



Farming in Wetland Resource Areas

*A Guide to Agriculture and the
Massachusetts Wetlands Protection Act*

Commonwealth of Massachusetts
Department of Environmental Management
Department of Environmental Protection
Department of Food and Agriculture

Farming in Wetland Resource Areas: A Guide to Agriculture and the Massachusetts Wetlands Protection Act

January 1996

Produced by:

Massachusetts Department of Environmental Management
Massachusetts Department of Environmental Protection
Massachusetts Department of Food and Agriculture

In collaboration with:

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Committee on Agriculture and the Environment
Cooperative Extension Service, University of Massachusetts
Farmland Advisory Committee
Massachusetts Association of Conservation Commissions
Massachusetts Audubon Society
Massachusetts Farm Bureau Federation
Massachusetts State Forestry Committee
New England Small Farm Institute
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About this manual, July 2005:

As the Department of Environmental Protection's e-Gov Initiative to make permit applications, Department regulations, and program policies and manuals available through the Internet, the Farming in Wetland Resource Areas manual has been reformatted and is now available on DEP's website at www.mass.gov/dep/brp/ww/wwpubs.htm. The current web edition reflects the entire text of the 1996 edition. The only modified page in the manual pertains to updated information of DEP contacts and addresses provided on page A-2 of the appendices.

The Farming in Wetland Resource Areas manual was originally issued in 1994 to help conservation commissions and farmers understand how the Wetlands Protection Act and its regulations apply to agricultural activities. In 1996, the manual was updated to incorporate the forestry revisions to the regulations, which is the edition provided here. While this manual addresses the fundamental issues associated with farming and wetlands protection, in order to ensure compliance with all current regulatory requirements, conservation commissions and farmers should check DEP's website at www.mass.gov/dep/brp/ww/rpwwhome.htm **and** each participating agency's website for information that may have changed since 1996.

We thank Sandy Rabb of our staff who has worked diligently on the reformatting, electronic layout, graphics and page design of this manual for the DEP website and thereby making it available to a wider audience.

Overview

Wetland and water resources are found on many Massachusetts farms. These resource areas include streams, ponds, bogs, marshes, swamps, floodplains, isolated land subject to flooding, wet meadows, salt ponds, salt marshes, land under the ocean, and fish runs, among others. Agricultural activities are subject to the jurisdiction of the Massachusetts Wetland Protection Act when they occur within the resource areas (and their 100 foot buffer zones) defined in the Act.

Many normal farming activities, including activities related to forestry, are exempt from regulation under the Wetlands Protection Act. Others require a certain level of review by local Conservation Commissions. The provisions of the Wetlands Protection Regulations that cover exempt and regulated agricultural activities are the subject of this Guide.

This Guide is intended to:

- Clarify the areas of a farm that are subject to the jurisdiction of the Wetlands Protection Act.
- Explain which activities, when located in areas that are subject to the jurisdiction of the Wetlands Protection Act, are exempt from review.
- Explain the procedures and conditions for meeting the requirements for an exemption.
- Describe the permitting process for non-exempt activities that do require regulatory review.
- Provide information about wetland resources and values.
- Provide information about agricultural practices and values.
- Provide resource and referral information.

This Guide focuses on the regulations that concern agriculture and wetland resource areas in Massachusetts. It does not cover every detail and it is not to be construed as policy. Finally, it offers suggestions for how those concerned with farming and with wetlands can help to preserve both.

Preface and Acknowledgements

This Guide is intended to give a better understanding of the Agricultural Exemption to the Massachusetts Wetlands Protection Act (WPA) to the farming community, wetlands regulators, and the general public. It includes information about farming practices and wetland resources and is designed to help those affected by Massachusetts General Laws Chapter 131, Section 40, to approach and interpret those portions of the Wetlands Protection Regulations that deal with agriculture and aquaculture.

The binder format allows for the addition of new and revised sections as they become available. For example, relevant DEP program policies, SCS standards, and related regulatory or informational materials may be included later.

Please note: revised aquaculture provisions of the Wetlands Protection Regulations have not been promulgated and are not included in this January 1996 publication; they will be published at a later date. Please insert those sections into the binder when you receive them.

This document should be used as a guide and as a source of information. It does not answer all questions and therefore it should be accompanied by a close reading of the Wetlands Protection Act and Regulations themselves. Please remember that this document is only a Guide and should not be construed as DEP policy. Successful implementation of the Agriculture Exemption to the Wetlands Protection Act will require communication and information sharing among those concerned with protecting both agriculture and wetland resources.

To keep this Guide easy to follow, fine detail has been avoided. Readers who need greater detail and want to learn more about the Wetlands Protection Act and about agriculture may turn to the many resources listed in this Guide. (Please see Appendix A: Resources and References.)

This Guide reflects the hard work and thoughtful contributions of many people. The support and input of the collaborating agencies and organizations and other reviewers, editors, and support staff are gratefully acknowledged.

Funding for this project was provided by the Massachusetts Department of Environmental Protection and the Massachusetts State Office of the U.S.D.A. Soil Conservation Service.

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Chapter One: Introduction



Background

Wetlands Protection Act

In Massachusetts, both farmland and wetland resources are recognized as interests vital to the Commonwealth. Both are threatened. In 1972, the Massachusetts Legislature enacted the first (and still one of the strongest) wetlands protection laws in the nation. In passing the Wetlands Protection Act, Massachusetts General Laws, Chapter 131, Section 40 (“WPA”), the Legislature recognized that farming and forestry are important public values and should not be regulated to the same extent as other activities.

Accordingly, the Wetlands Protection Act exempts “work performed for the normal maintenance or improvement of land in agricultural and aquacultural use” from review. This statutory language clearly and explicitly limits the exemption to normal activities that occur on land currently in agricultural use and does not include activities that would bring new land into agricultural use.

