will eliminate or substantially reduce marine commerce, recreation and aesthetic enjoyment; and that such loss or despoliation will, in most cases, disturb the natural ability of tidal wetlands to reduce flood damage and adversely affect the public health and welfare; that such loss or despoliation will substantially reduce the capacity of such wetlands to absorb silt and will thus result in the increased silting of channels and harbor areas to the detriment of free navigation. Therefore, it is declared to be the public policy of this state to preserve the wetlands and to prevent the despoliation and destruction thereof.[64]

8.—Such technical provisions as the title, enacting clause, repealer, effective date, and form of codification should be conformed to individual state practice. A delayed effective date is recommended in this Act because of the time required for preparations to administer the legislation.

9.—A statute of this breadth and significance must be set securely in the context of the law of a particular state. It is assumed that no such legislation will be seriously considered prior to a careful examination of the relevant common law and statutory precedents of the jurisdiction, whether by formal study or otherwise.[65] In addition to the common law and statutory context, it is important that the constitutional issues of due process, just compensation and equal protection inherent in this regulatory scheme be evaluated in the light of the precedents of any state considering this legislation.

10.—This Suggested Act for the regulation of estuarine dredging and filling activities would rely upon a permit system as the sole means of control. An alternative or supplemental method of control could be provided by a rule-making power, enabling a State agency to adopt regula-

64. No. 695, [1969] Conn. Pub. Acts.

65. *See generally*, HEATH, STATE PROGRAMS FOR ESTUARINE AREA CONSERVATION (Institute of Government of the Univ. of N.C., 1968); RICE, ESTUARINE LANDS OF N.C.: LEGAL ASPECTS OF OWNERSHIP, USE AND CONTROL (Institute of Government of the Univ. of N.C., 1968); PLAGER AND MALONEY, CONTROLLING WATERFRONT DEVELOPMENT (Public Ad. Clearing Service of the U. of Fla., 1968); CLINEBURG AND KRAHMER, THE LAW PERTAINING TO ESTUARINE LANDS IN S.C., (Univ. of S.C. School of Law, 1969).

tions governing the management and use of estuarine lands for designated areas, rather than depending entirely upon the ad hoc procedures prescribed by a permit system. Such a law was enacted in Massachusetts in 1967 (Massachusetts General Laws, Chapter 130, Section 105), and experience is beginning to accumulate under this legislation.

Appendix A, which appears at the end of the Suggested Act, is an adaptation of this Massachusetts law. It could be inserted if desired as a separate section followin Section 1 of the Act. It should be noted that this statute contains a provision that guarantees ready access to the courts for determination of individual landowners' just compensation claims. The need or desirability of such a provision should certainly be carefully evaluated in light of the precedents of any jurisdiction considering enactment of this statute.

STATUTE B

AN ACT TO PROVIDE FOR PERMITS TO DREDGE OR FILL IN OR ABOUT ESTUARINE WATERS.

The General Assembly of ..... do enact:

Section 1. Permits to dredge or fill in or about estuarine waters,—(a) Before any excavation or filling project is begun in any estuarine waters, tidelands, or marshlands, the party or parties desiring to do such shall first obtain a permit from the Department of ..... (insert name of appropriate agency).

(b) All applications for such permits shall include a plat of the areas in which the proposed work will take place, indicating the location, width, depth and length of any proposed channel, the disposal area, and a copy of the deed or other instrument under which the applicant claims title to the property adjoining the waters in question, (or any land severed by waters), tidelands, or marshland, or if the applicant is not the owner, then a copy of the deed or other instrument under which the owner claims title plus written permission from the owner to carry out the project on his land.

(c) In lieu of a deed or other instrument referred to in subsection (b) of this Section, the agency authorized to issue such permits may accept some other reasonable evidence of ownership of the property in question or other lawful authority to make use of the property.

