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Policy Recommendations for Reducing Coastal Storm Damages

A Report to the Governor by his Advisory Committee
on Coastal Development and Conservation



Maine Coastal Program
Natural Resource Planning Division
Maine State Planning Office



Joseph E. Brennan
~~JAMES B. LONGLEY~~
GOVERNOR

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April, 1979

The Honorable Joseph E. Brennan
The Governor of Maine
State House
Augusta, ME 04333

Dear Governor Brennan:

I am pleased to transmit to you the Governor's Advisory Committee on Coastal Development and Conservation's final policy recommendations to reduce coastal storm damages along the coast of Maine. These recommendations are based largely on a Maine Land and Water Resources Council study, "Policy Recommendations for Reducing Coastal Storm Damages," which the Council conducted at our request.

The process used in arriving at these recommendations gives me full confidence in their soundness and viability. It included an objective analysis of existing information on Maine's beaches, an assessment of storm damages along the coast, an evaluation of a range of alternative approaches to reduce storm damages in the future, and public scrutiny at three well attended public meetings.

I believe implementation of these recommendations will provide for an effective State management strategy for reducing coastal storm damages and reflects the concerns of coastal residents.

The Committee hopes that you, as Governor, will support these recommendations and act to implement them.

Sincerely,

Jean H. Childs, Chairman
Governor's Advisory Committee on
Coastal Development & Conservation

JHC/js

Introduction

Recurring coastal storms cause severe damage to Maine's coastal real estate. In 1978 two winter storms caused \$47 million of damage to public and private property. Although sand beaches constitute only 36 miles or 1% of Maine's shoreline, most of the damage from the 1978 storms occurred on beaches, the majority south of Boothbay Harbor.

Maine beaches are subject to severe damages because they are low lying relative to storm tides, easily eroded, and extensively developed. Maine's beaches have a total 1,888 acres of sand dunes, of which 1,168 acres or 62% are developed.

In addition, sea level is rising everywhere along the Atlantic Coast. In Portland, the average rate of rise since 1912 has been .09 inches per year. Over a 100-year period, this amounts to a sea level rise of nine inches. The sea is constantly encroaching on the land, subjecting structures to storm effects with greater intensity and frequency, which will result in greater levels of property damage during future coastal storms.

Reducing coastal storm damages requires that the State of Maine take an active role in private land use decisions on the sand beaches. Existing state and municipal land use laws were not designed with the objective of reducing coastal storm damages. Therefore, new approaches must be initiated.

Any successful storm damage reduction strategy will have to involve cooperation among federal, state, and local government, affected private parties, and the general public. It will also require widespread understanding of the relationships among beach processes, coastal storms, and human structures. The following recommendations reflect these concerns.

Recommendations

National Flood Insurance Program

Recommendation #1 That the Governor issue an Executive Order assigning to the State Planning Office the responsibility for assisting Maine's municipalities with drafting and enactment of Flood Damage Prevention ordinances, and that the State Planning Office seek federal funding for the staff necessary to carry out the Executive Order.

Elaboration

The State Planning Office should coordinate with the Federal Insurance Administration, Regional Planning Commissions, and the Bureau of Civil Emergency Preparedness to implement provisions of the National Flood Insurance Program. This program requires that all municipalities enact Flood Damage Prevention Ordinances regulating construction in the 100 year flood plain in order to maintain eligibility to receive federal grants, loans, and flood insurance.

The State Planning Office should seek funding for staff necessary to carry out this recommendation from the Federal Insurance Administration and the Office of Coastal Zone Management.

Recommendation #2 That the U.S. Congress fund Section 1362 of the National Flood Insurance Act which provides funding for public acquisition of heavily damaged properties of high public interest on a willing-seller-willing-buyer basis.

Elaboration

This Section of the Flood Insurance Act requires that property to be purchased must be covered by flood insurance, be substantially damaged, and be purchased only on a willing-seller basis. Its funding will allow public purchase over time, on a willing-seller-willing-buyer basis, of those relatively few pieces of property which it is clearly in the public interest for the State to acquire.

The recommendation to study the "feasibility and advisability" of State acquisition for the purpose of preventing future storm damages, as suggested in the Land and Water Resources Council report, met with great public opposition and is not supported by the Committee on Coastal Development and Conservation. Section 1362 of the National Flood Insurance Program offers the most publicly acceptable means of providing an opportunity for landowners suffering repeated storm damages to take appropriate initiatives to prevent further losses.

