

## *Action Plan*

# *Protecting Wetlands and Coastal Habitat*

## *Problem*

Marine and freshwater wetlands are some of the world's most naturally productive areas, and they perform many functions that are useful to man. In its Wetlands Protection Act, the state officially recognizes that wetlands are crucial to the following interests:

- Protection of public and private water supply
- Protection of groundwater supply
- Flood control
- Prevention of storm damage
- Prevention of pollution
- Protection of land containing shellfish
- Protection of fisheries
- Protection of wildlife habitat.

Marine wetlands, especially salt marshes, eelgrass beds, shellfish beds, and other marine habitats, are fundamental for healthy coastal ecosystems. With respect to protecting marine water quality and coastal resources, freshwater wetlands are most important in removing nutrients and other pollution associated with development. The need, as recognized by the legislature, to preserve freshwater wetlands, can be an important factor in limiting growth in certain coastal areas. For these reasons, coastal wetlands and certain inland wetlands are a major focus of the Buzzards Bay Project.

In Massachusetts, 40-50% of the wetlands base has been lost, and wetlands continue to be destroyed and degraded at an unacceptable rate. A recent study conducted in the southeastern part of the state indicated that, between 1977 and 1986 alone, over 1300 acres of freshwater wetlands were lost. Although the passage of the inland wetland protection regulations in 1983 improved this situation considerably, these wetlands are still being lost, and the current regulations for freshwater wetlands fall short of full protection. In contrast, Massachusetts has put its coastal salt marshes off limits through the Wetlands Protection Act and the Wetlands Restriction Program. The situation for subtidal wetlands and habitat is more bleak, although they are protected by the Wetlands Protection Act, they nonetheless are being destroyed or altered, particularly by the cumulative impacts of the construction of docks and piers, dredging of private and public channels, increases in boat activity, and declines in water quality associated with inputs from development.

In general, cumulative impacts from many small projects are a major threat to all types of wetlands and are often the most significant cause of wetland loss and habitat decline.

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This is because the existing management framework for wetland protection is inadequate for assessing and protecting against cumulative impacts.

An important part of the problem in protecting wetlands is that some Conservation Commissions may not be using existing state regulations as effectively as possible to protect wetlands and marine habitat. Many environmentalists believe that the present regulatory process is totally inadequate to deal with the growth that is fueling the continuous loss of wetlands.

Because many view the states Wetlands Protection Act as offering only minimal protection, some communities have also recognized the role wetlands play in erosion and sedimentation control, recreation, agricultural and historical values, aesthetics, aquaculture, and public trust rights by adopting local non-zoning wetlands bylaws that include these interests, and hence offer more protection than the state regulations.

The DEP has worked with other agencies in the Executive Office of Environmental Affairs (EOEA) to develop a strategy to fully implement the policy of no net loss of wetlands adopted in June of 1990. A three-tiered approach of avoidance, minimization, and mitigation is used to achieve this goal.

## ***Background***

### ***Wetlands Protection Act***

In 1963, with the adoption of the Jones Act, Massachusetts became first in the nation, including the federal government, to protect coastal wetlands. This Act, in conjunction with the "Hatch Act," passed in 1968 to protect inland wetlands, has evolved into the current Wetlands Protection Act. Significant revisions of the WPA regulations were promulgated in 1978 for coastal wetlands and in 1983 for inland wetlands. These revisions established the current system of resource areas, presumption of significance, and performance standards. The Massachusetts program is still viewed as one of the most protective in the country, but given the state's historic loss of wetlands and the fact that this loss continues today, it has been referred to as "the best of a bad lot" by a high-ranking state official. However, the program has been strengthened considerably with new upgraded policy directives, especially in the area of no net loss of wetlands. These will need to be incorporated into the regulatory structure for full effectiveness.

The WPA is designed to protect the natural resource values of both inland and coastal wetlands. The regulations specifically define 4 inland wetland resource areas and 11 coastal resource areas for protection.

### ***Inland resource areas***

- Banks and beaches
- Bordering vegetated wetlands
- Land under water bodies and waterways
- Land subject to flooding

### ***Coastal wetland resource areas***

- Land under the ocean
- Designated port areas
- Coastal beaches
- Coastal dunes
- Barrier beaches
- Coastal banks
- Rocky intertidal shores
- Salt marshes
- Land under salt ponds
- Land containing shellfish
- Anadromous/Catadromous fish runs

These resource areas are believed to contribute to one or more of the eight interests listed in the preceding section.

