Maine's Dredging Management Strategy

A Report to the Marine Policy Committee

and the Maine Land and Water Resources Council

Prepared by

Maine Coastal Program
Maine State Planning Office
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M A I N E' S

D R E D G I N G M A N A G E M E N T S T R A T E G Y

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Other reports in this series include:

* A Guide to the Regulatory & Funding Process for Coastal Dredging, SPO and DECD/OCP, November, 1989

* Planning Study of Maine Coastal Port & Harbor Needs, Sasaki Associates and Temple, Barker & Sloane, January, 1990

* Harbor & Waterfront Planning Handbook, A Handbook for Coastal Communities, DECD/OCP, October, 1989

* Mooring Plan Handbook, Ferland and Esterberg for DECD/OCP, October, 1989

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Contents

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FOREWORD

Commercial cargo and petroleum handling, shipbuilding, fishing and recreational boating are basic to Maine's tradition and economy. In many of the state's ports and harbors these activities require dredging of navigation channels, turning basins and anchorages. Without maintenance dredging, many port activities would be seriously curtailed. In some communities, new dredging is a prerequisite for growth of these activities.

Dredging and disposal of dredged material may have negative as well as positive impacts. It can adversely affect beaches and coastal wetlands, erosion rates and patterns, flood hazards, water quality, fisheries, shellfish, valuable aquatic organisms, and wildlife habitat. Upland disposal may affect human health, scenic values and water quality, or it may be done beneficially.

In 1986 the 112th Legislature enacted a set of nine coastal management policies. Among other things, State and local agencies were directed to: (1) "Promote the maintenance, development and revitalization of the State's ports and harbors for fishing, transportation and recreation" and (2) "Manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats, to expand our understanding of the productivity of the Gulf of Maine and coastal waters and to enhance the economic value of the State's renewable marine resources."

The purpose of this report is to outline a strategy for coordinating State dredging management, for adoption by State agencies, which implements these two policies in balance with each other, and which is integrated with other activities under Maine's Coastal Program.

The next step is to prepare a multi-year work program for interagency development of a long-range dredging management plan, including specific tasks for which each agency will accept responsibility; recommendations for involving coastal towns, special interest and citizen groups in the planning process; and a realistic timetable within the limitations of agency resources.

1. MAGNITUDE OF DREDGING ACTIVITY

From 1950 to 1989 the Corps of Engineers conducted 98 maintenance and improvement projects in Maine, involving 4.5 million cubic yards of dredged material. This is enough material to fill 273 football fields to a depth of ten feet. Just under 600,000 cubic yards, or 13 percent of the Corps dredging, occurred between 1982 and 1989. (See appendix for project listings.)

About half of the volume dredged by the Corps was from river projects, half from coastal harbors. Disposal was as follows:

Ocean sites	41%
Riverine sites	36%
Upland sites	15%
Unidentified	8%

These figures do not include State, municipal, private and federal non-Corps dredging projects, the scale of which is suggested by the 82 projects and 0.87 million cubic yards dredged from 1971-1981.

The major ocean disposal sites in Maine are the Cape Arundel, Portland and Rockland sites, which serve both Corps and non-Corps projects. From 1982-1989 the Corps issued 37 permits for disposal of 0.92 million cubic yards of dredged material at these three sites.

2. DREDGING NEEDS OF MAINE COASTAL TOWNS

In 1989, the State Planning Office through its Coastal Program sponsored a study of the marine infrastructure and dredging needs of over 120 coastal towns. (See Planning Study of Maine Coastal Port and Harbor Needs, Sasaki Associates and Temple, Barker & Sloane, January 1990; prepared under the direction of an Interagency Oversight Committee comprised of the Maine departments of Transportation, Economic & Community Development, Marine Resources, and the State Planning Office.)

Though not a comprehensive list of all potential dredging projects, the infrastructure study identifies 36 projects that coastal towns considered needed. These projects were evaluated and prioritized relative to a total of 232 marine infrastructure projects of all types. Eighteen of the dredging projects were classified as priority projects for funding as part of a suggested $12 million State bond issue. An additional ten dredging projects were considered eligible alternates. Dredged material disposal methods and volumes to be dredged were not determined, but the total cost of the priority projects was estimated at over $5.7 million (see appendix A-8). The bond issue was not promoted, due to the State's increasing financial stress.

3. ENVIRONMENTAL IMPACTS OF DREDGING

Though the Corps monitors dredge material disposal at certain ocean disposal sites, recognition of the environmental impacts of dredging and disposal activities is relatively recent, data are sparse, and actual impacts of past dredging activities on Maine's marine and other natural resources have not been studied. It is clear, however, that dredging or dredged material disposal per se will have unacceptable impacts in some locations, and that there can be problems in any location depending on the physical characteristics of the dredged material, levels of chemical or biological contamination which may be present in the material, ocean currents and patterns of erosion and deposition, and presence of marine resources which may be disturbed. The possible effects of dredging and dredged material disposal are discussed further in the companion report, A Guide to the Regulatory & Funding Process for Coastal Dredging.

4. STATE & FEDERAL ROLES IN DREDGING

A wide array of government agencies at both state and federal levels have responsibilities relating to planning, financing, regulating and carrying out dredging and dredged material disposal. Municipal shoreland zoning and other local ordinances also may apply. The principal State regulatory authorities (excerpted in appendix A.11 in this report) are:

* Natural Resources Protection Act (38 MRSA 480-A to 480-S)
* Public Law 656 of 1990 (L.D. 1955, an ACT to Regulate the Dumping of Dredged Materials in Maine Waters)
* Protection & Improvement of Waters Act (38 MRSA 413, 417 and 421)
* Water quality certifications under Section 401 of the U.S. Clean Water Act (see 38 MRSA 464)
* Site Location of Development Law (38 MRSA 481-490, for disposal issues in certain instances)
* Hazardous Waste, Septage & Solid Waste Management Act (38 MRSA 1301-1310B and associated regulations relating to disposal in certain instances)
* Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters, Corps of Engineers, U.S. EPA, May 15, 1989 (followed by the DEP as a matter of departmental policy)
* Land Use Regulation Law (12 MRSA 681-689) and Rules & Regulations, Maine Land Use Regulation Commission (has jurisdiction in unorganized areas)
* Federal consistency pursuant to the federal Coastal Zone Management Act

The principal federal regulatory authorities include the U.S. Ocean Dumping Act (33 U.S.C. Section 1401-1445) and the U.S. Clean Water Act, Section 404 Permits for Dredged or Fill Material (33 U.S.C. Sec. 1344).

The existing system for regulating dredging projects, and the availability of local financial assistance to towns, are described in the dredging Guide referenced above. Sources of further information are listed in Appendix A.11.

5. DREDGING MANAGEMENT ISSUES & NEEDS

Changing circumstances point to a need to re-evaluate all aspects of dredging management in Maine, including planning, reviewing proposed projects for environmental impacts, promoting and financing needed projects.

(1) The federal government increased the local cost share required for federally assisted dredging projects, thereby raising the stake for local governments and creating requests for assistance by the State.

(2) The shrinking of federal funds for local projects makes it necessary for the State to re-evaluate the nature and extent of the State interest in local ports and harbors. The first step in this direction was the preparation of the marine infrastructure study by Sasaki Associates mentioned above. The weighting and scoring system used in determining project priorities now needs further refinement; generic assumptions regarding environmental impacts and economic costs/benefits need to be replaced by specific information on individual projects.

(3) Increased State concern about the infrastructure needs of Maine's commercial fishing industry, including dredging of channels and moorages, was reflected in the establishment of a Marine Infrastructure Task Force by Governor McKernan. The Task Force was charged with a comprehensive study of "accessory uses that are necessary for successful operation of a commercial fishing industry," including mooring space and room to maneuver in channels and harbors." (Executive Order No. 11 FY 88/89, An Order to Establish an Interagency Task Force on Marine Infrastructure.)

(4) The consequences of dredging projects for natural resources and the environment are being scrutinized by government officials, natural resource and environmental interests and the general public more carefully than ever before, elevating difficult risk management issues:

* What scope and detail of information should be required for review, and at what cost? (e.g. what potential contaminants of dredged material should be listed for testing?

* Given that zero negative impact is impossible, how stringent should be the standards and their application? (e.g. what conditions must be met for ocean or land disposal of contaminated material to be acceptable?)

* How are uncertain effects to be weighed? or intangible ecological or marine resource values to be measured? Given the uncertainty where empirical research and hard data are unavailable (which to some extent usually is the case), what weight should be given to informed judgement about either environmental costs or economic benefits?

* What review procedures will best assure that all relevant factors are adequately accounted for in dredging decisions?

(5) Due to the complexity of the issues, to information and research needs, and to the number of agencies which must be consulted, State review of dredging projects for federal consistency with the core laws comprising Maine's Coastal Program usually extends beyond the prescribed 45-day review period.

(6) Attempts to promote early federal/State coordination on dredging projects are ineffective in the absence of sufficient information on which to base informed comment, and suffer from the press of more immediate business.