Amending the Wetland Act to Include Protection of Dunes

Recommendation #3 That the Governor actively support legislation to extend the jurisdiction of the Wetlands Act to regulate building of structures on sand dunes and accreted land. (Proposed legislation Attachment #1)

Elaboration

As a result of a century of building, Maine's 36 miles of major sand beaches have 14 miles of seawalls fronting the sand dunes, and 62% of the dune area is covered by development. Protection of the remaining 38% of the sand dune area from development will allow the dune system to act as a natural storm buffer.

The Alteration of Wetlands Act currently requires applicants wishing to build any permanent structure in a wetland to obtain a permit from the Board of Environmental Protection. Wetlands are defined as including all tidal and subtidal lands, and areas below identifiable storm debris lines.

The Act amendment proposes to extend the jurisdiction of the Act to sand dunes and accreted land in order to regulate building on these areas through permit requirements. The Board will base its permit decisions on the current criteria of the Act and an additional consideration which requires that the proposed activity will not unreasonably increase the flood hazard to structures built in, on or over any coastal sand dune or neighboring property.

Public comment strongly supported protection of Maine's remaining sand dune areas.

Shoreland Zoning Extension to Cover Flood Prone Areas

Recommendation #4 That the Shoreland Zoning statute be amended to require that municipalities include in the shoreland zone all areas subject to the 100 year flood as identified in the Flood Insurance maps within one year of the adoption of these maps. The Guidelines ordinance will need to be modified accordingly.

Elaboration

The existing Shoreland Zoning Act is the State's and municipalities principal mechanism for protecting shoreland areas from unwise development. Amendment of this existing program offers the most sensible and publicly supportable means of preventing storm damage problems from occurring in flood plain areas.

By extending the shoreland zone to cover all areas in the 100 year flood plain, future storm damages can be prevented or reduced.

(continued)

The availability of the new flood insurance maps, which will delineate the 100 year flood plain, makes expansion of the Shoreland Zone possible. It is consistent with the objectives of the Act. Additionally, this approach complements the requirements of the Flood Insurance Program which requires Flood Damage Prevention ordinances for flood prone areas.

The amendment will not require that all flood plains be in Resource Protection, as much of the existing flood plain is already heavily developed and therefore locally designated as "General Development District." It only requires that uses be regulated within that area in order to prevent future flood damages.

Code Enforcement

Recommendation #5 That the State Planning Office make funding available to conduct a study of municipal code enforcement needs for Maine's coastal municipalities and report the findings and recommendations of this study to the next regular session of the Legislature.

Elaboration

Effective code enforcement is essential to assuring implementation of the provisions of the Flood Damage Prevention ordinances and Shoreland Zoning ordinances. Most municipal code enforcement efforts are understaffed and underfunded. Court action by municipal officials is also hampered by lack of funds to prosecute and of time available on the part of municipal officials to attend court sessions. A study of municipal code enforcement will examine enforcement staff needs, costs, and funding sources. The study should be conducted, in part, through interviews with municipal officials to solicit their ideas for improving code enforcement.

Seawalls

Recommendation #6 That the present Board of Environmental Protection policy concerning seawalls be continued, until such time as detailed information concerning the effects of seawalls in specific locations is known, either from the beach management programs (see recommendation #7) or from other appropriate sources. Public funding for seawall construction should be provided only for public roads or other substantial improvements where it has been demonstrated that the seawall in question is capable of providing long-term protection.

(continued)

Elaboration

Since the effectiveness of seawalls is a matter of considerable controversy, until detailed information is available about specific situations the present policy should be continued. The current Board of Environmental Protection policy states that the Board will normally not permit new seawall construction on a sand beach or erodable shore (See Attachment #2, Board of Environmental Protection Policy on New Seawalls). Based on information developed in the beach management programs, the Board's seawall policy could be modified to permit seawalls in specific situations.

Marine Geology Information

Recommendation #7

That a division of Marine Geology be created in the Maine Geological Survey to carry out the following functions:

1. Develop in consultation with local officials and citizens and appropriate state agencies, Beach Management Programs for each of the sandy beaches in Maine (with the exception of Sand Beach in Acadia National Park). These Programs should recommend specific actions to be taken by federal state, and local governments and private landowners to preserve the beach systems and minimize future coastal storm damages. Specific measures which should be taken into account include, but are not limited to seawalls, sand nourishment, and structural floodproofing techniques for buildings.
2. Develop and implement a program of public education and information to provide coastal residents with information and advice about current and potential hazards and measures to mitigate the hazards.
3. Develop information on coastal geologic hazards in areas other than sandy beaches which may pose threats to lives and property and identify appropriate mitigating measures.
4. Monitor shoreline changes throughout the coast.