The primary responsibility for implementing the WPA regulations rests with local conservation commissions, which consist of three to seven appointed members. The regional office of the DEP is responsible for oversight and review of local decisions that are appealed. DEP also provides technical assistance and training to conservation commissions.

In Massachusetts wetlands delineation is primarily based on the occurrence of specific vegetation or geologic features. The WPA specifies that boundaries of vegetated wetlands be delineated based on the occurrence of vegetation that is indicative of saturated conditions for a significant portion of the year. Non-vegetated wetlands are typically delineated based on geological features. Regulations require that a permit be obtained from the commission before proposed activities that would alter wetlands can occur in or within 100 feet of wetlands. This permit, called an Order of Conditions, should include conditions necessary to protect the interests of the Act. At a minimum, performance standards provided in the regulations must be met.

### ***Wetlands Conservancy Program***

The Coastal and Inland Wetlands Restriction Acts, which together are referred to as the Wetlands Conservancy Program (WCP) formerly known as the Wetlands Restriction Program, were passed in 1965 and 1968 respectively. This program is intended to protect the state's most significant wetlands. It clearly delineates protected areas and requires that activities in these areas meet the requirements of the Wetlands Protection Act. All wetlands 1/4 acre or larger will be identified on aerial photographs and landowners with wetlands 1/2 acre or larger on their property are notified and a restriction order is recorded at the Registry of Deeds. The WCP is a proactive approach to ensure that the larger, more significant wetlands are protected under the WPA. The Wetlands Conservancy Program was first applied to coastal wetlands in the

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1970s, particularly salt marshes, tidal flats, barrier beaches, sea cliffs, dunes, and salt ponds. No lands under the ocean have been restricted. The WCP is being reactivated, particularly for restricting freshwater wetlands. Several communities in the Buzzards Bay drainage basin will participate in the next phase of the WCP.

At present, in 39 of the Commonwealth's 78 coastal communities, at least some significant coastal wetlands have been included in this program. Only a few communities, on the other hand, have had inland wetlands included in the program. Statewide, approximately 50,000 acres have been restricted, but this is almost exclusively coastal salt marshes, beaches, tidal flats, and dunes. In Buzzards Bay, some or all of the coastal wetlands in 6 out of 10 coastal towns have been restricted, but significant inland wetlands have been restricted in only one community in the drainage basin. This program, which was originally intended to be the cornerstone of wetlands protection in Massachusetts, has fallen short of its goal because of the high implementation cost.

After a decade of inactivity, a second phase of WCP implementation has begun, and Buzzards Bay is a priority area. The towns of Mattapoisett and Westport were added to the program in 1990, and as many as 4 additional towns will be added in 1991. Of great significance is that freshwater wetlands will be included in this new phase of the program.

Although the WCP protects resource areas and interests similar to those covered by the WPA, it provides a potent management tool that will be invaluable in Buzzards Bay. It would be especially helpful to communities having difficulties ensuring that all projects in or near significant wetlands are brought into the permitting process.

## *Local Implementation*

Buzzards Bay communities processed approximately 1500 permits filed under the WPA last year. The communities also issued between 120 and 150 enforcement orders. Three towns (Westport, Dartmouth, and Falmouth) have full-time conservation agents and four communities have part-time secretaries for their conservation commissions. Five Buzzards Bay communities (Falmouth, Bourne, Wareham, Dartmouth, and Fairhaven) have adopted non-zoning wetlands bylaws to supplement the Wetlands Protection Act. Falmouth and Dartmouth have also adopted regulations to further define their bylaws.

Local bylaws and regulations are valuable for addressing the inadequacies of the WPA regulations, increasing the fee-generating ability of a town to pay for professional staff and expert advice, and expanding the number of wetland resource areas and interests that can be protected. However, they require effort beyond the WPA to be truly effective, and may require additional legal counsel. In an attempt to better protect wetlands, conservation commissions in Buzzards Bay have adopted a wide array of enforcement and implementation tools. The following is a partial list:

- Noncriminal disposition to levy fines for small violations (Falmouth).
- Confiscation of heavy equipment used in illegal operations (Falmouth).
- Bringing of criminal charges against chronic violators (Falmouth).