(7) The consensus from a 1989 day-long meeting of State and federal agencies concerned with dredge management was that:

* The present case-by-case reactive evaluation of proposed dredging projects is no longer in the State's best interests.

* A pro-active approach is called for because of the increased State/local cost share of federal projects, the need for advocacy of State interests (e.g. funding assistance) in Washington, D.C., and the need for better early coordination between agencies to expedite the project application stage; and that

* A pro-active approach requires a dredging management plan.

6. MAINE'S DREDGING MANAGEMENT STRATEGY

Dredging activities and issues in Maine were documented in detail in a four-volume 1982 study funded by the U.S. Water Resources Council and New England Governors' Conference (A Dredge Management Study for Maine -- Vol. I, Project Report; Vol. II, Summary of U.S. Army Corps of Engineers Dredge Projects; Vol. III, Summary of Non-Corps Dredge Projects; and Phase II: A Dredge Management Mechanism). The numerous recommendations intermixed throughout the study received little attention until State and federal officials attending the 1989 dredge management meeting agreed they should be reconsidered.

The State Planning Office solicited comments on the 1982 recommendations from all concerned State and federal agencies. Pertinent recommendations were updated and revised, based on responses received.

A preliminary draft of the current report was circulated to members of an interagency Marine Program Working Group. The Working Group in September, 1990 approved the recommendations and agreed on general priorities of dredging management tasks. The recommendations were endorsed in concept on September 5, 1991 by the Marine Policy Committee of the Maine Land & Water Resources Council, which was named to succeed the informal Working Group.

After adoption of recommendations by the Council itself, a multi-year interagency work program will be needed, which includes: specific tasks currently underway; additional tasks for which each agency will accept responsibility; recommendations for involving coastal towns, special interest and citizen groups in State dredging management and planning decisions; and a realistic timetable within staff and funding capabilities of participating agencies, which can be used as a basis for agency budgeting.

The following recommendations are presented below for adoption by the Land and Water Resources Council, to guide the Marine Policy Committee in developing a coordinated dredging management work program:

6.1 Coordination of Dredging Management by the Marine Policy Committee

The Land and Water Resources Council will provide a forum for coordinating the myriad needs, points of view, concerns, and dredging-related activities of the public and different State agencies in Maine. These factors need to be integrated into a balanced State dredging management strategy that provides for

conflict resolution in situations that involve difficult tradeoffs. For these purposes, dredging management planning, coordination, and conflict resolution are priority assignments of the Marine Policy Committee.

In carrying out this lead role the Committee will track new developments at the federal level. It will seek advice and assistance from special interest and citizen groups, from professional experts in the various fields involved, and from federal agencies such as the Corps of Engineers, National Marine Fisheries Service, U.S. Fish & Wildlife Service, Coast Guard, and the EPA. In particular, it will coordinate with: (1) the Corps of Engineers on a prospective 1-2 year reconnaissance study of dredging issues along the Maine coast to be conducted by the Corps; and (2) the DEP regarding development of a new dredging evaluation protocol, and sensitive area identification and data management pursuant to 38 MRSA Sec. 546-B (LD 77, An Act to Extend the Commission to Study Maine's Oil Spill Clean-up Preparedness and to Improve Marine Oil Spill Prevention, Planning and Response).

Working within statutory mandates for each participating State agency, the Committee will evaluate current interagency communication and conflict resolution procedures and recommend improvements. It will recommend maintenance dredging priorities and scheduling to the Corps of Engineers; recommend feasibility studies, new federal projects that should be authorized and projects that should be de-authorized; advise towns regarding the regulatory and funding process for dredging, and help to keep needed projects on track; identify areas that should not be dredged or used for dredged material disposal; and recommend related actions needed by State and federal agencies, municipalities, the Land & Water Resources Council, Governor's Office, the Legislature and Maine's Congressional delegation.

Each agency's representative on the Marine Policy Committee will be assigned to oversee those activities agreed on for implementing the dredging management strategy for which the agency accepts responsibility.

6.2 Development of a Dredging Management Plan

To carry out its lead role, the Marine Policy Committee will coordinate preparation and maintenance of a long-range dredging management plan covering both federal and non-federal projects. The Committee is to assure that special interest and citizen groups are involved in this process. Its coordinating function also will include reviewing and commenting on dredging-related local comprehensive plan issues on request from the DECD's Office of Comprehensive Planning.

In overview, the dredging management plan will seek, to the extent feasible: to assess needs for navigational, port-facility-related and recreation-related dredging along the entire

Maine coast, as identified by the Corps of Engineers, towns and other interests; to forecast dredged material disposal needs in each region; to evaluate existing disposal sites and sites previously proposed in Upper Casco Bay (Broad Sound) and Upper Penobscot Bay (Belfast Bay); to identify the location and value of significant marine resources; to identify natural resources and critical areas which should not be dredged or used for dredged material disposal; to analyze the probable type, quantity and cumulative impact of disposal at specific sites; to review beneficial uses of dredged material and promote land disposal alternatives; to designate the location, management and monitoring arrangements for desirable disposal sites; to review legal authorities and management options; and to address use conflicts and environmental issues that otherwise could create future regulatory problems.

Activities to be undertaken in preparing the dredging management plan specifically will include the following, among others:

(a) Dredging needs -- Determine the means and feasibility of obtaining more detailed information on individual projects identified in the marine infrastructure needs study prepared by Sasaki Associates; maintain an up-to-date comprehensive list of potential projects; draft criteria for prioritizing projects, considering the Sasaki project weighting/scoring system and the outline from the 1982 dredge management study (see Appendix A.10); and develop a realistic priority list and funding strategy. Broad assumptions in the Sasaki report regarding costs, economic benefits, and environmental impacts of top-rated projects need to be replaced insofar as possible with project-specific information.

Possible affects of dredging projects on fisheries, marine wildlife (e.g. migratory or other use of certain areas by waterfowl and shorebirds during critical seasons), endangered species, etc. need to be considered at the earliest possible point in the planning/scheduling process.

(b) Selection, monitoring & management of dredged material disposal areas -- Investigate benefits, costs and feasibility of designation and management by the State of ocean disposal sites (funded by user charges and related sources) to supplement existing federal sites. Objectives of such a program would be to expedite beneficial public and private dredging projects by identifying environmentally acceptable ocean disposal sites in advance; to achieve better control of disposal activities, based on sound fishery, wildlife, geologic and water resource management principles; and to locate such sites in a pattern designed for greater monitoring efficiency and control than is possible where numerous small sites are established as individually proposed by municipalities and private contractors.

(c) Local harbor management plans -- Establish a single point of contact at the State level for towns with dredging concerns; improve State-local-federal coordination procedures. Provide funding to encourage local harbor management planning, particularly for harbors with frequent maintenance dredging needs and environmental problems (e.g. Wells, Scarborough, Lower Kennebec River). Develop and provide towns with general guidelines for environmentally sound dredging projects, and to identify areas that should not be dredged. Provide technical assistance in the planning stages, and review and comment on draft local harbor plans. Help ascertain the cause/effect relationships between projects and environmental problems. Seek ways to assure that benefit/cost evaluations take into account the costs of mitigating adverse environmental impacts, and that project scale-back, abandonment or de-authorization are considered alternatives.

(d) Coordination with New Hampshire and New Brunswick -- Coordinate dredging management and planning in Maine with neighboring jurisdictions, the Piscataqua River Basin Study Commission, the St. Croix International Waterway Commission, and the Gulf of Maine Council on the Marine Environment. In particular, evaluate the desirability of a joint agreement with New Hampshire on dredging in the Piscataqua River, and dredged material disposal needs for projects in both states.

6.3 Federal Allocations for Dredging

As appropriate, the Marine Policy Committee will initiate action urging the federal government to leave it up to each state to determine what harbors are funded for dredging. States should be free to use whatever factors they deem appropriate in their particular situations (except where national security or other overriding federal interests are involved). Federal funding allocations to states for dredging should be based on measures of overall state need, and not simply on factors related to size of ports.

Size, by itself, is not an acceptable measure of a port's dredging priority. The use of tonnage handled to establish a cut-off point for assistance, for example, biases funding allocations against Maine, with its many small harbors, in favor of states with a few large harbors. It does not accommodate low-tonnage, high-value harbors, or the fact that the aggregate value of commerce in a number of small harbors may be as significant as for a single large port. It does not recognize the greater need of small ports less able to support dredging costs.

Federal allocations to states for dredging should reflect: (a) aggregate cost and/or volume of dredging needed by a state; (b) the existence of critical items of commerce (from the standpoint of defense or national security) which are dependent on dredging; (c) the aggregate value and tonnage of commodities handled, and (d) harbor-related jobs and income.

6.4 State Regulatory Authority and the Regulatory Process

The Marine Policy Committee will evaluate and recommend needed changes concerning: (a) the regulation of different aspects of dredging and dredged material disposal under several separate State laws, regulations, standards, testing protocols and policies; (b) the clarity and adequacy of environmental standards; (c) the role of each agency in project review, review procedures, and the clarity and efficiency of the review process; (d) federal consistency reviews; (e) coordination with the Corps of Engineers; (f) the balancing of resource protection concerns with the economic benefits of dredging; and (g) advocacy of environmentally sound and needed projects.