Nevertheless, the interpretation of this exemption and the Wetlands Protection Regulations [310 CMR 10.04 (Agriculture)] that define it have been unclear to both farmers and regulators. In 1991, the Legislature enacted legislation that had been filed by farming organizations directing the Department of Environmental Protection (DEP) to establish a Farmland Advisory Committee (FAC) to advise DEP on clarifying the exemption.

Farmland Advisory Committee

The FAC is composed of two farmers, one representative each from the University of Massachusetts Cooperative Extension (CES) and the USDA Soil Conservation Service (SCS), and a Conservation Commissioner knowledgeable about farming. The FAC met with DEP, the Massachusetts Department of Food and Agriculture (DFA), the Committee on Agriculture and the Environment (an advisory group to DEP that is composed of representatives of agricultural and environmental interests), and other environmental, farming, and forestry groups. After 19 months, the FAC proposed that DEP - with the advice and consent of the Commissioner of DFA - adopt amendments to the Wetlands Protection Regulations that would clarify the exemption.

Public hearings were held and new Wetlands Protection Regulations pertaining specifically to agriculture (not including aquaculture and forestry) were promulgated in May 1993. Regulations regarding forestry activities were adopted in November 1995. Sections of the regulations pertaining to aquaculture will be amended at a later date.

Participants in the process acknowledged, however, that these regulatory changes, standing alone, would not be adequate to educate people about the specific terms of the Agriculture Regulations. It was agreed that both regulators and the regulated community could benefit from increased awareness and communication about farming and wetlands - that old stereotypes, attitudes, and conflicts must be reshaped by up-to-date information about farming practices, policies that promote resource stewardship and sustainability, and dialogue between farmers and regulators.

Clarifying the Agriculture Exemption has been a difficult task. The new Agriculture Regulations are not meant to expand or contract the intent of the statute or the previous regulations, but rather to allow clear, consistent, and uniform administration of this portion of the law. They are designed to reduce ambiguity by providing abundant examples, more detailed definitions and, in some cases, observable, measurable standards. In addition, they have been restructured to some degree. For example, new agricultural emergency and “limited project” provisions have been added.

Sunset Provision

The new Agriculture Regulations have a three-year “sunset” provision so that they will expire unless they are reauthorized at the end of three years (May 20, 1996). Before the new Agriculture Regulations may be reauthorized, they must be reviewed by a Monitoring Committee, which will recommend any changes to DEP and the Secretary of Environmental Affairs. Participation in the work of the Monitoring Committee is strongly encouraged. Farmers, Conservation Commissioners, and technical assistance personnel may contact Monitoring Committee members to provide substantive and anecdotal information about the exemption, any permit, or related matters. (Appendix G contains a form to help shape your data collection. It might be useful to file such records in the back of this Guide.)

[Note: the regulations regarding forestry activities that were adopted in November 1995 do not have a sunset provision and will not expire in May 1996.]

The Importance of Wetlands

Wetlands Values and Functions

Wetlands in Massachusetts range from broad floodplains along the Connecticut and other rivers to beaches, salt marshes, and dune systems along the coast; to bogs in Southeastern Massachusetts; to freshwater marshes and wet meadows throughout the state; to the most common type of wetland in Massachusetts, the seasonally-flooded wooded swamp.

Wetlands are areas where water is at, near, or above the surface of the ground often enough for hydric soils to form and/or for wetland plants to grow. In the Wetlands Protection Act, the term “wetland” includes not only the vegetated wetlands we typically think of - such as marshes, swamps, and bogs - but banks, dunes, beaches, and land under bodies of water (lakes, ponds, rivers, and streams).

Land subject to flooding, sometimes called the “floodplain,” is an area that experiences surface flooding during storms, periods of excessive rain, or spring snowmelt. Floodplain areas can be “bordering” in that they are found along rivers and streams or occur adjacent to lakes and ponds. On the other hand, they can be “isolated” from a body of water and occur in an isolated depression or a closed basin. In addition, floodplain areas along the coast are subject to tidal flooding.

The areas described above are referred to as “resource areas” in the Wetlands Protection Act. Definitions of these resource areas for regulatory purposes are found in the Act and its accompanying regulations.

In the not very distant past, wetlands were considered to be nothing more than mosquito-breeding wastelands with no practical value unless they were filled. Consequently, over half of the wetlands in the United States - and nearly 30% in Massachusetts - already have been destroyed or severely degraded, largely due to human activities such as road construction, agriculture, non-point pollution sources (including highway and pesticide run-off), land development, dredging, and antiquated mosquito control methods.

Historically, the conversion to agriculture has been a major cause of loss of wetlands in Massachusetts. Because of their flat terrain, rich organic soils, and proximity to water, many wetland areas have been desirable for farming. Much of the conversion occurred before the importance of wetlands was recognized or regulated. Because so much of the state’s wetlands has been lost, the remaining wetland resource areas have enhanced public value.

In the last few decades, scientists have discovered that wetlands have tremendous ecological and economic value (and that mosquitoes can be controlled without destruction of wetlands). In fact, wetlands left in their natural state have been shown to be far more cost-efficient than any human invention in:

- Flood control and prevention of storm damage.
- Prevention of pollution.
- Protection of public and private ground and surface water supplies.
- Protection of fisheries and wildlife habitat.
- Protection of recreational, aesthetic, and property values.

Wetlands and other floodplain areas provide temporary storage for flood water that has risen above the bank of a river or stream or the basin of a lake, pond, or isolated depression. They allow flood waters to recede slowly, releasing water by evaporation, by percolation into the soil, and through flow downstream. When wetlands and other floodplain areas hold water, they decrease downstream flood crests and the rate at which the water flows.