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- Use of local Department of Natural Resource police to gain access to private property to investigate suspected wetland violations (Falmouth).
- Detailed filing requirements (Bourne).
- Restrictive policy on new dock and pier construction (Bourne).
- Designation for sensitive wetlands as Areas of Critical Environmental Concern (Bourne).
- A setback from wetlands of 50 ft for all structures (Bourne).
- Recording of enforcement orders on deeds until mitigation activities are satisfactorily accomplished (Rochester).
- Townwide aerial mapping of wetlands and floodplain (Dartmouth)

### *Clean Water Act*

The federal Clean Water Act mandates that the state (DEP's Division of Water Pollution Control) must certify that any activities requiring federal permits e.g. NPDES, §404 are consistent with state water quality standards. NPDES permits are issued jointly by EPA and the Commonwealth and regulate the discharge of effluent to surface waters. The Clean Water Act §404 program is jointly implemented by EPA and the Army Corps of Engineers, and regulates discharges of dredged and fill material into wetlands and other waters of the United States. Under §10 of the Rivers and Harbors Act, the Corps regulates any excavation or construction in traditionally navigable waters. §10 permits usually involve the construction of piers. Water quality certification enables the state to protect wetlands from a broad range of activities potentially impacting physical and biological integrity of the wetlands in addition to the chemical integrity of the water column. The DEP's Water Quality Certification program was established to ensure that water quality standards are not violated by these activities. The additional requirement of developing water quality standards for wetlands, allows DEP an opportunity to strengthen this program even further. The program adds another layer of protection to the WPA.

### *Planning and Preemption*

Too much reliance has been placed on the wetlands regulatory process, which allows for ad hoc decision making. Planning and preemption are more effective ways to protect wetlands. Planning involves the identification of sensitive resources and the justification of their significance. It establishes a framework upon which to justify preemption techniques and base permitting decisions. Relevant local plans include comprehensive master plans, and plans for open space, watershed management, water quality, harbor management, and management for Areas of Critical Environmental Concern (ACEC).

Preemption is the foreclosing of opportunities for use of wetlands by not allowing certain activities to be proposed for permitting. Preemption tools include the Wetlands Restriction Program described earlier, as well as zoning, conservation restrictions, land acquisition, temporary moratoriums, and, if effectively managed, ACECs.

Many conservationists believe the best way to protect land is to own it. Vigorous municipal land-acquisition programs and the blossoming of the nonprofit land-trust

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movement in the 1980s have led to the acquisition of many wetlands through purchase and donation. Ownership by public conservation agencies or private conservation organizations may offer the best preemption situation because these groups have neither the philosophy nor the financial incentive to propose development in or near wetlands.

Chapter 7 (Land-Use Management) includes a full discussion of nonregulatory techniques for protecting critical areas. In particular, tax incentives that accrue from various options are listed.

## *Major Issues*

### *Septic System Setbacks*

Administration of the Wetlands Protection Act has been undermined in the past through action taken under Title 5 of the State Environmental Code, which regulates the subsurface discharge of sanitary waste. WPA regulations require that a leaching facility, regulated under Title 5, be set back at least 50 ft horizontally from the boundary of coastal banks, coastal beaches, coastal dunes, salt marshes, and bordering vegetated wetlands (BVW) to receive the presumption of protecting the eight interests of the Act. However, the cross-referenced section in Title 5 stipulates a 50-ft setback from a watercourse, which is defined differently from the resource areas listed above. Title 5 is incompatible with the WPA because it ties all measurements to annual flood elevations or mean high water, and does not recognize that some wetland areas may almost never have standing water.

Recent DEP correspondence clarifies that the setback distance for septic systems should be measured from the edge of the bordering vegetated wetland (BVW), both inland and coastal, as defined by the WPA, rather than from mean high water. In this correspondence BVWs specifically include inland freshwater BVWs and salt marsh. They do not include coastal dunes, coastal banks, beaches, or barrier beaches. DEP is seeking additional information on the benefits of prohibiting septic systems in these areas.