Elaboration

A Marine Geology Division would provide a continuing focal point for research, information, and technical assistance in dealing with coastal hazards. The absence of this capability in State government has handicapped State and local regulatory agencies and, in general, left the affected public and private interests without the benefit of one ongoing agency capable of providing knowledgeable objective assistance.

(continued)

One of the most important findings of the study is that there is a great deal of variability in the different beaches of Maine, and thus there is a definite need to address the individual situations of each beach. This recommendation provides for the development of Beach Management Programs, which would address the particular needs of specific beaches. Once a Beach Management Program is completed for a beach, it can be used to guide decisions by the Board of Environmental Protection on seawall proposals and other actions reviewed under the Alteration of Wetlands Act.

The Division's responsibility to monitor shoreline changes also implies identifying and monitoring erodible bluffs and other potential hazard areas on the coast in addition to sand beaches.

The recommendation assigns the Division the responsibility for providing information and actively educating the public on coastal processes and storm damage problems so that they can make more informed decisions as to the purchase, development, and management of coastal property. Until two years ago this activity was funded in part by the federal government. Federal monies are no longer available for this purpose.

FIRST REGULAR SESSION

ONE HUNDRED AND NINTH LEGISLATURE

Legislative Document

No. 1468

H. P. 1163

House of Representatives, March 23, 1979

Referred to the Committee on Energy and Natural Resources in concurrence and ordered printed.

EDWIN H. PERT, Clerk

Presented by Mrs. Masterton of Cape Elizabeth.

Cosponsor: Mr. Rolde of York.

STATE OF MAINE

IN THE YEAR OF OUR LORD NINETEEN HUNDRED
SEVENTY-NINE

AN ACT to Allow the Board of Environmental Protection to Regulate Activities Affecting Sand Dunes under the Alteration of Coastal Wetlands Program.

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

Sec. 1. 38 MRSA § 471, as enacted by PL 1975, c. 595, § 3, is amended to read:

§ 471. Prohibitions

No individual person firm, corporation, municipality, state agency or other legal entity shall dredge or cause to be dredged, drain or cause to be drained, fill or cause to be filled or erect or cause to be erected a causeway, bridge, marina, wharf, dock or other permanent structure in, on or over any coastal wetland; or bulldoze, remove, add or displace sand, or build any permanent structure in, on or over any coastal sand dune without first obtaining a permit therefor from the Board of Environmental Protection or a municipality acting under the provisions of sections 473 and 474; nor shall any action be taken in violation of the conditions of such permit, once obtained.

Sec. 2. 38 MRSA § 472, as enacted by PL 1975, c. 595, § 3, is repealed and the following enacted in its place:

§ 472. Definition

As used in the alteration of coastal wetlands law, unless the context otherwise indicates, the following terms shall have the following meanings:

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

2. Coastal wetlands. "Coastal wetlands" are 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 habitat, and any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action or normal storm flowage at any time excepting periods of maximum storm activity. Coastal wetlands may include portions of coastal sand dunes.

Sec. 3. 38 MRSA § 474, as enacted by PL 1975, c. 595, § 3, is repealed and the following enacted in its place:

§ 474. Permits; standards

1. **Wetlands Permit.** If the applicant for a wetlands permit demonstrates to the satisfaction of the board or municipality as appropriate, that the proposed activity will not unreasonably interfere with existing recreational and navigational uses; nor cause unreasonable soil erosion; nor unreasonably interfere with the natural flow of any waters; nor unreasonably harm wildlife or freshwater, estuarine or marine fisheries; nor lower the quality of any waters, the board or municipality shall grant the permit upon such terms as are necessary to insure that the proposed activity will comply with the foregoing standards.

Within 30 days after receipt of a completed application for a permit, the board or municipality shall either issue the permit or deny the permit setting forth the reasons therefor or order a hearing thereon within 30 days of the order for which hearing adequate public notice shall be given. Within 30 days after the adjournment of such hearing, the board or municipality shall either issue the permit or deny the permit setting forth the reasons therefor. In the event that a permit applied for is denied either by the municipality or the board, the applicant may request a hearing before either of the above with reasonable public notice given.

The board shall issue no permit without notifying the municipality in which the proposed alteration is to occur and considering any comments filed within a reasonable period by said municipality.