Flood Control and Prevention of Storm Damage

Thus, these low floodplain areas act as buffers and prevent storm damage to nearby lands, roads, and buildings. These functions minimize the need for extensive engineering systems such as riprap and seawalls. In addition, vegetated banks bind soil, preventing erosion caused by runoff or the flow of surface water.

Filling a floodplain reduces its storage capacity, restricts the flow of water, and causes flood waters to rise higher and move faster. This can result in greater erosion and downstream flooding.

Unfortunately, there are too many examples of houses flooded and even lives lost through the cumulative effects of filling floodplains over the years.

Floodplain maps issued by the Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program show the floodplains associated with major streams. Unfortunately, the maps are not complete and many floodplain areas are not indicated. If property lies near a stream or in a low-lying area, there is a chance that part of the property is flood-prone. In some cases, the flood elevation on the property must be calculated by a professional engineer.

Protection of Water Supplies and Prevention of Pollution

Directly or indirectly, wetlands often are sources of public or private water supply. Some wetlands serve to recharge groundwater aquifers. In addition, surface water runoff collects in streams; the streams, in turn, flow to reservoirs. Isolated depressions also collect surface runoff and hold water when groundwater is high. These depressions often act as important areas for recharging groundwater.

Nutrients carried by flood waters and deposited on the floodplain create a rich soil. Wetlands can purify the water they receive, serving as natural settling ponds where soils and vegetation can trap sediments. These sediments bind and, in some cases, chemically break down pollutants into non-toxic compounds. For example, the sediments beneath marsh vegetation absorb chlorinated hydrocarbons and heavy metals such as lead, copper, and iron. Wetlands also retain nitrogen and phosphorus compounds which, in large amounts, can lead to nuisance plant growth in both fresh and coastal waters.

Some nutrients and toxic substances are held for long periods in plant roots and soil. Others are held by plants during the growing season and then released as the plants decay in the fall and winter - a time when they are less likely to degrade water quality. Vegetation also stabilizes banks, thereby protecting water quality by decreasing erosion and siltation.

Protection of Fisheries and Wildlife Habitat

Wetland vegetation provides nesting sites and protective cover to many types of wildlife. Floodplains along rivers and streams are wildlife corridors, providing food, access to water, routes for migration, over-wintering areas, shelter, and breeding areas. Vernal pools - important breeding sites for amphibians - often occur in wetlands and floodplains. Wetlands and floodplains also provide habitats for a high percentage of rare species.

Plants growing along a bank or at the water's edge may make tubers and berries and also may provide shelter for wildlife that moves between wetland areas. Some submerged, rooted vegetation in water bodies is eaten by waterfowl and mammals. Some invertebrates eaten by wildlife attach their eggs to this vegetation and feed and bask on living and dead plants.

Wetlands, whether within or adjacent to water bodies, provide food, shade, breeding habitat, and cover for fish. Wetland vegetation supports a wide variety of insects, reptiles, amphibians, mammals, and birds. It also supports food for game fish such as large mouth bass, bluegill, and pickerel. After normal rainfall, banks hold water in a channel, maintaining a depth that insures cool temperatures for fish in hot weather. Steep or overhanging banks often have undercuts where fish hide.

Shellfish beds and commercial and recreational fisheries are dependent on good water quality and healthy coastal and inland wetlands. When such areas are paved, graveled, filled, excavated, or otherwise altered, these habitat functions are lost. Degradation of fisheries and the loss of rare species are, to a great extent, related to loss of wetlands and filling of natural floodplains.

Protection of Recreational and Aesthetic Resources and Enhancement of Property Values

The Commonwealth's wetlands provide recreational and aesthetic value to its citizens daily-such as opportunities for hiking, fishing, boating, and other activities. The tourism industry relies on these recreational opportunities as well as on the varied terrain, open spaces, and scenic countryside offered by our water-based resources.

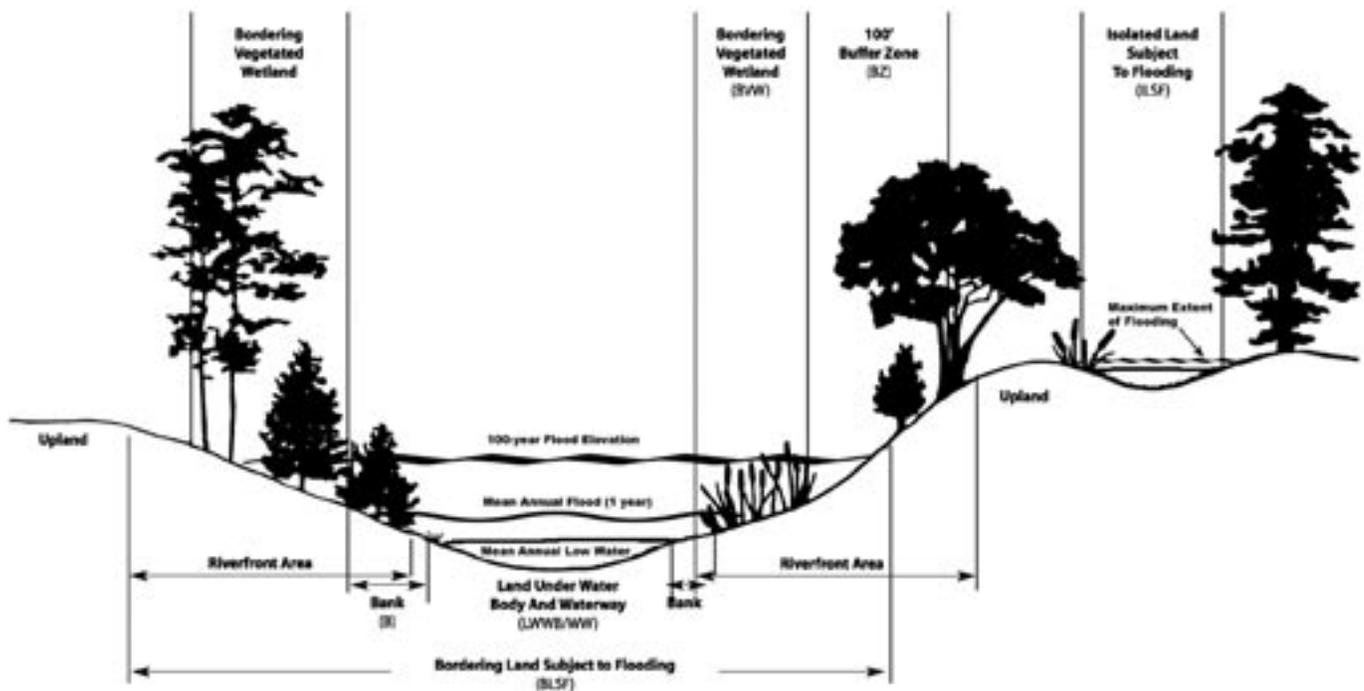
One study of the Charles River Basin found an acre of wetlands to be worth an average of \$170,000 to the public (based on the wetland functions listed above, as well as their role in increasing property values and providing a variety of recreational uses). Using a conservative estimate of wetlands value of \$100,000 per acre, the cumulative worth of the over 500,000 acres of wetlands in Massachusetts is 50 billion dollars.