(d) The applicant shall cause to be served in the manner proveded by paragraph (g)(9) of this Section upon an owner of each tract of riparian property adjoining that of the applicant a copy of the application filed with the State and each such adjacent riparian owner shall have thirty days from the date of such service to file with the Department written objections to the granting of the permit to dredge or fill. An owner may be served by publication, in the manner provided by paragraph (g)(10) of this Section, whenever the owner's address, whereabouts, dwelling house or usual place of abode is unknown and cannot with due diligence be ascertained, or there has been a diligent but unsuccessful attempt to serve the owner under paragraph (g)(9) of this Section.

(e) Applications for permits shall be circulated by the Department among all State and Federal agencies having jurisdiction over the subject matter which might be affected by the project (as determined by the Department), so that such agencies will have an opportunity to raise any objections they might have. If the Department finds that the application is not contrary to the public interest, the Department shall issue to the applicant a permit to dredge or fill, or both. Such permit may be conditioned upon the applicant amending his proposal to take whatever measures are reasonably necessary to protect the public interest. The Department shall act upon an application for permit within ninety days after the application is filed.

(f) If any State agency or the applicant raises an objection to the action of the Department regarding the permit application within twenty days after said action was taken, the Department sall call a meeting of a Review Board composed of the directors (or their designees) of the following State agencies: ..... (insert names of desired

agencies), and any other agency that may be designated by the Governor. The Review Board shall set a date for a hearing to be held not more than sixty days from the date of the Departmental action. At said hearing, evidence shall be taken by the review board from all interested persons, who shall have a right to be represented by counsel. After hearing the evidence, the Review Board may affirm, modify or overrule the action of the Department concerning the permit application. The applicant, if aggrieved, may appeal from the ruling of the Review Board to the ..... (insert name of appropriate court) court of the county where the land or any part thereof is located, pursuant to the provisions of ..... (insert cross reference to statutory provisions governing judicial review of State administrative decisions).

(g) The following provisions, together with any additional provisions not inconsistent herewith which the Review Board may prescribe, shall be applicable in connection with hearings pursuant to this Section:

(1) All hearings shall be open to the public. The Review Board, or its authorized agents, shall have the authority to administer oaths.

(2) A full and cowplete record of all proceedings at any hearing shall be taken by a reporter appointed by the Review Board or by some other method approved by the Attorney General. Any party to a proceeding shall be entitled to a copy of such record upon the payment of the reasable cost theerof as determined by the Review Board.

(3) The Review Board shall follow generally the procedures applicable in civil actions in the ..... (insert name of appropriate court) court insofar as practicable, including rules and procedures with regard to the taking and use of depositions, the making and use of stipulations, and the entering into of agreed settlements and consent orders.

(4) Subpoenas or subpoenas duces tecum issued by the Review Board, in connection with any hearing, shall be directed to any officer authorized by law to serve process, and the further procedures and rules of law applicable with respect thereto shall be prescribed in connection with subpoenas to the same extent as if issued by a court of record. In case of a refusal to obey a notice of hearing or subpoena issued by the board, application may be made to the ..... (insert name of appropriate court) court of the appropriate county for enforcement thereof.

(5) The burden of proof at any hearing shall be upon the person or agency as the case may be, at whose instance the hearing is being held.

(6) No decision or order of the Review Board shall be made in any proceeding unless the same is supported by competent, material and substantial evidence upon consideration of the whole record.

(7) Following any hearing, the Review Board shall afford the parties thereto twenty days to submit proposed findings of fact and conclusions of law and any brief in connection therewith. The record in the proceeding shall show the Board's ruling with respect to each such requested finding of fact and conclusion of law.

(8) The Department and the Review Board shall give notice to all interested parties of their formal actions taken under this Section, including Departmental findings upon applications and calling of Review Board meetings by the Department, and announcement of decisions and setting of hearing dates by the Review Board.