Regulations should allow evaluation of the cumulative impacts of related projects, and state clearly that any non-federal project undertaken in conjunction with a Corps project ("piggy-backed") is to be subjected to the same level of scrutiny as if it were unrelated to the Corps project.

The Marine Policy Committee will update and compile State regulatory authorities, standards, policies, guidelines, and regulatory and federal consistency procedures, in a single reference, which should be submitted by the State Planning Office to the federal Office of Ocean & Coastal Resource Management (OCRM) for incorporation in Maine's Coastal Program as an enforceable policy for federal consistency reviews.

The Marine Policy Committee will initiate and coordinate preparation of joint DEP/Corps dredging application and project evaluation forms. The application form should include instructions which explain: (a) the overall State-federal project review process, including the role of the NED Maine Project Office; (b) the information required of the applicant by State and federal agencies; (c) standards and procedures by which applications will be evaluated; and (d) what contingencies will determine the need for further testing or additional information. The evaluation form should be designed to facilitate systematic evaluation of all factors and tradeoffs involved in the dredging decision and cover, in addition to environmental impacts, the economic benefits expected and the consequences of not undertaking the project.

6.5 Database & Research Needs & Priorities

The Marine Policy Committee will initiate and coordinate establishment of an interagency dredging management database and library. The database should be integrated with the State's Geographic Information System. It should include or be able to access environmental and resource data, data on dredging projects, and data on port and harbor facilities and activities from all relevant sources and agencies, including federal agencies, universities and towns. For example:

Fisheries data (DMR)
Marine wildlife habitat, endangered species (IF&W)
Data on intertidal and subtidal environments and environmental changes, special and critical resources (MGS, Public Lands)
Mineral resources, environmental data and hydrodynamics of disposal areas (bathymetric conditions, currents, geologic/hydrographic processes, sediment movement, site stability, etc.) (MGS)
Data on sediment types and sizes, sources and types of sediment contamination, historical discharges and spills, etc. (DEP, MGS, Corps of Engineers)
Disposal site monitoring data (Corps of Engineers)
Data on port and harbor facilities and activities, moorings, history of dredging, etc. (Maine Dept. of Transportation, Corps of Engineers, towns, etc.)

The Marine Policy Committee will evaluate the present extent and nature of federal monitoring activities at ocean disposal sites; determine unmet monitoring needs, costs, and the feasibility and desirability of establishing a State monitoring program to supplement monitoring efforts by the Corps.

The Committee also will identify research opportunities in connection with dredging projects; link dredging-related research at the State level with research by the U.S. EPA, the Corps of Engineers and other federal agencies; and coordinate establishment of research priorities by State agencies and universities. For example: research on coastal geology and nearshore processes by the Maine Geological Survey, on fisheries by the Dept. of Marine Resources, and on sources of contamination of harbor sediments by the DEP's Marine Environmental Monitoring Program.

APPENDIX A.1

MAINE COASTAL TOWNS WITH CORPS DREDGING PROJECTS

Arrowsic	Kennebec River, Sasonoa River
Augusta	Kennebec River
Bangor	Penobscot River
Bath	Kennebec River
Beals	Beals Harbor, Pig Island Gut
Belfast	Belfast Harbor
Biddeford	Saco River, Wood Island Harbor & Biddeford Pool
Boothbay	East Boothbay Harbor
Boothbay Harbor	Boothbay Harbor
Bowdoinham	Cathance River, Kennebec River
Brewer	Penobscot River
Bristol	New Harbor
Brooksville	Bagaduce River
Bucksport	Bucksport Harbor, Penobscot River
Calais	Saint Croix River
Camden	Camden Harbor
Castine	Penobscot River
Chelsea	Kennebec River
Cherryfield	Narraguagus River
Damariscotta	Damariscotta River
Deer Isle	Stonington Harbor
Dresden	Kennebec River
East Machias	Machias River
Eliot	Portsmouth Harbor & Piscataqua River
Ellsworth	Union River
Farmingdale	Kennebec River
Frankfort	Penobscot River
Freeport	Harraseeket River
Frenchboro	Frenchboro Harbor
Gardiner	Kennebec River
Georgetown	Kennebec River
Gouldsboro	Bunker Harbor, Corea Harbor
Hallowell	Kennebec River
Hampden	Penobscot River
Isle au Haut	Isle au Haut Thoroughfare
Jonesport	Jonesport Harbor, Moosabec Bar
Kennebunk	Kennebunk River
Kennebunkport	Cape Porpoise Harbor, Kennebunk River
Kittery	Pepperell Cove, Portsmouth Harbor & Piscataqua River
Lubec	Lubec Channel
Machias	Machias River
Machiasport	Bucks Harbor, Machias River
Milbridge	Narraguagus River
Mount Desert	Northeast Harbor
Newcastle	Damariscotta River
Ogunquit	Josias River at Perkins Cove
Orland	Penobscot River
Orrington	Penobscot River
Owls Head	Owls Head Harbor
Penobscot	Bagaduce River, Penobscot River
Phippsburg	Kennebec River
Pittston	Kennebec River
Portland	Portland Harbor
Prospect	Penobscot River
Randolph	Kennebec River
Richmond	Kennebec River, Richmond Harbor
Rockland	Rockland Harbor
Rockport	Rockport Harbor
Saco	Saco River
St. George	Tenants Harbor
Scarborough	Scarborough River
Searsport	Searsport Harbor
South Bristol	South Bristol Harbor
South Portland	Portland Harbor
Southport	Hendricks Harbor
Southwest Harbor	Southwest Harbor
Stockton Springs	Penobscot River, Stockton Harbor
Stonington	Deer Isle Thoroughfare
Thomaston	Saint George River
Tremont	Bass Harbor, Bass Harbor Bar
Verona	Penobscot River
Vinalhaven	Carvers Harbor
Waldoboro	Medomak River
Wells	Wells Harbor
Winter Harbor	Winter Harbor
Winterport	Penobscot River
Woolwich	Kennebec River, Sasonoa River
Yarmouth	Royal River
York	York Harbor

Source: Water Resources Development in Maine, 1987, U.S. Army Corps of Engineers

APPENDIX A.2

CORPS OF ENGINEERS MAINTENANCE & IMPROVEMENT DREDGING
1982 - 1989

PROJECT NAME	YEAR/DISPOSAL	CUBIC YARDS
Improvement Projects		
Saco River	1982/upland	7,300
Corea Harbor	1982/ocean	26,000
Stonington Harbor	1983/ocean	42,500
Jonesport Harbor	1987/ocean	68,000
Sub-Totals	UPLAND	7,300
	OCEAN	136,500
Maintenance Projects		
Kennebec River	1982/river	53,300
Penobscot River	1984/river	44,625
Portland Harbor	1984/ocean	20,000
Kennebunk River	1985/ocean	26,156
Penobscot River	1985/river	44,625
Portland Harbor	1985/na	44,650
Royal River	1985/upland	37,500
Kennebec River	1986/river	57,902
Royal River	1986/upland	42,626
Rockport Harbor	1988/ocean	10,000
Wood Island Hbr	1989/ocean	38,452
Sub-Totals	UPLAND	80,126
	OCEAN	94,608
	RIVER	200,452
	NA	44,650
Totals	UPLAND	87,426
	OCEAN	231,108
	RIVER	200,452
	NA	44,650
GRAND TOTAL		563,636

APPENDIX A.3

CORPS PERMITS FOR DREDGED MATERIAL DISPOSAL
AT CAPE ARUNDEL, PORTLAND & ROCKLAND
OCEAN DISPOSAL SITES

		Cape Arundel	Portland	Rockland
1985	-- No. of permits	2	3	3
	-- Cubic yards	4,800	23,500	2,700
1986	-- No. of permits	5	2	4
	-- Cubic yards	16,725	20,300	10,875
1987	-- No. of permits	3	1	4
	-- Cubic yards	222,346	10,800	4,420
1988	-- No. of permits	1	1	6
	-- Cubic yards	10,790	11,425	571,142
1989	-- No. of permits	0	1	1
	-- Cubic yards	0	6,970	2,750
TOTAL	-- No. of permits	11	8	18
	-- Cubic yards	254,661	72,995	591,887