Unfortunately, many of these important wetland functions are not perceived as a direct benefit to the individuals who own wetlands. Therefore, destruction of wetlands may make economic sense to a landowner, but it does not make economic sense to the citizens as a whole - particularly not to the neighbor whose land is flooded, to fellow townspeople whose water rates are raised due to contaminated or depleted water supplies, or to those citizens throughout the many towns in the watershed whose jobs in the tourism and fishing industries are lost by continuing wetland destruction and degradation.

Resource Areas and Public Interests: Charts and Illustrations

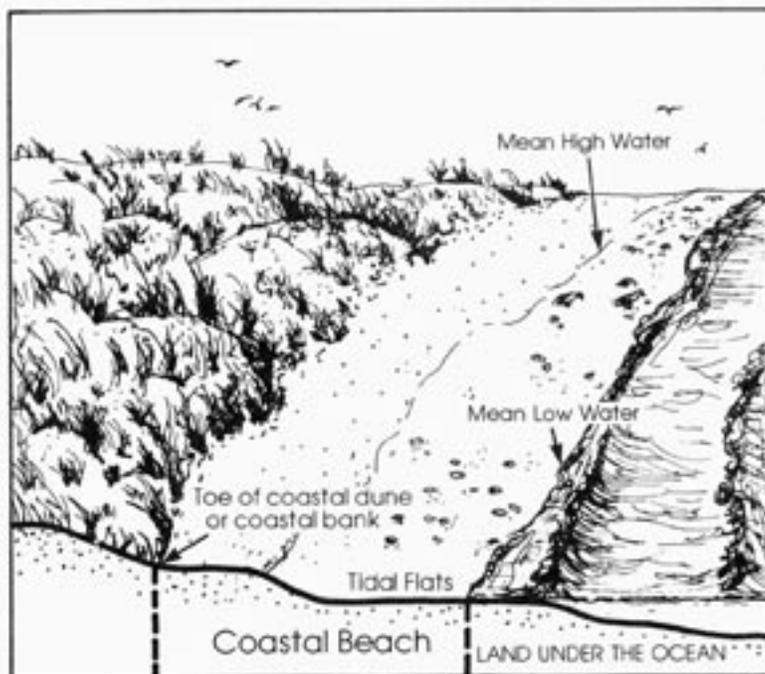
(Original: Clearwater Estates, MA Dept. of Environmental Protection, 1987)

Inland Wetland Resource Areas

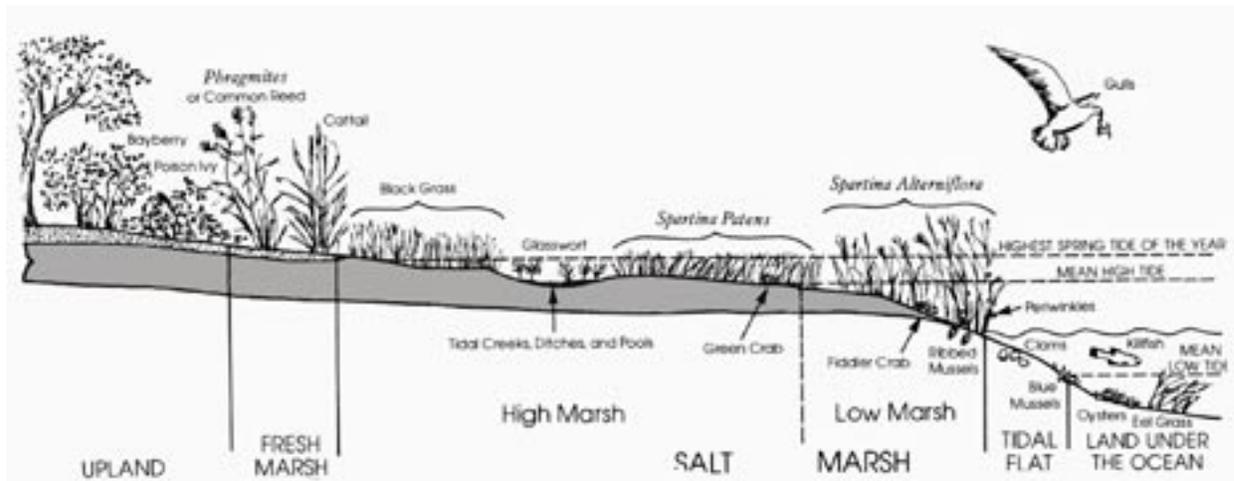


Coastal Wetland Resource Areas

(Both figures from *A Guide to the Coastal Wetlands Regulations*, MA Dept. of Environmental Protection, 1979)