### *Permitted Filling of Bordering Vegetated Wetlands (BVWs)*

In 1983, regulations describing general performance standards for BVWs were adopted to allow the discretionary destruction of up to 5000 sq ft, if the area is replaced in accordance with seven general conditions. This provision was viewed by some as a political concession to avoid the issue of taking without compensation. Given that BVWs are probably the Commonwealth's most important inland habitat for wildlife and that their role in protecting other interests of the Act is recognized, it may be appropriate to improve the existing performance standards. This is particularly relevant in view of the questionable success of wetlands replication.

## ***Wetlands Filling Under the Limited Project Provisions***

Regulations allow conservation commissions to issue permits for unlimited wetland alteration without replication for a host of activities including agriculture, silviculture, construction and maintenance of roadways and driveways, and inland docks and piers. Currently, many conservation commissions feel they must grant permits for such proposed projects. Commission members need to be educated about the circumstances where it is appropriate for them to deny permits and stop projects. They must also be educated about necessary and desirable conditions that should be incorporated in orders of condition to protect the interests of the Act.

Of particular concern is a provision that allows construction of a new roadway or driveway in inland wetland areas. Concern centers upon the complete destruction of that part of the wetland to be covered by the road or driveway. Moreover, there is no limit to the area that can be destroyed for a limited project. The 5000 sq ft provision for discretionary filling of BVWs does not apply to limited projects. Replication may or may not be a condition of a limited project, at the discretion of the conservation commission.

## ***Wetland Replication***

Many scientists and managers are concerned with the use of wetlands replication as a routine management tool for two reasons. First, wetlands replication projects have a high failure rate. In New England it has been estimated that 50% of all replication efforts fail because of inadequate design or maintenance (Ed Reiner, EPA, personal communication). Second, many functions performed by natural wetlands may not be performed by artificial or replicated wetlands. Although it may be possible to replicate the flood control, sediment trapping, and waterfowl values of some wetlands, scientists have identified at least 75 complex ecological relationships among soils, hydrology, water quality, vegetation, and wildlife, many of which take centuries to develop. Many of these relationships play significant or as yet undetermined roles in the protection of the eight wetland interests listed in the WPA or of other interests included in local wetland bylaws. Many wetland replication projects have difficulty recreating even the typical vegetative community of a wetland, much less these other complex relationships that make a natural wetland.

For these reasons, wetland destruction should be avoided except in very extreme cases or on projects with an overriding public purpose. When wetland destruction is the last resort, a genuine effort must be made to recapture the lost values of the destroyed wetlands. Given the high failure rate of replicated wetlands, a ratio of replicated wetlands to destroyed wetlands of much greater than 1:1 must be required to achieve a true no net loss.

For the most part, wetland replication efforts have been limited to the freshwater wetlands. Replication of a salt marsh is rare because existing regulations seldom permit destruction of salt marshes. Replication of land under sea occurs in only two cases. First, the replication of eelgrass beds has been permitted on a trial basis with mixed success. Second, orders of conditions for projects involving the dredging of boat

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channels usually require the transplantation of shellfish. In a sense, such efforts are replicating "land containing shellfish" if the shellfish are transplanted to areas that do not contain shellfish. However if there areas do not have the appropriate characteristics conducive for shellfish propagation and survival, such as sediments, water quality, and salinity, the replication efforts are wasted. It has been pointed out that the dredging of channels represents a permanent loss of shellfish habitat.

### ***Conservation Commission Training***

Local conservation commissions represent the first line of defense for implementing the WPA. The Act and its associated regulations are very complex and have a number of areas in which educated judgments and interpretations are required. Currently, training of commission members is not compulsory. Courses are taught by the DEP on a regularly scheduled basis and many commissions are never formally trained in the provisions of the Act and its regulations. Although "hands on" experience is valuable, it should be supplemented with a comprehensive understanding of the program. Without this understanding the learning curve is extended and, when combined with the relatively high turnover-rate of commission members, often results in a poorly informed commission that inadequately administers regulations it does not fully understand. Detailed training on how to write effective orders of condition is especially important.