APPENDIX A-4

CORPS OF ENGINEERS MAINTENANCE PROJECTS

1950-1981

PROJECT NAME	YEAR/DISPOSAL SITE	QUANTITY (cu. yds.)	ANNUAL TOTALS
Kennebec R.	1950/NA	108,830	132,108
Kennebunk R.	1950/NA	23,278	
Portland Hbr.	1952/NA	480,633	480,633
Kennebec R.	1953/NA	58,390	82,241
Corea Hbr.	1953/NA	23,851	
Portland Hbr.	1954/NA	104,778	104,778
Kennebec R.	1955/NA	14,100	14,100
Portland Hbr.	1956/NA	79,281	83,988
Kennebec R.	1956/NA	4,707	
Kennebec R.	1958/NA	26,183	28,683
Portland Hbr.	1958/NA	2,500	
Penobscot R.	1959/NA	74,160	74,160
Camden Hbr.	1960/NA	27,860	27,860
Penobscot R.	1961/NA	114,000	114,000
Portland Hbr.	1962/NA	225,000	225,000
Portland Hbr.	1963/NA	225,000	225,000
Machias R.	1964/NA	500	71,678
Penobscot R.	1964/open-water	71,178	
Scarboro R.	1966/ocean	32,577	32,577
Josias R.	1967/upland	5,500	106,632
Penobscot R.	1967/open-water	101,132	
Kennebec R.	1968/open-water	54,741	54,741
Penobscot R.	1969/open-water	14,557	40,433
Kennebec R.	1969/open-water	25,876	
Wells Hbr.	1970/upland	27,000	129,400
Scarboro R.	1970/ocean	47,000	
Piscataqua R.	1970/open-water	55,400	
Portland Hbr.	1971/open-water	20,680	94,649
Machias R.	1971/intertidal	7,760	
Kennebec R.	1971/open-water	54,535	
Wells Hbr.	1971/upland	11,674	
Scarboro R.	1973/upland	18,800	18,800
Wells Hbr.	1974/open-water	13,350	252,350
Rockland Hbr.	1974/open-water	89,000	
Scarboro R.	1974/upland	150,000	
Scarboro R.	1975/intertidal	9,090	174,720
Kennebunk R.	1975/open-water & upland	34,900	
Kennebec R.	1975/river	102,930	
York Hbr.	1975/upland	27,800	
Josias R.	1976/upland	860	173,100
Cape Porpoise	1976/open-water	132,000	
Royal R.	1976/upland	40,000	
Kennebunk R.	1976/open-water	240	
Georges R.	1977/intertidal	9,523	9,523
Saco R.	1978/intertidal (beach)	93,000	93,000
Portland Hbr.	1980/ocean	1,080,329	1,080,329
Kennebec River	1981/river	52,000	52,000
16 projects 47 maintenance dredgings		2,279,677 cu. yds.	

Source: A Dredge Management Study for the State of Maine, Volume II, May 1982

APPENDIX A-5

CORPS OF ENGINEERS IMPROVEMENT PROJECTS

1950-1981

PROJECT NAME	YEAR/DISPOSAL SITE	QUANTITY (cu. yds.)	ANNUAL TOTALS
Boothbay Harbor	1950/NA	8,408	236,324
Cape Porpoise Hbr.	1950/ocean	74,802	
Kennebunk R.	1950/open-water	23,278	
Portland Hbr.	1950/NA	94,069	
Rockland Hbr.	1950/NA	35,767	
Josias R. (Ogunquit)	1951/NA	15,780	15,780
Northeast Hbr.	1954/intertidal	166,880	166,880
Hendricks Hbr. (Southport)	1956/NA	NA	167,540+
Isle Au Haut Thoroughfare	1956/NA	38,854	
Lubec Narrows	1956/NA	NA	
Penobscot R.	1956/NA	128,686	
Wood Island Hbr. (Biddeford Pool)	1956/NA	NA	
Beals Hbr.	1957/NA	57,452	57,452
Rockland Hbr.	1959/NA	4,650	4,650
Josias R. (Ogunquit)	1960/NA	39,750	39,750
York Harbor	1961/NA	6,628	6,628
Eastport Hbr.	1963/open-water	NA	549,000+
Scarborough Hbr.	1963/NA	300,000	
South Bristol Hbr.	1963/NA	NA	
Wells Hbr.	1963/intertidal	249,000	
Bass Hbr. (Tremont)	1964/NA	NA	NA+
Carver's Hbr. (Vinalhaven)	1964/NA	NA	
Searsport Hbr.	1964/open-water	NA	
Southwest Hbr.	1964/NA	NA	
Narraguagus R. (Milbridge)	1966/open-water	NA	NA+
New Harbor	1966/open-water	NA	
Pig Island Gut (Beals)	1966/NA	NA	
Owl's Head Hbr.	1967/NA	NA	190,000+
Wells Hbr.	1967/intertidal	190,000	
Bunker Hbr. (Gouldsboro)	1968/NA	NA	NA+
Kennebunk R.	1969/open-water	15,000	15,000
Piscataqua R. (Kittery)	1969/open-water	NA	
Royal R. (Yarmouth)	1969/intertidal	NA	
Saco R.	1970/intertidal	87,354	87,354
Frenchboro Hbr.	1975/open-water	85,000	109,000
Winter Hbr.	1975/open-water	24,000	
36 projects		1,645,361 cu. yds.	

* Source of Data: U.S. Army Corps of Engineers, New England Divison

Source: A Dredge Management Study for the State of Maine, Volume II, May 1982

APPENDIX A-6

NON-CORPS DREDGING PROJECTS 1971-1981

	SMALL PROJECTS (less than 10,000 cu yd/project)				LARGE PROJECTS (more than 10,000 cu yd/project)					
							DISPOSAL METHOD			
			DISPOSAL METHOD (# of projects)				UPLAND		OPEN WATER	
YEAR	NUMBER OF PROJECTS	TOTAL QUANTITY DREDGED (10^3 cu yd)	Upland	Open Water	NUMBER OF PROJECTS	TOTAL QUANTITY DREDGED (10^3 cu yd)	NUMBER OF PROJECTS	QUANTITY (10^3 cu yd)	NUMBER OF PROJECTS	QUANTITY (10^3 cu yd)
1981	4	22.0	2	2	4	219.2	0	----	4	219.2
1980	11	21.9	8	3	8	156.9	2	26.4	6	130.5
1979	3	6.2	2	1	1	27	---	----	1	27
1978	8	12.3	4	4	3	170	2	143	1	27
1977	5	11.4	3	2	NO LARGE PROJECTS IN THIS YEAR					
1976	13	32.7	7	6	1	65	1	65	---	---
1975	3	19.3	0	3	NO LARGE PROJECTS IN THIS YEAR					
1974	3	8.4	3	0	2	54	2	54	---	---
1973	4	13.4	2	2	NO LARGE PROJECTS IN THIS YEAR					
1972	3	5.9	3	0	NO LARGE PROJECTS IN THIS YEAR					
1971	5	12.5	4	1	1	12	1	12	---	---
TOTALS:	62	166	38	24	20	704.2	8	300.4	12	403.7

SOURCES: NERBC, 1981
MAINE DEP

Source: A Dredge Management Study for the State of Maine, Volume II, May 1982

APPENDIX A-7

STATE, MUNICIPAL, PRIVATE & FEDERAL NON-CORPS DREDGING PROJECTS

Dredge Project Name	Dredge Site Location
State Dredge Projects	
State of Maine Pier (Maine Dept. of Transportation)	Portland Harbor
Long Cove (Maine Dept. of Marine Resources)	Searsport Harbor
Maine Maritime Academy Pier	Castine Harbor
Stonington Fish Pier	Stonington Harbor
Municipal Dredge Projects	
Scarborough Town Wharf (Town of Scarborough)	Scarborough River
Cumberland Town Wharf (Town of Cumberland)	Casco Bay
Rockland Town Wharf (Town of Rockland)	Rockland Harbor
Camden Harbor (1974) (Town of Camden)	Camden Harbor
Camden Harbor (1980) (Town of Camden)	Camden Harbor
Belfast Town Wharf (Town of Belfast)	Belfast Harbor
Searsport Town Pier (Town of Searsport)	Searsport Harbor
Lubec Town Pier (Town of Lubec)	Lubec Harbor
Other Federal Agency Projects	
Northern Division U.S. Naval Facilities: Kittery	Piscataqua River

Dredge Project Name	Dredge Site Location
Private Dredge Projects	
Todd	Kittery
Maine Marine Engineering	Kennebunkport
Sutter	Kennebunkport
Lush	Cape Porpoise
Whitehouse	Cape Porpoise
Amoco Oil Co.	South Portland
Gulf Oil Co.	South Portland
Chevron USA	South Portland
Portland Pipeline Corp.	South Portland
South Portland Shipyard & Marine Railways	South Portland
Harris	Portland Harbor
Chee	Portland Harbor
DiMillo	Portland Harbor
General Marine Construction Corp.	Portland Harbor
Hale	Portland Harbor
Kasbay Fish-Co.	Portland Harbor
Union Wharf	Portland Harbor
Merrill Industries	Portland Harbor
Hill	Brunswick
King Fisheries	South Harpswell
Ward	South Harpswell
Bath Iron Works (1)	Bath
Bath Iron Works (2)	Bath
Bath Iron Works (3)	Bath