Section of a coastal beach



Cross-section of a salt marsh

Statutory Interests Served by Wetland Resource Areas According to the Wetlands Regulations, 310 CMR 10.0

Resource Area	Statutory Interests Presumed Significant									
	Public Water Supply	Private Water Supply	Groundwater Supply	Flood Control	Storm Damage Prevention	Prevention of Pollution	Fisheries	Land Containing Shellfish	Protection of Wildlife Habitat	
Coastal										
Bank			X		X					X
Beach			X		X					X
Tidal Flat			X		X		X	X		X
Barrier Beach			X		X		X	X		X
Dune			X		X					X
Rocky Intertidal Shore			X		X		X	X		X
Salt Marsh		X			X		X	X		X
Land Under the Ocean			X ¹		X ¹		X	X		X ¹
----- SPECIAL CONSIDERATIONS APPLY -----										
Designated Port Areas										
Land Under Salt Ponds							X	X		X
Land Containing Shellfish							X	X		
Fish Run							X			
Inland										
Bank ²	X	X	X	X	X	X	X			X
Bordering Vegetated Wetland	X	X	X	X	X	X	X			X
Land Under Water Body or Waterway ²	X	X	X	X	X	X	X			X
Bordering Land Subject to Flooding				X	X					X ³
Isolated Land Subject to Flooding	X ⁴	X ⁴	X ⁴	X	X	X ⁵				X ⁶

¹ applies only to nearshore land under the ocean

² bank and land under a water body composed of concrete, asphalt, or other impervious material presumed significant only to flood control and storm damage prevention

³ only 10-yr floodplain or 100 ft. from bank or bvw within the 100-year floodplain, whichever is furthest; and certified vernal pool habitat within 100-year floodplain are presumed significant to wildlife habitat

⁴ only if underlain by pervious material

⁵ only if underlain by organic peat or muck

⁶ only if vernal pool habitat

Wetlands Protection and Conservation Commissions

Overview of the Wetlands Protection Act

To understand the 1993 regulations regarding normal maintenance and improvement of land in agricultural use - the "Agriculture Regulations" in this Guide - it is necessary to review the regulatory framework established under the Wetlands Protection Act. The following is a simplified version of the nearly 100-page Wetlands Protection Regulations.

The regulatory review process begins when work is proposed. When deciding whether or not a permit application must be filed, the applicant (the person proposing to do the work) has to answer some threshold questions:

- Is the work subject to regulation? Certain activities - filling, altering, removing, and dredging - are covered by the Act and defined in the Wetlands Protection Regulations. "Alter" is broadly defined to include such things as changing salinity, lowering water levels, destroying vegetation, or affecting water temperature.
- Is the area where work will occur subject to protection? The Act and the Wetlands Protection Regulations describe certain protected "resource areas" - such as streams, ponds, wet meadows, floodplains, and bordering vegetated wetlands, as well as banks, beaches, dunes, and land subject to flooding - and 100 foot buffer zones around many of them.
- Is there an exemption for this activity? Some activities - like public utility repair projects or mosquito control work performed under certain statutes - may not need to comply with the Act and its regulations because the Legislature created an exemption for these activities. If the exemption applies, nothing further need be done. "Normal maintenance or improvement of land in agricultural and aquacultural use" - as it is defined in the Wetlands Protection Regulations - qualifies for an exemption.

If the work is subject to regulation and the land is subject to protection and there is no exemption, then a permit application must be filed with the local Conservation Commission and DEP. This application is called a "Notice of Intent." The Conservation Commission will review the application and hold a public hearing. After the hearing, if the project is designed in accordance with the Wetlands Protection Regulations the Commission will issue a permit (the "Order of Conditions") that allows the work to proceed with conditions. Otherwise the project will be denied. The Commission's ruling can be appealed to DEP by the applicant, the owner (if not the applicant), any person aggrieved by the Order, any abutter, ten residents of the city or town in which the work is proposed - or by DEP itself.

The Agriculture Provisions of the Wetlands Protection Act

Certain agricultural activities are exempt from review. Other agricultural activities may be subject to special emergency provisions or require a permit. If the activity is exempt, the project may be carried out without going through a permit application and review process. However, the exemption must be carefully understood. In the case of the Agriculture Exemption, farmers and regulators need to know how the Exemption is defined and what conditions, if any, are attached to particular exempt activities.

The Agriculture Exemption applies to "normal maintenance" and "normal improvement" activities conducted on "land in agricultural use." What are the meanings of "normal maintenance," "normal improvement," and "land in agricultural use"? DEP, DFA, and the FAC spent many hours wrestling with these questions; their answers are found in the 1993 Agriculture Regulations, which define the phrases. (The full text of the Agriculture Regulations can be found in Appendix B of this Guide.) Work that falls within the definitions is exempt; work that does not fall within the definitions requires the filing of a Notice of Intent. The definitions are found in the Wetlands Protection Act Regulations at 310 CMR 10.04(Agriculture) - that is, under the heading "Agriculture" found in section 10.04 of Volume 310 of the Code of Massachusetts Regulations ("CMR").

The 1993 Agriculture Regulations contain two other important provisions besides the revised definition of "normal maintenance and improvement of land in agricultural use":

- An emergency provision for agriculture. The rules governing work to be done in an emergency are different from the rules for ordinary situations. The emergency provisions are found at 310 CMR 10.06(6).

- A new “Conservation Plan limited project” provision for certain agricultural water control structures. Work relating to these structures is not exempt because that work is not defined as “normal maintenance or improvement.” Accordingly, a permit is required. But under the terms of the “limited project,” the Conservation Commission can issue a more lenient Order of Conditions than usual. The new Conservation Plan limited project is found at 310 CMR 10.53(5).