### ***Dock and Pier Construction***

Through the WPA, conservation commissions have the authority to review projects on land under the ocean, land under salt ponds, fish runs, and land containing shellfish. This authority can be used to protect valuable marine habitats such as DMF-designated productive shellfish areas, town-designated resource areas, habitat in ACECs, fish runs, and eelgrass beds, by prohibiting or limiting the number of new docks, piers, and their associated dredging activities, as well as reducing or mitigating the impact of approved projects.

In order to reduce the likelihood of a decision by a conservation commission being overturned, commissions should develop, and towns adopt, an explicit management plan regarding the location and construction of projects in the critical habitat areas discussed above. The plans or bylaws should clearly define and delineate the sensitive habitats that are being protected, the reason for protecting these areas, the type of projects that harm the habitats, and how the adverse effect is created. Regulations should also be adopted that specify the necessary mitigating measures to be taken if a project is approved.

A comprehensive approach to this problem would be for communities to develop local waterfront, harbor, or embayment plans that are accepted and approved by the town and the state. These plans must specify jurisdiction and enforcement capabilities of conservation commissions to review the consistency of projects with approved plans. This approach is new, and would be an extra tool for conservation commissions to protect coastal and marine wetlands. This plan could also be used as the basis for zoning restrictions that specify acceptable and unacceptable locations for docks and piers.



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A generic environmental impact report (GEIR) was proposed by the Office of Coastal Zone Management. Unfortunately, attempts to secure funding for this project have been unsuccessful. However, this is an important task and should be considered seriously for future funding.

### *Buffer Zone Protection*

The 100-ft buffer zone around all coastal and inland wetlands, especially around coastal ponds and bays, is a jurisdictional area that receives discretionary protection that may not be adequate in all situations. There are no performance standards for these areas and therefore the protection they receive is highly variable depending on the conditions set forth by each individual commission. Performance standards would help significantly because a large part of the time spent by commissions involves cases in the buffer zone (Falmouth estimates 85%). Detailed guidance and assistance from DEP in writing orders of conditions to protect buffer zones would also help local commissions. Buffer zones are important because they protect the wetland from a wide variety of pollutants and provide valuable wildlife habitat. Towns are permitted to adopt construction setbacks from wetlands, just as they adopt setbacks under local zoning.

### *Land Acquisition*

Land acquisition and other nonregulatory protection techniques are important mechanisms for protecting coastal and inland wetland resources that are tremendously underutilized. Land acquisition does cost money. Fortunately, the environmental value of wetlands far exceeds the market value, and significant habitats can be purchased inexpensively. Many landowners are even willing to donate wetlands for conservation purposes in exchange for tax advantages. Critics contend that it is wasteful to spend tax dollars purchasing wetlands because their development potential is low. They feel that reliance should be placed on the permitting system to protect these areas. Management costs are also cited as a reason not to acquire conservation lands. However, only the most passive forms of recreation are suitable in wetlands, so management costs should be low or nonexistent. Ideally most land acquisition should be directed toward upland areas particularly those that would compliment wetland easements and donations.

The loss of municipal revenue if too much land is removed from the tax rolls is another criticism of open-space acquisition. This may be unfounded because fiscal impact analyses have shown that development seldom makes up in taxes the costs incurred for additional municipal services. (The balance of cost depends on the type of project being considered; e.g., office parks generate enough revenue to recoup the cost of local service.) Moreover, the assessed value of wetlands is low, so their elimination from taxes through acquisition or restriction is insignificant. In one small coastal community, it was shown that the 1,040 acres of salt marsh within the town contributed less than 0.07% to the total real-estate valuation.

### ***Isolated Vegetated Wetlands (IVWs)***

So-called "Isolated Vegetated Wetlands" (e.g., wetland vegetation surrounding permanent small ponds and pools, and isolated land subject to flooding such as vernal pools) are not now recognized as a resource area in the regulations.<sup>1</sup> IVWs contribute to many of the eight interests listed in the WPA, as well as to other interests, and hence should be protected.

### ***Intermittent Streams***

At present, intermittent streams up-gradient of a resource area are not defined as streams and thus are not afforded protection under the Act. Only those intermittent streams flowing through a resource area or out of a resource area are defined as streams. In situations where up-gradient intermittent streams play a significant role in maintaining the function of a down-gradient resource area, they should be recognized as a resource area and protected. This would also help protect some isolated vegetated wetlands by defining them as bordering vegetated wetlands.