Dredge Project Name	Dredge Site Location
Burgess Marina	Bath
Gibbons Company	Bath
Washburn & Doughty	Woolwich
Brewster	Cushing
McLoon Lobster Co.	South Thomaston
Seacoast Lobster Co.	South George
Fisher Engineering	Rockland Harbor
F. J. O'Hara & Sons, Inc.	Rockland Harbor
Hurricane Island Outward Bound School	Rockland Harbor
National Sea Products, Inc.	Rockland Harbor
Northend Shipyard, Inc.	Rockland Harbor
Port Clyde Foods	Rockland Harbor
Prock Marine	Rockland Harbor
Seapro, Inc.	Rockland Harbor
Stinson Canning Co.	Rockland Harbor
Wilson	Rockport Harbor
Camden Yacht Club	Camden Harbor
Watson	Camden Harbor
Wayfarer Marine Corp.	Camden Harbor
Elden Corp.	Bucksport
Lunt, et. al.	Frenchboro

Source: A Dredge Management Study for the State of Maine, Volume III, May 1982

APPENDIX A.8

MAINE COASTAL TOWNS
IDENTIFYING DREDGING NEEDS
(from "Planning Study of Maine Coastal Port & Harbor Needs," Sasaki Associates, January 1990)

REC	RAN	TOWN	COST**
224	*	Bar Harbor	
221	*	Beals, Pig Island Gut	
223	*	Biddeford, Wood Island Hbr	
58	*	Bristol, New Harbor	
57	*	Bristol, Round Pond Hbr	
38	*	Jonesport	
222	*	Machiasport, Bucks Hbr	
225	*	Milbridge, Narraguagus River	
218	*	Ogunquit, Perkins Cove	
165	*	Rockland	
219	*	Scarborough, Pine Point Hbr	
227	*	South Bristol	
226	*	Southwest Harbor	
5	*	Steuben	
220	*	Tremont, Bass Hbr	
146	*	Vinalhaven, Carver Harbor	
113	*	Winterport	
179	*	Yarmouth	
TOTALS		18 PRIORITY PROJECTS	5,742,700
9	PA	Milbridge	
145	PA	Vinalhaven, Head of Harbor	
59	SA	Bristol, Pemaquid Pier	
92	SA	Bucksport	
98	SA	Ellsworth, Union River	
34	SA	Machiasport, Bucks Harbor	
41	SA	Machias, Machias River	
76	SA	Penobscot, Northern Bay	
171	SA	South Thomaston	
151	SA	Thomaston	
TOTALS		10 ALTERNATE PROJECTS	2,278,000
213		Bar Harbor	
245		Cranberry Isle, The Pool	
206		Harpswell, Orrs Cove	
139		North Haven	
117		Ogunquit, Perkins Cove	
211		Southwest Harbor	
216		Tremont, Bass Harbor	
67		Waldoboro	
TOTALS		8 ADDITIONAL PROJECTS	

OTHER POSSIBLE PROJECTS
(Identified by the Corps of Engineers January, 1991)

Portsmouth Harbor (M)
Piscataqua River (M)
York Harbor (M)
Kennebunk River (M)
Saco River (mouth) (M)
Portland Harbor (Million $ bridge) (M)
Kennebec R. (Doubling Pt.)(M)
Beals Harbor (M)
Criehaven Harbor breakwater repairs (M)
Belfast Harbor (M)
Roque Bluffs, Johnson Cove, breakwater (I)
Camden Harbor (M)

* = Priority Projects List
PA = Primary Alternate Project
PS = Secondary Alternate Project

** = Rough estimates
M = Maintenance project
I = Improvement project

[drdgneed.log]

APPENDIX A.9

RATING DREDGING PROJECTS

Source: A Dredge Management Study for Maine, Phase II: A Dredge Management Mechanism, August 1982

2.22 Maintenance Dredging Projects

The following outline represents a point of departure in developing a method for assessing and prioritizing the need for maintenance dredging of Maine ports.

A. Location of port.

B. Nature of dredge authorization: the dimensions and physical location of the authorized dredging of channels, turning basins and anchorages.

C. Estimated frequency of dredging needed.

D. History of dredging: instances in the past when dredging has occurred including the location and method of dredging, the volume dredged, the time period during which dredging occurred, the characteristics of the dredged material (including the results of any testing that was done), the method and location of material disposal, the cost, and who paid for the dredging.

E. Port facilities: the public and private port facilities in the area affected by dredging, including docks, piers, marinas, anchorages and moorings, loading and unloading facilities, storage and processing facilities, and services.

F. Port activity: types and degree of use of the port, including commercial cargo handling (size of vessels, number of trips, and types, tonnage and value of commodities handled), fishing (number of vessels, volume and value of fish and shellfish landed by species), ship/boat building (number, size and value of vessels produced), and recreational (number of moorings and slips, nature of use, and estimated volume of traffic).

G. Condition of channel, turning basins and anchorages: extent and degree of channel shoaling, percentage of authorized turning basins and anchorages presently not usable.

H. Navigational difficulties/delays experienced: number and frequency of instances of grounding out in areas authorized for dredging and number of vessels that must operate at the top of tide.

I. Rating:

1. Navigational difficulties/delays experienced: rated on a ten point scale with 1 being no difficulty/delay experienced and 10 being extreme difficulty/delay experienced.

2. Critical items of commerce: up to 5 points can be awarded when ports handle items of commerce that are needed for defense or national security purposes. This includes ships built for defense purposes.

3. Importance of port to local economy: rated on a ten point scale with 1 being a port of little importance to the local economy and 10 being a port of major significance. Importance should be determined based on number and amount of port-related jobs and income, including secondary processing and the provision of services to port users.

4. Importance of port to state economy: rated on a ten point scale with 1 being a port of very little importance to the state economy and 10 being a port of major significance. Importance should be determined based on the level of port activity.

5. Existence of environmental problems: rated on a ten point scale with -5 being the situation where major environmental problems related to dredging and the disposal of spoils are anticipated and have not been resolved and +5 being either no environmental problems are anticipated or all problems have been resolved.

NOTE: No weighting of rating factors is proposed at this time. However, the Department of Transportation should consider weighting factors as part of the process of refining the assessment/prioritizing method.

2.23 Improvement Dredging Projects

The following outline represents a point of departure in developing a method for assessing and prioritizing the desirability of undertaking improvement projects of a dredging nature.

A. Location of port; nature of proposed improvements.

B. Nature of existing dredge authorization: the dimensions and physical location of the authorized dredging of channels, turning basins and anchorages.

C. Estimated frequency of maintenance dredging of proposed improvements.

D. History of dredging: instances in the past when dredging has occurred including the location and method of dredging, the volume dredged, the time period during which dredging occurred, the characteristics of the dredged material (including the results of any testing that was done), the method and location of material disposal, the cost, and who paid for the dredging.

E. Port facilities: the public and private facilities within the port, including docks, piers, marinas, anchorages and moorings, loading and unloading facilities, access to other modes of transportation, storage and processing facilities, and services.

F. Port activity: types and degree of historic and existing use of the port, including commercial cargo handling (size of vessels, number of trips, and types, tonnage and value of commodities handled), fishing (number of vessels, volume and value of fish and shellfish landed by species), ship/boat building (number, size and value of vessels produced), and recreational (number of moorings and slips, nature of use, and estimated volume of traffic).

G. Cost reduction benefits: for current users of the port, benefits anticipated from improvement dredging as the result of reductions in the costs incurred from trip delays (reduced congestion in channels, increased access to loading/unloading facilities), reductions in costs through the use of larger or longer vessels, and reductions in cost through ability of vessels to be more fully loaded.

H. Shift of mode benefits: For shippers who would use water-borne tansport rather than alternative transport modes as the result of dredging improvements, the benefits gained from lower transportation costs in getting commodities to existing markets and from existing suppliers.

I. Shift of origin benefits: If there is a change in the origin of a commodity as a result of the dredging improvements, the benefit is the reduction in cost of making the commodity available in Maine.

J. Shift of destination benefits: If there is a change in the destination of a commodity as the result of the dredging improvements, the benefit is the resulting change in net revenue to the producer.

K. Induced movement benefits: If a new commodity or additional quantities of a commodity are produced and consumed as the result of the dredging improvements, the benefit is the value of the delivered commodity less production and transportation costs.

L. Local economic benefits: Increases in direct, indirect and induced employment opportunity and personal income in the local area of the port resulting from increased use of the port and related developments.

M. Local tax benefits: Increases in taxes collected by municipal government as the result of increased port activity and related development. For example, increased property taxes resulting from higher property values.

N. State economic benefits: Increases in direct, indirect and induced employment opportunity and personal income on a statewide basis resulting from increased use of the port and related development..

O. State tax benefits: Increases in taxes collected by state government, such as sales and income taxes, as the result of increased port activity and related development.

P. Local and state government costs: Costs to local and state government of providing support facilities and services as the result of changes in port use generated by port dredging improvements.

Q. Navigational safety improvements: The benefits gained by port users as the result of improving nativational safety through the proposed dredging improvements.

R. Rating:

1. Navigational safety improvement: rated on a 10 point scale with 1 being that the project has no relation to navigational safety and 10 being that the project will result in a very significant improvement to navigational safety.