Massachusetts communities were given the authority to establish Conservation Commissions with the passage of the Conservation Commission Act (Massachusetts General Laws Chapter 40, Section 8C) in 1957.

Today, every city and town has a Commission of three to seven members appointed by the selectmen or mayor. All Commissioners are volunteers who contribute long hours to their communities. Farmers are members of some Commissions. Nearly one half of the boards have some staff support, which can range from a part-time secretary to a full-time professional administrator.

Through the Conservation Commission Act, Commissions are charged with “the promotion and development of natural resources and the protection of watershed resources.” Natural resources are important to the public health and welfare as well as for their intrinsic value. Watershed protection is essential to provide an abundance of clean water and to protect plant and animal habitat. The “development” or alteration of some resources may occur to provide other public benefits, such as production of food and fiber. Such activities can be valuable and appropriate when protection of natural resources and watersheds is assured.

Conservation Commissions acquire and manage open space, prepare Open Space Plans, promote water quality protection strategies, and often are involved in planning issues that focus on open space and resource protection.

Conservation Commissions work to protect farmland for its open space and vista value as well as to preserve an agricultural base in their communities. Commissions may arrange for farmers to work some municipal conservation land - often in exchange for mowing the rest of a field or other services. In addition, Commissions encourage landowners to participate in government programs aimed at keeping their land in agriculture. In some cases, communities help to purchase development rights.

More than 20 years ago, Conservation Commissions were given the additional responsibility of administering and enforcing the Massachusetts Wetlands Protection Act. Over one third of Massachusetts communities also have local wetlands protection bylaws, which are administered by the Conservation Commission. It is important to note that activities that are exempt under the Wetlands Protection Act may not be exempt under a local bylaw. Both farmers and Commissions should check these local bylaw provisions.

*The Local
Conservation
Commission*



Wooded Swamp

Understanding Agriculture in Massachusetts

Farming, fishing, and forestry are “primary” industries. Primary industries require and depend on natural resources such as vegetation, water, and soil. They must manipulate these natural resources to be productive. The challenge to these industries is to sustain the natural resource base through management that avoids, minimizes, and mitigates damage to wetlands, water quality, and wildlife habitat.

Over the past few years, fundamental changes in agriculture have begun to reshape farm practices, increasingly making them more environmentally responsible. Reduced use of pesticides and fertilizers, alternative pest management strategies, conservation tillage, and composting are examples of practices that reduce negative environmental impacts. Fundamental changes in farm policy and technology have shifted the thinking of farmers and agricultural professionals about best management practices.

In Massachusetts, it no longer is acceptable to drain or fill wetlands to create new farmland. An increasing number of farmers now carefully consider applications of chemicals, off-site and groundwater impacts of certain farming practices, and the long-term impacts of soil and water-management strategies. Many of these changes create benefits not only on the farm but for the community as a whole. While some new practices create savings (for example, by reducing purchases of fertilizers and pesticides), many others place new economic burdens on farmers and require flexibility and adaptability to change.

Nonetheless, farming practices and approaches vary widely and an acceptable definition of “normal” has been difficult to achieve. In some cases, what has been accepted as normal may not be a “best management practice.” Examples include unrestricted livestock watering from natural water bodies or spreading manure on frozen ground. In some cases, normal practices - such as clearing vegetated field drainage swales - may have adverse impacts on an area under Wetlands Protection Act jurisdiction.

Because Massachusetts farms often are located in close proximity to wetlands and waterways, farming may have a significant effect on these resource areas. For example, moist, rich “bottom land” (which sometimes falls under Wetlands Protection Act jurisdiction) is of significant value to a farmer. Some years it may be too wet to farm; in dry years it may be the best or only productive field. Cranberry production takes place predominantly in wetlands. Wetlands that are farmed still are under Wetlands Protection Act jurisdiction and still provide some wetlands functions.

Aquaculture enterprises take place in fresh or salt water bodies. These enterprises rely entirely on ponds, tidal areas, or bogs, as well as surrounding hydrology, to produce a crop. The irregular New England glacial topography has created a wide variety of soils, sloped terrains, frequent pockets of high water table, complex drainage, and extensive floodplains. Massachusetts farms must operate within these constraints.

Farmers view their farms as whole systems. A farm is both a business and a complex unit in which all components relate to one another. “Whole farm” planning is encouraged so that nutrient cycling, enhancement of beneficial birds and insects, control of pests, control of off-site impacts, monitoring of water quality, and rotation of crops all are viewed as part of a single resource management system. This integrated-systems approach is being promoted by providers of technical assistance and in recently-introduced legislation at the federal level. Often, however, regulation takes an approach that requires categorizing and segmenting.

Farming in Massachusetts is diverse. Compared to the corn, soy beans, and livestock of the Midwest, the 6,000 farms in Massachusetts produce (for example) dairy products, vegetables, nursery crops, livestock, herbs, cut flowers, hay, garlic, trout, maple sugar, cranberries, small and orchard fruits, eggs, honey, cordwood and other forest products, and quahogs. There are farmers who grow hydroponically and many who grow organically; farmers who sell wholesale, retail, through farmer’s markets, farmstands, subscription farms, and/or mail order.

Such diversity is essential to a thriving agricultural economy. Massachusetts farmers constantly seek new products, new markets, new niches in the marketplace. That means change on the farm



*Massachusetts Farming
is Diverse*

is normal. Innovation is to be expected and encouraged, in terms of both products and practices. Currently, many farms are in the process of diversifying. Some are converting to new crops, often intensifying their management and production. Further, many farmers are involved in agricultural production part-time, holding off-farm and seasonal jobs. A viable Massachusetts farm may be 2 acres or 200 acres, in each case with a productive and intricately-managed system. These farms contribute a total of \$2 billion to the Massachusetts economy and generate thousands of jobs.