No permit issued by a municipality shall become effective until 30 days subsequent to its issuance, but if approved by the board in less than 30 days then the effective date shall be the date of approval. A copy of the application for the permit and the permit issued by the municipality shall be sent to the board immediately upon its issuance by registered mail. The board shall review such permit and either approve, deny or modify it as it deems necessary. Failure of the board to act within 30 days of the receipt of the permit by the municipality shall constitute its approval and the permit shall be effective as issued.

When winter conditions prevent the board or municipality from evaluating a permit application, the board or municipality, upon notifying the applicant of such fact, may defer action on the application for a reasonable period. The applicant shall not during the period of deferral fill or cause to be filled, dredge or cause to be dredged, drain or cause to be drained or otherwise alter such coastal wetland.

2. **Sand dunes permit.** If the applicant for a sand dune permit demonstrates to the satisfaction of the board or municipality, as appropriate, that the proposed activity will not: unreasonably interfere with existing recreational or wildlife uses; unreasonably interfere with the natural supply or movement of sand within or to the sand dune system; unreasonably increase the erosion hazard to the sand dune system; or cause an unreasonable flood hazard to structures built in, on or over any coastal sand dune or neighboring property, the board or municipality shall grant the permit upon such terms as necessary to insure that the proposed activity will comply with the foregoing standards.

3. **Single permit.** In the event that a project affects both wetland areas and sand dune areas, the board or municipality, as appropriate, shall grant a single permit upon such terms as are necessary to comply with the foregoing standards.

Sec. 4. Appropriation. The following funds shall be appropriated from the General Fund to carry out the purposes of this Act.

	1979-80	1980-81
BOARD OF ENVIRONMENTAL PROTECTION		
Positions		
Personal Services	\$6,158	\$12,316
All Other	1,250	2,500
	<hr/>	<hr/>
Total	\$7,408	\$14,816

STATEMENT OF FACT

Sand dunes provide an effective natural barrier to storm wave impacts and flooding. During storms, wave energy is expended eroding sand from the dunes, rather than impacting directly on structures, thus reducing the potential of damage to structures. Following storms sand is naturally replaced on dunes by normal action of waves and winds. In addition, since sea level is rising along the Maine coast, the impact of future storms on upland areas and structures will be increasingly intensified. For this reason, the maintenance of the natural sand dunes system will become increasingly important to provide a buffer for upland areas and structures.

This bill will permit the Board of Environmental Protection to regulate activities which have the potential to destroy the natural sand dune system and subject adjacent areas and structures to damages from erosion and flooding.

In addition, a number of superfluous words are deleted for the word "person" as defined in Title 38, section 361-A, subsection 4, which includes these legal entities.

BOARD OF ENVIRONMENTAL PROTECTION
POLICY ON NEW SEAWALLS

The Board of Environmental Protection has reviewed numerous applications for ocean seawalls over a five-year period in accord with its responsibility under 38 M.R.S.A. 471, Alterations of Coastal Wetlands. The Board has reviewed the plans, conducted extensive hearings, and received substantial information and expert opinion on the impact of seawalls on sand beaches and adjacent natural resources or man-made structures. As a result we conclude that the impact of seawalls or similar structures on sand beaches normally includes the following:

1. Physical obstructions in the inter-tidal zone which obstruct public rights in that zone.
2. The loss of sand and changes to the slope of the beach in front of the seawall.
3. The likelihood of rubble or debris being scattered across the beach as a result of a deteriorating seawall.
4. The significant modification to normal patterns of water movement and the erosion and accretion of sand which such structures create.

On the basis of this experience, the Board concludes that it will normally be unable to make the necessary favorable findings of fact set forth in the Wetlands law, when an application is made for:

- 1) a new seawall or similar obstruction,
- 2) within the Wetlands Act jurisdiction,
- 3) on or adjacent to a sand beach or erodable shore.

In these circumstances, the Board expects that its findings concerning interference with recreational and navigational uses, interference with the natural flow of waters, and the resulting soil erosion would all be unfavorable. A permit must be denied if any one required finding is unfavorable.

Should an applicant believe that his proposal is unique in some way that allows fulfillment of the criteria set forth in 38 M.R.S.A. 474, he is encouraged to file the application for Board review and action.

This policy does not apply to situations covered by Board Regulation 322, by which the Board has previously exempted from permit requirements the repair or replacement of existing structures in the coastal wetlands, under limited conditions. Persons wishing to repair or replace any existing structure in the Wetlands area should obtain a copy of the regulation.