2. Economic benefit to existing port users: rated on a 10 point scale with 1 being that the project will result in no economic benefit to users and 10 being that the project will result in a very substantial economic benefit to current users.

3. Economic benefit to potential port users: rated on a 10 point scale with 1 being that the project will result in no economic benefit to potential port users and 10 being that the project will result in very substantial economic benefit to potential port users.

4. Local economic benefits: rated on a 10 point scale with 1 being that the project will have no beneficial effect on the local economy and 10 being that the project will result in very substantial economic benefit to the local economy.

5. Local taxes: rated on a 10 point scale with -5 being that the cost of providing additional public facilities and services will greatly exceed any increases in tax revenue and +5 being that the increases in tax revenue greatly exceed the cost of providing additional public facilities and services.

6. State economic benefits: rated on a 10 point scale with 1 being that the project will have no beneficial effect on the state's economy and 10 being that the project will result in a very substantial economic benefit to the state's economy.

7. State taxes: rated on a 10 point scale with -5 being that the cost of providing additional public facilities and services will greatly exceed any increases in tax revenue and +5 being that the increases in tax revenue greatly exceed the cost of providing additional public facilities and services.

8. Environmental problems: rated on a 10 point scale with -5 being the situation where major environmental problems related to the dredging and spoils disposal are anticipated and have not been resolved and +5 being either no environmental problems are anticipated or all problems have been resolved.

9. Community attitude: rated on a 10 point scale with -5 being strong community opposition to the project with the resolution of differences expected to be difficult and +5 being strong community support.

NOTE: No weighting of rating factors is proposed at this time. However, the Department of Transportation should consider weighting factors as part of the process of refining the assessment/prioritizing method.

APPENDIX A.10

RATING PORT & HARBOR FACILITIES FOR POSSIBLE STATE FUNDING ASSISTANCE*

The Sasaki report outlines a priority rating system for evaluating a wide range of port and harbor improvements, including dredging projects, for possible State funding assistance. Evaluation criteria and scoring are given below.

Criteria	Weight	Response	Score
Project Type	5	--Breakwater rehab., pier/wharf or float rehab., maintenance dredging	3
		--Land/facility acquisition, pier/ wharf or float construction, breakwater/wave protection	2
		--New dredging, dredge disposal site	1
Evidence of Need	5	--Urgent hazard, critical transportation facility	3
		--Safety improvement, water-related economic contribution, public access, regional priority	2
		--Local priority, accordance with comprehensive plan	1
Public Support	5	--Elected officials, general public	3
		--Special committee	2
		--Other	1
Economic Benefit**	5	--High	3
		--Moderate	2
		--Low	1
Job Opportunity Zone	1	--Within	3
		--Outside	0
Environmental Impact***	5	--No impact	1
		--Moderate or minor impact	0
		--Major impact	-1
Stage of Project	1	--Engineering or feasibility study complete	3
		--Reconnaissance or planning study complete	2
		--Conceptual	1
Project Cost	3	--$0-100,000	3
		--$101,000-250,000	2
		--more than $250,000	1

* From Planning Study of Maine Coastal Port and Harbor Needs, Sasaki Associates, Inc., Jan. 1990.

** Based on numbers of commercial fishing licenses, recreational boat registrations, and charter and ferry boats.

*** Impact of a permitted project which meets all environmental review requirements.

APPENDIX A.11

EXCERPTS FROM THE PRINCIPAL STATE REGULATORY AUTHORITIES

EXCERPTS FROM THE NATURAL RESOURCES PROTECTION ACT

(38 MRSA Sections 480-A to 480-S)

Sec. 480-A. Findings; purpose

The Legislature finds and declares that the State's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and coastal sand dunes systems are resources of state significance. These resources have great scenic beauty and unique characteristics, unsurpassed recreational, cultural, historical and environmental value of present and future benefit to the citizens of the State and that uses are causing the rapid degradation and, in some cases, the destruction of these critical resources, producing significant adverse economic and environmental impacts and threatening the health, safety and general welfare of the citizens of the State.

The Legislature further finds and declares that there is a need to facilitate research, develop management programs and establish sound environmental standards that will prevent the degradation of and encourage the enhancement of these resources. It is the intention of the Legislature that existing programs related to Maine's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and sand dunes systems continue and that the Department of Environmental Protection provide coordination and vigorous leadership to develop programs to achieve the purposes of this article. The well-being of the citizens of this State requires the development and maintenance of an efficient system of administering this article to minimize delays and difficulties in evaluating alterations of these resource areas.

The Legislature further finds and declares that the cumulative effect of frequent minor alterations and occasional major alterations of these resources poses a substantial threat to the environment and economy of the State and its quality of life.

Sec. 480-B. Definitions

As used in this article, unless the context otherwise indicates, the following terms have the following meanings.

1. Coastal sand dune systems. "Coastal sand dune systems" means sand deposits within a marine beach system, including, but not limited to, beach berms, frontal dunes, dune ridges, back dunes and other sand areas deposited by wave or wind action. Coastal sand dunes may extend into the coastal wetlands.

2. Coastal wetlands. "Coastal wetlands" means all tidal and subtidal lands, including all areas below any identifiable debris line left by tidal action; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action or annual storm flowage at any time excepting periods of maximum storm activity. Coastal wetlands may include portions of coastal sand dunes.

3. Fragile mountain areas. "Fragile mountain areas" means areas above 2,700 feet in elevation from mean sea level.

4. Freshwater Wetlands. "Freshwater wetlands" means freshwater swamps, marshes, bogs and similar areas which are:

   A. Of 10 or more contiguous acres;

   B. Characterized predominantly by wetland vegetation; and

   C. Not considered part of a great pond, coastal wetland, river, stream or brook.

These areas may contain small inclusions of land that do not conform to the criteria of this subsection.

5. Great ponds. "Great ponds" means any inland bodies of water which in a natural state have a surface area in excess of 10 acres and any inland bodies of water artificially formed or increased which have a surface area in excess of 30 acres.

6. Normal high water line. "Normal High water line" means that line along the shore of a great pond, river, stream, brook or other nontidal body of water which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or from changes in vegetation and which distinguishes between predominantly aquatic and predominantly terrestrial land. In the case of great ponds, all land below the normal high water line shall be considered the bottom of the great pond for the purposes of this article.

7. Permanent structure. "Permanent structure" means any structure constructed or erected with a fixed location, or attached to a structure with a fixed location, on or in the ground within a fragile mountain area, or having a fixed location in, on or over the water for a period exceeding 7 months each year, including, but not limited to, causeways, piers, docks, concrete slabs, piles, marinas, retaining walls and buildings.

8. Protected natural resource. "Protected natural resource" means coastal sand dune system, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds or rivers, streams or brooks, as these terms are defined in this article.

9. River, stream or brook. "River, stream or brook" means a channel between defined banks including the floodway and associated flood plain wetlands where the channel is created by the action of the surface water and characterized by the lack of upland vegetation or presence of aquatic vegetation and by the presence of a bed devoid of top soil containing water-borne deposits on exposed soil, parent material or bedrock.

10. Significant wildlife habitat. "Significant wildlife habitat" means the following areas to the extent that they have been mapped by the Department of Inland Fisheries and Wildlife: Habitat for species appearing on the official state or federal lists of endangered or threatened species; high and moderate value deer wintering areas and travel corridors as defined by the Department of Inland Fisheries and Wildlife; high and moderate value waterfowl and wading bird habitat, including nesting and feeding areas as defined by the Department of Inland Fisheries and Wildlife; critical spawning and nursery areas for Atlantic sea run salmon as defined by the Atlantic Sea Run Salmon Commission; and shorebird nesting, feeding and staging areas and seabird nesting islands as defined by the Department of Inland Fisheries and Wildlife.

Section 480-C. Prohibitions

1. Prohibition. No person may perform or cause to be performed any activity listed in subsection 2 without first obtaining a permit from the Board of Environmental Protection or in violation of the conditions of a permit, if these activities:

A. Are in, on or over any protected natural resource; or

B. Are on land adjacent to any freshwater or coastal wetland, great pond, river, stream or brook and operate in such a manner that material or soil may be washed into them.

2. Activities requiring a permit. The following activities require a permit:

A. Dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials;

B. Draining or otherwise dewatering;

C. Filling, including adding sand or other material to a sand dune; or

D. Any construction, repair or alteration of any permanent structure.

3. Application. This section applies to all protected natural resources without regard to whether they have been mapped pursuant to section 480-I, except that significant wildlife habitat must be mapped before this section applies.

Section 480-D. Standards

The Board of Environmental Protection shall grant a permit upon proper application and upon such terms as it deems necessary to fulfill the purposes of this article. The board shall grant a permit when it finds that the applicant has demonstrated that the proposed activity meets the following standards.

1. Existing uses. The activity will not unreasonably interfere with existing scenic aesthetic, recreational or navigational uses.

2. Soil erosion. The activity will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

3. Harm to habitats; fisheries. The activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, travel corridor, freshwater, estaurine or marine fisheries or other aquatic life.