Yet, as in the rest of New England, the Massachusetts farm sector is struggling. In the face of high land costs, development pressures, nuisance complaints, and rising production costs, it is increasingly difficult for Massachusetts farmers to remain profitable. New England loses 80,000 acres of farmland annually by conversion to non-farm uses.

Massachusetts agriculture serves the public interest in several important ways, just as wetlands and water resources serve the public interest in the important ways previously described. Agriculture supplies the Commonwealth with the:

- Productive function. Most importantly, farms provide food, fiber, and other commodities for local and regional consumption.
- Economic function. Farmers generate critical economic activity in the on-farm, inputs, and value-added sectors. They contribute to the vitality of the rural economy and lower the cost of community services with a low per-acre demand on undeveloped land.
- Cultural function. Farms provide a rich historic and cultural heritage.
- Amenity function. Farms maintain open space and scenic landscapes.
- Habitat function. The open, natural, and edge areas provided by farms contribute to habitat diversity.
- Recreation function. Farmland often is available for hunting, skiing, and other activities.

Massachusetts farmers make a valuable contribution to the Commonwealth. At the same time, as stewards of the land they have a responsibility to conserve resources and employ farming practices that avoid, minimize, and mitigate harm to the natural resource base. Wetlands regulators in turn have a responsibility to implement a resource protection law that recognizes the natural resource requirements of farming.

Ensuring that these regulations are implemented in the best way possible will require active attention, patience, and a willingness to learn on the part of all concerned. Below are some suggestions that can help Conservation Commissioners and farmers alike work with the Wetlands Protection Regulations and one another.

- Become familiar with the farms and farmers in your community.
- Remember that some farmers may not be informed about wetlands values and the Wetlands Protection Act.
- Offer a tour of some sites and explain the important wetlands values.
- Designate one Conservation Commission member as your “agriculture specialist.”
- Encourage members to be conversant with the agriculture provisions of the Wetlands Protection Act.
- Invite your county’s District Conservationist (DC) from the United States Soil Conservation Service (SCS) to a Conservation Commission meeting to discuss farm planning and SCS technical assistance.
- Remember that the farmer who undertakes a project may not be the landowner. Both the farmer and the landowner may need to be involved in the planning and permitting processes.
- Locate a farmer, with the help of your DC, who might be interested in hosting a farm tour or becoming a “host farm” for ongoing education.
- Use a problem solving rather than a confrontational approach.

*Functions Served by
Farming*

What You Can Do

*Conservation
Commissions*

- Communicate and work with your DC on changes to conservation plans for both permitted and exempt projects.
- Re-evaluate local bylaws in light of the newly-adopted Wetlands Protection regulations concerning agriculture.
- Maximize opportunities to educate and be educated about farming and wetlands.
- Co-host a workshop with a local or county farm group.
- Make wetlands and other environmental materials and publications available to farmers and agricultural agency personnel.
- Participate in “scoping meetings” on site with the farmer and SCS.
- Contribute information and data to the Monitoring Committee that DEP and DFA are forming to study real-world experiences, in order to shape any revisions to the regulations.

Farmers

- Familiarize yourself with the purpose of the Wetlands Protection Act and the agriculture provisions in the regulations.
- Introduce yourself to your Conservation Commission and attend some of its meetings.
- Volunteer to serve on your Conservation Commission.
- Use a problem solving rather than a confrontational approach.
- Meet with your Conservation Commission to better understand local conditions and sensitive resources, and pursue farm practices that protect them.
- Offer a farm tour.
- Be a host farm or woodlot site for one or more educational visits.
- Visit the Conservation Commission office and borrow materials of interest.
- Discuss wetland resource values and management practices that protect those values with your friends.
- Remember that Conservation Commission membership changes; acquaint yourself with new members.
- Pass along farm-related materials and publications.
- Inform your Conservation Commission about new projects and changes on your farm; engage the Commission early in the process.
- Develop a conservation plan for your farm and seek SCS or other technical guidance for crop and resource management strategies that minimize negative impacts.
- Contribute information and data to the Monitoring Committee that DEP and DFA are forming to study real-world experiences, in order to help shape any revisions to the regulations.



Chapter 2: Working with the Regulations



Working with the Regulations

Approaching the Exemption

The intent of the revised Wetlands Protection Regulations is to clarify the Agriculture Exemption to the Wetlands Protection Act. The Agriculture Exemption itself is contained in the statute. The language of the statute (clause 18 of Massachusetts General Laws Chapter 131, Section 40) exempts “work performed for the normal maintenance or improvement of land in agricultural or aquacultural use.” The definitions section of the Wetlands Protection Regulations [at 310 CMR 10.04 (Agriculture)] gives a detailed explanation of the exemption by defining Agriculture.

The revised definitions are longer and more detailed than the definitions they replaced. They give more examples of activities and clarify certain terms. In certain situations, defining what is “normal” or what is “land in agricultural or aquacultural use” is determined by referring to certain parameters such as “reasonable” size or distance limitations.

Agriculture

To work with the Agriculture Exemption, it is essential to understand:

- First, the components of the exemption.
- Second, the conditions that are attached to the components of the exemption.

Components of the Exemption

The components of the exemption for “work performed for normal maintenance or improvement of land in agricultural or aquacultural use” are:

- a. Work (“activity”).
- b. Normal.
- c. Maintenance.
- d. Improvement.
- e. Land in agricultural use (LIAU).

Work

It is the work, or the activity, that is exempt, not the land.

Even though a piece of land is in agricultural use, a particular activity may not necessarily qualify for the exemption. In other words, not all activities are exempt simply because they take place on a farm.