### ***Protection of endangered species, anadromous fish habitat***

Anadromous species like alewives (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) have declined dramatically during the past century in Buzzards Bay. Not only were these fish historically important as a fishery in Buzzards Bay, but they are also important food species for many fish, whales, and coastal birds. Buzzards Bay also contains important populations of some endangered and threatened species. For example, Buzzards Bay has the largest colony in North America of the roseate tern (*Sterna dougallii*), a U.S. endangered species. Protection and enhancement of these important species may require special efforts to enhance the reproductive success of their populations or to restore their habitat. For example, restoration of herring populations will require repair or installation of fish ladders or enlarging river culverts passing under roads. Tern restoration programs may require control of gull populations. Generally these kinds of wildlife improvement projects are conducted by the U.S. Fish and Wildlife Service, the Massachusetts Department of Fish and Wildlife, and the Massachusetts Department of Environmental Management. The Buzzards Bay Project may need to work with these agencies and Buzzards Bay municipalities to expand these efforts in Buzzards Bay and insure their success.

1 To be recognized under the WPA, wetlands must border a freshwater body, the smallest of which is a 10,000-sq-ft pond, or fit the definition of *isolated land subject to flooding*, in which case only limited interests may be protected.

## ***Goal***

**Long-term increase of high-quality wetlands and coastal habitat in Buzzards Bay.**

## ***Objectives***

1. To protect existing wetlands.
2. To encourage restoration of wetlands (and allow replication as a last resort).
3. To improve enforcement of wetlands laws.
4. To upgrade the capability of local conservation commissions.
5. To encourage non-permitting options as a supplement to the issuance of permits whenever possible.
6. To protect and restore habitat used by threatened, rare and endangered coastal species and anadromous and catadromous fish.

## ***CCMP Commitments***

### ***Department of Environmental Protection (DEP)***

1. DEP has identified Buzzards Bay as a priority area for implementing the Wetlands Conservancy Program. Mattapoisett and Westport were included in the program during 1990 and 4 additional towns are scheduled for 1991. DEP's goal is to ultimately include all Buzzards Bay towns in the Conservancy Program.

Target dates: Implementation in Mattapoisett and Westport - 1993

Implementation in 4 additional towns - 1993-1995

**Interim Actions:** As part of this initiative DEP has taken aerial photographs of Buzzards Bay towns and will digitize these images to delineate wetlands. DEP will conduct a public education campaign on these efforts and meet with concerned landowners. Restrictions will require projects in identified resource areas to go through the WPA permitting process and will be placed on properties containing protected wetlands.

2. DEP will use its water quality certification authority under Section 401 of the Clean Water Act and in conjunction with the Wetlands Protection Act to:

- Require analysis of alternative strategies and options before wetlands are allowed to be destroyed or altered and only allow destruction under extreme circumstances or in projects with an overriding public purpose.

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- Require restoration or replication, at a ratio of at least 1:1, of any wetlands that are allowed to be altered or destroyed.
- Require the same level of analysis and protection for isolated vegetated wetlands and intermittent streams as for other wetland areas.

Target date: 1991

**3. DEP will establish criteria for designating wetlands as waters of the Commonwealth using water quality standards, and subjecting these areas to stringent controls under the Antidegradation provision of the Clean Water Act.**

Target date: 1992.

### ***Buzzards Bay Project***

The Buzzards Bay Project staff will develop criteria for determining the appropriate size of a buffer area.

Target date: 1991

### ***Buzzards Bay Municipalities***

Dartmouth will pursue watershed zoning on a limited basis as part of its Harbor Management Plan.

Target date: 1992

### ***Other Recommended CCMP Actions***

**1. DEP should amend the regulations to the Wetland Protection Act to better protect wetlands in order to achieve and exceed the Commonwealth's no net loss policy.**

Target date: 1993

The following recommendations address current weaknesses in the Act:

- When wetlands are allowed to be altered or destroyed, require restoration and/or replication at a ratio of at least 2:1.
- Stipulate specific limits on the total area of wetlands that can be destroyed by limited projects.
- If discretionary destruction of BVWs is allowed, it should be in accordance with the above recommendations.
- Define performance standards for the 100-ft buffer zone around wetlands.
- Require mandatory attendance by conservation commission members at Wetland Protection Act training courses.
- Enhance protection of marine habitat and resources contained in lands under the ocean.