In determining whether there is unreasonable harm to significant wildlife habitat, the board may consider proposed mitigation if that mitigation does not diminish in the vicinity of the proposed activity the overall value of significant wildlife habitat and species utilization of the habitat and if there is no specific biological or physical feature unique to the habitat that would be adversely affected by the proposed activity. For purposes of this subsection, "mitigation" means any action taken or not taken to avoid, minimize, rectify, reduce, eliminate or compensate for any actual or potential adverse impact on the significant wildlife habitat, including the following:

A. Avoiding an impact all together by not taking a certain action or parts of an action;

B. Minimizing an impact by limiting the magnitude, duration or location of an activity or by controlling the timing of an activity;

C. Rectifying an impact by repairing, rehabilitating or restoring the affected environment;

D. Reducing or eliminating an impact over time through preservation and maintenance operations during the life of the project; or

E. Compensating for an impact by replacing the affected significant wildlife habitat.

4. Interfere with natural water flow. The activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

5. Lower water quality. The activity will not violate any state water quality law, including those governing the classification of the State's waters.

6. Flooding. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

7. Sand supply. If the activity is on or adjacent to a sand dune, it will not unreasonably interfere with the natural supply or movement of sand within or to the sand dune system, or unreasonably increase the erosion hazard to the sand dune system.

8. Outstanding river segments. If the proposed activity is a crossing of any outstanding river segment as identified in section 480-P, the applicant shall demonstrate that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of the river segment.

Section 480-E. Permits; grants; denials; suspensions

The department shall process all permits under this article in accordance with chapter 2.

The board shall not issue a permit without notifying the municipality in which the proposed activity is to occur and considering any comments filed by the municipality within a reasonable period as established by the board.

If the resource subject to alteration or the underlying ground water is utilized by a water company, municipality or water district as a source of supply, the applicant for the permit shall, at the time of filing an application, forward a copy of the application to the water company, municipality or water district by certified mail and the board shall consider any comments filed within a reasonable period, as established by the board.

When winter conditions prevent the board or municipality from evaluating a permit application, the board or municipality, upon notifying the applicant of that fact, may defer action on the application for a reasonable period. The applicant shall not during the period of deferral alter the resource area in question.

Section 480-R. Violations; enforcement

1. Violations. A violation is any activity which takes place contrary to the provisions of a valid permit issued under this article or without a permit having been issued for that activity. Each day of a violation shall be considered a separate offense. A finding that any such violation has occurred shall be prima facie evidence that the activity was performed or caused to be performed by the owner of the property where the violation occurred.

2. Enforcement. Inland fisheries and wildlife game wardens, Department of Marine Resources marine patrol officers and all other law enforcement officers enumerated in Title 12, section 7055, shall enforce the terms of this article.

Sections 480-F through 480Q and 480S (omitted)

STATE OF MAINE

IN THE YEAR OF OUR LORD
NINETEEN HUNDRED AND NINETY

H.P. 1407 - L.D. 1955

An Act to Regulate the Dumping of Dredged Materials in Maine Waters

Emergency preamble. Whereas, Acts of the Legislature do not become effective until 90 days after adjournment unless enacted as emergencies; and

Whereas, the unregulated disposal of dredged materials may occur before the expiration of the 90-day period; and

Whereas, without the protections provided by this legislation, the disposal of dredged materials may cause severe environmental damage; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore,

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 MRSA §413, sub-§2-C, as enacted by PL 1983, c. 566, §17, is amended to read:

2-C. Dredge spoils. Holders of a permit obtained pursuant to the United States Clean Water Act, Public Law 92-500, Section 404, are exempt from the need to obtain a waste discharge license for disposal of dredged material into waters of the State when the dredged material is disposed of in an approved United States Army Corps of Engineers disposal site. Disposal of all dredged materials is governed by the natural resource protection laws, sections 480-A to 480-S.

Sec. 2. 38 MRSA §480-B, sub-§2-A is enacted to read:

2-A. Dredge spoils. "Dredge spoils" means sand, silt, mud, gravel, rock or other sediment or material that is moved from coastal wetlands.

Sec. 3. 38 MRSA §480-D, sub-§9 is enacted to read:

9. Dredging. If the proposed activity involves dredging, dredge spoils disposal or transporting dredge spoils by water, the applicant shall demonstrate that the transportation route minimizes adverse impacts on the fishing industry and that the disposal site is geologically suitable. The department shall consult with the Department of Marine Resources in assessing the impacts on the fishing industry. The permit must include a requirement that the applicant publish the approved transportation route of the dredge spoils in a newspaper of general circulation in the area adjacent to the route.

Sec. 4. 38 MRSA §480-E, as enacted by PL 1987, c. 809, §2, is repealed and the following enacted in its place:

§480-E. Permit processing requirements

The department shall process all permits under this article in accordance with chapter 2 and the following requirements.

1. Municipal notification. The board may not issue a permit without notifying the municipality in which the proposed activity is to occur and considering any comments filed by the municipality within a reasonable period as established by the board.

2. Water supply notification. If the resource subject to alteration or the underlying ground water is utilized by a water company, municipality or water district as a source of supply, the applicant for the permit shall, at the time of filing an application, forward a copy of the application to the water company, municipality or water district by certified mail and the board shall consider any comments concerning the application filed with the department within a reasonable period, as established by the board.

3. Dredge spoils disposal. The commissioner may not accept an application for dredge spoils disposal in a coastal wetland unless the following requirements are met.

A. The applicant has collected and tested the dredge spoils in accordance with a protocol approved by the commissioner. The collection, testing and forwarding of the results of the tests to the commissioner must occur within one year before the submission of a completed application.

B. The applicant has published notice of the proposed route by which the dredged materials are to be transported to the disposal site in a newspaper of general circulation in the area adjacent to the proposed route.

C. The application has been submitted to each municipality adjacent to any proposed marine and estuarine disposal site and route.

Any public hearing held pursuant to this application must be held in the municipality nearest to the proposed disposal site.

4. Deferrals. When winter conditions prevent the board or municipality from evaluating a permit application, the board or municipality, upon notifying the applicant of that fact, may defer action on the application for a reasonable period. The applicant may not alter the resource area in question during the period of deferral.

Emergency clause. In view of the emergency cited in the preamble, this Act shall take effect when approved.

STATE WATER QUALITY CERTIFICATION REQUIREMENTS
(pursuant to Section 401 of the U.S. Clean Water Act)

Title 38 MRSA

ARTICLE 4-A. WATER CLASSIFICATION PROGRAM

§ 464. Classification of Maine waters

[See main volume for text of 1 to 3]

4. **General provisions.** The classification system for surface waters established by this article shall be subject to the following provisions.

A. Notwithstanding section 414-A, the board shall not issue a water discharge license for any of the following discharges:

(1) Direct discharge of pollutants to waters having a drainage area of less than 10 square miles, except that discharges into these waters which were licensed prior to January 1, 1986, shall be allowed to continue only until practical alternatives exist;

(2) New direct discharge of domestic pollutants to tributaries of Class-GPA waters;

(3) Any discharge into a tributary of GPA waters which, by itself or in combination with other activities, causes water quality degradation which would impair the characteristics and designated uses of downstream GPA waters or causes an increase in the trophic state of those GPA waters;

(4) Discharge of pollutants to waters of the State which imparts color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their class;

(5) Discharge of pollutants to any water of the State which violates sections 465, 465-A and 465-B, except as provided in section 451; causes the "pH" of fresh waters to fall outside of the 6.0 to 8.5 range; causes the "pH" of estuarine and marine waters to fall outside of the 7.0 to 8.5 range; or causes fish for human consumption to be injurious to human health as determined by the United States Food and Drug Administration under the procedures established by United States Code, Title 21, section 342 or as determined by the Department of Human Services. The Department of Human Services shall establish a protocol for determining risk in these situations. The protocol shall be promulgated as a rule in accordance with the Maine Administrative Procedure Act, Title 5, chapter 375;[1] and

(6) New discharges of domestic pollutants to the surface waters of the State which are not conveyed and treated in municipal or quasi-municipal sewage facilities. For the purposes of this subparagraph, "new discharge" means any overboard discharge which was not licensed as of June 1, 1987, except those discharges which were in continuous existence for the 12 months preceding June 1, 1987, as demonstrated by the applicant to the board with clear and convincing evidence. For purposes of licensing, the board shall treat an increase in the licensed volume or quantity of an existing discharge or an expansion in the months during which the discharge will take place as a new discharge of domestic pollutants.

B. All surface waters of the State shall be free of settled substances which alter the physical or chemical nature of bottom material and of floating substances, except as naturally occur, which impair the characteristics and designated uses ascribed to their class.

C. Where natural conditions, including, but not limited to, marshes, bogs and abnormal concentrations of wildlife cause the dissolved oxygen or other water quality criteria to fall below the minimum standards specified in sections 465, 465-A and 465-B, those waters shall not be considered to be failing to attain their classification because of those natural conditions.