(9) All notices which are required to be given or to be served by the Department, the Review Board

or by any party to a proceeding shall be given by registered or certified mail to all persons entitled thereto. The date of receipt for such registered or certiifed mail shall be the date when such notice is deemed to have been given. Notice by the Department or Review Board may be given to any person upon whom a summons may be served in accordance with the provisions of law concerning civil actions in the ..... (insert name of appropriate courts) courts of this State. Any notice shall be sufficient if it reasonably sets forth the action requested or demanded or gives information as to action taken. The Review Board by its rules of procedure may prescirbe other necessary practices and procedures with regard to the form, content and procedure as to any particular notices. Within the meaning of this paragraph, a "notice" includes a copy of an application for a permit required to be served on adjoining riparian owners, pursuant to subsection (d) of this Section.

(10) For purposes of this Section, service by publication shall consist of publishing a notice of service by publication in a newspaper qualified for legal advertising, and published in a county where any part of the land affected by a proposed project is located or, if no qualified newspaper is published in such county, then in a qualified newspaper published in an adjoining county, once a week for three successive weeks. If the owner's post office address is known or can with reasonable diligence be ascertained, there shall be mailed to the owner at or immediately prior to the first publication a copy of the notice of service by publication. The mailing may be omitted if the post office address cannot be ascertained with reasonable diligence. The notice of service by publication shall (i) des-

ignate the Department of State Government having jurisdiction to initially grant or deny dredge and fill permits hereunder, and identify the statute under which the permit has been sought; (ii) be directed to the owner sought to be served; (iii) identify the name and post office address of the permit applicant; (iv) indicate whether the proposed project will involve dredging or filling or both; (v) indicate the county(ies) and township(s) in which the proposed project will be located, together with any information descriptive of the location which the Department may wish to include; (vi) state where and at what hours a copy of the application may be obtained or inspected; and (vii) indicate the time limit for filing of objections with the Department by the owner, pursuant to subsection (d) of this Section.

(h) The granting of a permit to dredge or fill shall be deemed conclusive evidence that the applicant has complied with all requisite conditions precedent to the issuance of such permit, and his right shall not thereafter be subject to challenge by reason of any alleged omission on his part.

(i) All materials excavated pursuant to such permit, regardless of where placed, shall be encased or trapped in such a manner as to minimize their moving back into the affected water.

(j) None of the provisions of this Act shall relieve any person of the requirements imposed by the applicable laws and regulations of the United States.

(k) Any person, firm, or corporation violating the provisions of this Act shall be guilty of a misdemeanor.

(l) The Director, either before or after the institution of proceedings under subsection (k) of this Section, may institute a civil action in the ..... (insert name of appropriate court) court in the name of the State upon the relation of the Director to restrain any violation of this Act

or of any provision of a dredging or filling permit issued under this Act, for injunctive relief to restrain the violation and for such other or further relief in the premises as said court shall deem proper. Neither the institution of the action nor any of the proceedings therean shall relieve any party to such proceedings from the penalty prescribed by this Act for any violation of same.

(m) This Act shall apply to all persons, firms, or corporations proposing excavation or filling work in the estuarine waters, tidelands, and marshlands within the State, and to work to be performed by the State Government or local governments.

Section 2. Definitions.—Within the maning of this Act:

(a) "Estuarine waters" include . . . . . (See Comment (1) for illustrative definitions).

(b) "Marslands" means marshes or swamps in or adjacent to estuarine waters, which marshes or swamps are regularly or periodically flooded by the tides.

(c) "Tidelands" mean the land covered and uncovered by the daily rise and fall of the tide, being the zone between the mean-high-water line and the mean-low-water line along the coast.

Section 3. Severability.—If any provisions of this Act or its application to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Act which can be given effect without the invalid provisions or applications, and to this end the provisions of this Act are declared to be severable.

Section 4. All laws and clauses of laws in conflict with this Act are hereby repealed.

Section 5. This Act shall be effective six months following its adoption.