**2. Conservation commissions should upgrade their ability to protect wetlands.**

Target date: 1991-1994.

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The complexity and magnitude of wetlands protection requires that towns have professional conservation administrators or agents to guide and facilitate the conservation commission's actions. Commissions should strive for the greatest level of wetlands protection possible under the WPA, including protection of critical habitat areas such as shellfish areas and eelgrass beds. Wetlands protection can also be greatly enhanced through the adoption of zoning and non-zoning wetland protection bylaws and regulations that supplement the state program deficiencies discussed in recommendation #1. Local wetlands bylaws should also include filing and review fees to help defray the costs of hiring staff and paying for outside consultants on difficult projects.

### **3. Town boards and local environmental organizations should assist in protecting wetlands.**

Target date: 1991-1994.

The board of selectmen is crucial to this effort and should appoint conservation commission members who are dedicated to aggressive implementation of the WPA and protection of wetlands.

Planning boards can also help by adopting subdivision filing rules that require wetland delineation prior to subdivision approval. Over the long term, planning boards should work toward changing the way minimum lot size is calculated. Only the upland portion of a property should be applied toward the minimum lot size requirements. (Although this may require an amendment to the local zoning bylaw, it would minimize the necessity for some discretionary filling of BVWs and be a very effective tool for wetlands protection.)

Boards of health can also participate by adopting regulations that prohibit the use of filled wetlands to meet setback requirements from septic systems. Also, all setbacks should be measured from the edge of the delineated wetland, as defined by WPA regulations.

Local environmental advocacy groups can participate in wetland protection by pressuring boards of selectmen to appoint wetland advocates to the conservation commission and filing Request for Determination of Applicability forms with the commission to ascertain the legality of suspected wetlands violations, as well as by appealing deficient orders, and setting up education programs.

Also, communities should fully utilize resource planning techniques to protect wetlands. These include ACEC nominations, the Natural Heritage Program for vernal pool identification, harbor planning, and open space planning.

### **4. Communities (selectmen, conservation commissions, land trusts, etc.) should fully utilize nonregulatory wetlands protection techniques wherever possible.**

Target date: 1991-1994.

Some specific techniques for communities are:

- Conservation restriction program together with major property tax reductions

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- Use-assessment tax programs for forest, farmland, and recreational/open space lands through Massachusetts General Laws Chapters 61, 61A, and 61B
- Differential taxation policies as provided in Chapter 54 of Special Act 797 passed in 1979, which allows open space to be taxed at a rate significantly lower than for residential or commercial property.

### **5. DEP should prohibit the issuance of permits to chronic violators of the Wetlands Protection Act.**

Target date: 1992.

DEP recognizes that much of the recent wetland destruction or damage is caused by a group of chronic offenders. Often the same individuals who are in violation of regulations at one site are requesting permits for work on another site. Legislative action allowing DEP to withhold the processing of a wetlands application if the project proponent is violating provisions of the WPA elsewhere would be necessary to restrict these illegal activities.

### **6. All municipalities should adopt embayment or harbor management plans that identify watershed uses for their entire coastline.**

Target date: 1994.

An embayment plan that effectively plans watershed uses should identify resource protection areas and also designate dock-free zones, mooring areas, boat exclusion zones, boat speed limit zones, exclusion zones for hydraulic dredging (so-called "jet clamming"), and areas where dredging is permitted. They should also specify times of year when construction or dredging are permitted so as to minimize ecosystem impacts. To effectively support such a plan, a municipality should document the distribution and abundance of shellfish beds, eelgrass beds, fringing marshes, spawning or migratory areas, nurseries, and any other valuable habitats. Only with this documentation and the plans in place will conservation commissions and harbor masters successfully deny activities that would adversely impact critical resource areas. Embayment and harbor plans should include representative public participation in all aspects of their development. Before plans developed by conservation commissions or harbor masters are used as the basis for decisions, these plans should be reviewed by residents of the municipality. These plans may also need to be adopted as town bylaws.