D. For the purpose of computing whether a discharge will violate the classification of any river or stream, the assimilative capacity of the river or stream shall be computed using the minimum 7-day low flow which can be expected to occur with a frequency of once in 10 years.

E. The waters contained in excavations approved by the board for waste water treatment purposes shall be unclassified waters.

F. The antidegradation policy of the State shall be governed by the following provisions.

(1) Existing in-stream water uses and the level of water quality necessary to protect those existing uses shall be maintained and protected. Existing in-stream water uses are those uses which have actually occurred on or after November 28, 1975, in or on a water body whether or not the uses are included in the standard for classification of the particular water body.

Determinations of what constitutes an existing in-stream water use on a particular water body shall be made on a case-by-case basis by the Board. In making its determination of uses to be protected and maintained, the Board shall consider designated uses for that water body and:

(a) Aquatic, estuarine and marine life present in the water body;

(b) Wildlife that utilize the water body;

(c) Habitat, including significant wetlands, within a water body supporting existing populations of wildlife or aquatic, estuarine or marine life, or plant life that is maintained by the water body;

(d) The use of the water body for recreation in or on the water, fishing, water supply, or commercial activity that depends directly on the preservation of an existing level of water quality. Use of the water body to receive or transport waste water discharges is not considered an existing use for purposes of this antidegradation policy; and

(e) Any other evidence which, for divisions (a), (b) and (c), demonstrates their ecological significance because of their role or importance in the functioning of the ecosystem or their rarity and, for division (d), demonstrates its historical or social significance.

(1-A) The board may only issue a waste discharge license pursuant to section 414-A, or approve a water quality certification pursuant to the United States Clean Water Act,[2] Section 401, Public Law 92-500, as amended, when the board finds that:

(a) The existing in-stream use involves use of the water body by a population of plant life, wildlife, or aquatic, estuarine or marine life, or as aquatic, estuarine, marine, wildlife, or plant habitat, and the applicant has demonstrated that the proposed activity would not have a significant impact on the existing use. For purpose of this division, significant impact means:

(i) Impairing the viability of the existing population, including significant impairment to growth and reproduction or an alteration of the habitat which impairs viability of the existing population; or

(b) The existing in-stream use involves use of the water body for recreation in or on the water, fishing, water supply or commercial enterprises that depend directly on the preservation of an existing level of water quality and the applicant has demonstrated that the proposed activity would not result in significant degradation of the existing use.

The board shall determine what constitutes a population of a particular species based upon the degree of geographic and reproductive isolation from other individuals of the same species.

If the board fails to find that the conditions of this subparagraph are met, water quality certification, pursuant to the United States Clean Water Act, Section 401, Public Law 92-500, as amended, is denied.

(2) Where high quality waters of the State constitute an outstanding national resource, that water quality shall be maintained and protected. For purposes of this paragraph, the following waters shall be considered outstanding national resources: those water bodies in national and state parks and wildlife refuges; public reserved lands; and those water bodies classified as Class AA and SA waters pursuant to section 465, subsection 1; section 465-B, subsection 1; and listed under sections 467, 468 and 469.

(3) The board may only issue a discharge license pursuant to section 414-A or approve water quality certification pursuant to the United States Clean Water Act, Section 401, Public Law 92-500, as amended, if the standards of classification of the water body and the requirements of this paragraph will be met.

(4) Where the actual quality of any classified water exceeds the minimum standards of the next highest classification, that higher water quality shall be maintained and protected. The board shall recommend to the Legislature that that water be reclassified in the next higher classification.

(5) The board may only issue a discharge license pursuant to section 414-A or approve water quality certification pursuant to the United States Clean Water Act, Section 401, Public Law 92-500, as amended, which would result in lowering the existing quality of any water body after making a finding, following opportunity for public participation, that the action is necessary to achieve important economic or social benefits to the State and when the action is in conformance with subparagraph (3). That finding must be made following procedures established by rule of the board.

NOTE FROM DEP'S SOLID WASTE MANAGEMENT RULES

Note at Section 1. Solid Waste Subject to the Requirements of this Chapter:

"Dredge spoils from any single project or development wherever a sieve analysis demonstrates that the spoils contain less then fifteen percent (15%) fines, or dredge spoils which are determined to be chemically inert are not subject to the requirements of this Chapter but remain subject to 38 MRSA, Section 413, which prohibits unlicensed discharges of pollutants to ground or surface waters of the State, Section 417, which prohibits discharges of certain types of wastes into surface waters of the State and Section 421, the Three Hundred Foot Law.

"Depending on the location of the material to be dredged, the Department may require a chemical analysis of the sediment. Guidelines are available from the Department which outline the required testing procedure. These guidelines also contain a classification system to assist in interpreting the test results. Facilities for the disposal of dredge spoils which contain greater than fifteen percent (15%) fines or are determined to be not chemically inert are required to obtain review and approval under the Site Location Law pursuant to the provisions of Chapter 400, Section 3 (page 4). "

FROM SECTION 401, U.S. CLEAN WATER ACT

"Sec. 401. (a)(1) Any applicant for a Federal license or permit to conduct any activity including, but not limited too, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction ... that any such discharge will comply with the applicable provisions of sections 301, 302, 303, 306 and 307 of this Act...." (which establish state water quality standards as controlling, providing they are federally approved as consistent with the Clean Water Act).

FEDERAL CONSISTENCY

Pursuant to the federal Coastal Zone Management Act (CZMA), all dredging and dredged material disposal must be consistent with State core laws comprising Maine's federally-approved Coastal Program. The core laws include the Natural Resources Protection Act and the Mandatory Shoreland Zoning Act. The State Planning Office is required to obtain federal approval of any core law or other changes for inclusion in the Coastal Program.

Maine's Coastal Program establishes federal consistency procedures which differ for dredging projects undertaken directly by the Corps of Engineers and dredging projects which are not undertaken directly but which require Corps permits. In the case of Corps permitted projects the Program stipulates that consistency is automatically presumed upon issuance of all necessary State and local permits. Permit applicants need only certify that such is the case as part of their applications.

Where a project is undertaken directly by the Corps, or any other federal agency, the Coastal Program assigns responsibility for assuring its consistency with State core laws to the State Planning Office. The federal agency must submit a certification and evidence of consistency to the State Planning Office; the SPO coordinates a review by State and local agencies and issues a statement of State concurrence or non-concurrence with the consistency certification. According to the CZMA, if that statement is not issued within 30 days (45 days if an extension is granted by the federal agency), the proposal may be considered legally consistent. The review period begins on receipt of information which is sufficiently complete to determine if the proposal meets core law standards, usually the equivalent of a core law application; lacking such the State will issue a non-concurrence on grounds of insufficient information.

In the event of serious disagreement between a federal agency and the State which cannot be resolved through informal negotiations, either party may seek mediation by the Secretary of the U.S. Dept. of Commerce (which administers the CZMA) or judicial review.

STATE & FEDERAL AGENCIES CONCERNED WITH DREDGING MANAGEMENT

Dept. of Economic & Community Development
Office of Comprehensive Planning
State House Station #130
Augusta, ME 04333
289-6800

State Planning Office
State House Station #38
Augusta, ME 04333
289-3261

Maine Dept. of Transportation
Ports & Marine Transportation Div.
State House Station #16
Augusta, ME 04333
289-2841

Dept. of Environmental Protection
State House Station #117
Augusta, ME 04333

-- Citizens Environmental Assistance Service
1-800-452-1942

-- Bureau of Land Quality Control
289-2111

-- Bureau of Water Quality Control
289-3355

Dept. of Environmental Protection
-- Portland Office
21 Vocational Drive
Portland, ME 04101
767-4763

-- Bangor Office
106 Hogan Rd
Bangor, ME 04401
941-4570

Dept. of Marine Resources
State House Station #21
Augusta, Me 04333
289-2291

Dept. of Inland Fisheries & Wildlife
State House Station #41
Augusta, ME 04333
289-3286

Maine Geological Survey
State House Station #22
Augusta, ME 04333
289-2801

Bureau of Public Lands
State House Station #22
Augusta, ME 04333
289-3061

Land Use Regulation Commission
State House Station #22
Augusta, ME 04333
289-2631
1-800-452-1942

U.S. Army Corps of Engineers
Regulatory Branch
424 Trapelo Road
Waltham, MA 02154
617-647-8332
1-800-343-4798

U.S.Army Corps of Engineers
Augusta Field Office
RR5, Box 119A
Augusta, ME 04330
623-8367
623-8124

U.S. Fish & Wildlilfe Service
22 Bridge St., Suite 400
Concord, N.H. 03301-4901
603-225-1411

U.S. Bureau of Sports Fisheries & Wildlife
40 Western Avenue
Augusta, ME 04330
622-6171

U.S. Environmental Protection Agency
Environmental Evaluation Section
J.F. Kennedy Bldg.
Boston, MA 02203-2211
617-565-4438

National Marine Fisheries Services
Habitat Conservation Branch
2 State Fish Pier
Gloucester, MA 01930-3097