Appendix A

OPTIONAL SECTION PROVIDING FOR REGULATION OF ESTUARINE DREDGING AND FILLING BY RULE-MAKING AUTHORITY

Sec. —. Regulations of dredging and filling in or about estuarine waters.—(a) The Department, with the approval of the Board of ..... (insert name of Board), may from time to time, for the purpose of promoting the public safety, health and welfare, and protecting public and private property, wildlife and marine fisheries, adopt, amend, modify or repeal regulations restricting or prohibiting dredging, filling, remiving or otherwise altering, or polluting estuarine waters, tidelands or marshlands.

(b) The Department shall, before adopting, amending, modifying or repealing any such regulations, hold a public hearing thereon in the county in which the estuarine waters, tidelands or marshlands to be affected are located. If more than one county is involved, a hearing shall be held in at least one of such counties. Prior to the public hearing the Department shall circulate copies of the proposed regulation among all of the State and Federal agencies having jurisdiction over the subject matter (as determined by the Department). The Department shall also serve by publication prior to the hearing all owners of tidelands, marshlands and lands adjoining estuarine waters in the area that would be included under the proposed regulation.

(c) For purposes of this Section, service by publication shall consist of publishing a notice of service by publication in a newspaper qualified for legal advertising and published in a county where any part of the land affected by a proposed project is located or, if no qualified newspaper is published in such county, then in a qualified newspaper published in an adjoining county, once a week for three successive weeks. If the owner's post office address is known or can with reasonable diligence be ascertained, there shall be mailed to the owner at or immediately prior to the first publication a copy of the notice of service by publication. The mailing may be omitted of the post office address cannot be ascertained

with reasonable diligence. The notice of service by publication shall (i) designate the Department of State Government having jurisdiction to adopt regulations under this section, and identify the statute authorizing such regulations; (ii) indicate the county(ies) and township(s) affected by the proposed regulation, together with any further information descriptive of the location which the Department may wish to include; (iii) either enclose a copy of the proposed regulation or state where and at what hours a copy may be obtained or inspected; and (iv) indicate the time and place of the public hearing.

(d) Upon the adoption of any such regulation or any regulation amending, modifying or repealing the same, the Department shall cause a copy thereof, together with a plan of the lands affected and a list of the owners of such lands, to be published as part of its official regulations and to be filed permanently in the office(s) of the ..... (insert name of appropriate local filing offices, such as register of deeds and/or clerk of court), and shall mail a copy of such regulation and plan to each owner of such lands affected thereby.

(e) Any person, firm or corporation violating any provision of any regulation adopted pursuant to this section shall be guilty of a misdemeanor. A civil action to restrain any such violation may also be initiated in the manner provided by subsection (1) of Section 1 of this Act.

(f) Any person having a recorded interest in land affected by any such regulation may, within ninety days after receiving notice thereof, petition the ..... (insert name of appropriate court) to determine whether such regulation so restricts the use of his property as to deprive him of the practical uses thereof and is therefore an unreasonable exercise of the police power because the regulation constitutes the equivalent of a taking without compensation. If the court finds the regulation to be an unreasonable exercise of the police power, as aforesaid, the court shall enter a finding that such regulation shall not apply to the land of the petitioner; provided, however, that such finding shall not affect

any other land than that of the petitioner. The Department shall cause a copy of such finding to be published as part of its official regulations and to be filed permanently in the office(s) of the ..... (insert name of appropriate local filing offices, such as register of deeds and/or clerk of court). The method provided in this subsection for the determination of the issue of whether any such regulation constitutes a taking without compensation shall be exclusive, and such issue shall not be determined in any other proceeding, nor shall any person have a right to petition for the assessment of damages by reason of the adoption of any such regulation.

(g) The Department may, after a finding has been entered that such regulation shall not apply to certain land as provided in the preceding subsection, take the fee or any lesser interest in such land in the name of the State by eminent domain under the provisions of ..... (insert cross reference to appropriate eminent domain procedure) and hold the same for the purposes set forth in this section.