Normal

The work or activity must be considered “normal.”

Some normal practices are listed in the Agriculture Regulations, but they do not list all of the activities that are considered normal. Descriptions of many normal practices appear later in this Guide (see Chapter Four). In evaluating whether an activity is normal, Conservation Commissioners and farmers should consider the following:

- A “normal” practice may not always be considered a “best practice.” For example, some farmers apply manure on their fields when the ground is frozen. This may cause nutrient runoff, but it is exempt because it is considered “normal.”
- Normal practices don’t necessarily look nice. For example, placement of slash is a normal practice that, to some, appears messy and disruptive.
- A normal practice may cause impacts to resource areas. For example, clearing agricultural drainage swales every so often is a necessary practice, even though wetlands vegetation may be present. Or an unimproved livestock watering access may disturb the bank of a stream.
- To be normal, a practice must fit the scale and the scope of an operation. Thus, it is not normal to dig a 10,000 square foot livestock pond to provide for only 15 cattle.
- What is normal may involve change. It may be normal to change commodities, erect or modify farm structures, replace fencing, or introduce irrigation. It may be normal to modify practices and to adopt new technologies and innovations.

Keep in mind, however, that the Wetlands Protection Regulations may place limits on such changes.

Maintenance activities involve practices that keep existing operations in good working order.

Maintenance

Examples of “maintenance” include all aspects of crop management, management of related water bodies, and repairs to existing farm structures, access roads and ways, and fencing. Maintenance will not necessarily happen often. Sanding of cranberry bogs routinely happens every 3 to 5 years and repair or restoration of subsurface drainage may happen every 10 years; still, they are considered to be normal maintenance.

Maintenance activities must be necessary and directly related to the production or raising of agricultural or aquacultural commodities. Building a farm stand or a produce-packaging facility in a wetland resource area therefore generally would not be exempt. Also, the size and scale of maintenance activities must be appropriate to the farm enterprise.

Improvement activities involve change.

Improvement

Improvements may enhance growing conditions, involve construction, or require the use of equipment in resource areas or a buffer zone. Examples include: creating a windbreak to reduce soil loss; building a by-pass channel/canal to improve water quality in a cranberry system; digging a manure pit to prevent leaching; or establishing an irrigation system.

Improvements might be innovative, such as adopting rotational grazing, a practice that involves changes in fencing and pasture seeding. Intensifying production, diversifying crops, and adding livestock are examples of improvement strategies typically used by competitive Massachusetts farmers.

An improvement to one area may trigger a change in the use of a related area. For example, if a farmer converts from dairy to vegetable production, it would be considered a normal improvement not only to convert suitable pasture or field, corn land to row crops, but also to adapt a livestock watering facility to irrigation and to set up greenhouses or cold frames in a former barnyard.

As with maintenance activities, improvement activities must be necessary and directly related to the production or raising of agricultural or aquacultural commodities. Building a farm stand or a produce-packaging facility therefore would not be exempt. Also, the size and scale of improvement activities must be appropriate to the farm enterprise.

To qualify for the Agriculture Exemption, land must be in agricultural use.

*Land in
Agricultural Use
(LIAU)*

The Agriculture Regulations are quite specific about what constitutes land in agricultural or aquacultural use: the exemption applies only to those land areas within the farm gate that presently and primarily are in production or that customarily and necessarily are related to production.

Thus, bringing abandoned land back into production (see discussion below), opening new land to farming (enlarging a farm enterprise into previously unaltered resource areas), or creating new access roads and ways or work areas are not exempt activities because the land in question is not presently and primarily in or related to production.

(Certain improvement activities are an exception to the rule just stated, that land must be “presently and primarily in production” or “customarily and necessarily related to production” to qualify for the Agriculture Exemption. These activities - the squaring off of field edges and the creation of certain water control structures - are described later in this Guide. Otherwise, it is NOT considered exempt to convert so-called related land to cropland.)

The Agriculture Regulations also stipulate that, to be exempt, land must be used in producing or raising agricultural commodities for commercial purposes. The definition of “commercial” is discussed below (see page 2-3).

Although the land must be “presently and primarily” in agricultural use, the definition allows it to be “inactive” for up to 5 consecutive years without losing exempt status - or longer, if the land is inactive as part of a USDA contract pursuant to the Conservation Reserves Program. For example, a field or pasture may be out of use temporarily because of changes in enterprise, a financial situation, or as a strategy to manage weeds or fertility; still, it is considered land in agricultural use for up to five years. Land that currently is inactive as part of an active rotation is considered land in agricultural use.

Active vs. Inactive Land

And a field that is fallow - that is, plowed but unseeded - is not considered inactive.

Land under the jurisdiction of the Wetlands Protection Act that has been out of production for longer than five years (without being under USDA contract) is considered new land. Farming activities proposed for such areas are not exempt and therefore require a permit (an Order of Conditions) under the Wetlands Protection Act. Thus, a pasture that has not been grazed or managed at all during the past five years is not considered land in agricultural use, even though fencing still surrounds it.

It is proper for a Conservation Commission or DEP to require documentation of the extent and the timing of agricultural use. Such proof could be aerial photography, a USDA farm plan, hay receipts, or ASCS cropping records.

Land in Production

“Land in Production” is one kind of land in agricultural use as defined by the Agriculture Regulations. It is that portion of the farm presently and primarily used to produce or raise agricultural commodities for commercial purposes. A field of corn, a fenced pasture of grazing sheep, an orchard, a chicken yard, a pick-your-own strawberry patch - all of these are clear examples. The area of a forest under active management also is considered productive land.

Necessary and Related Land

“Necessary and related land” is the other kind of land in agricultural use as defined by the Agriculture Regulations. It is the portion of the farm that is “presently and primarily used in a manner related to, and customarily and necessarily used in, producing agricultural commodities.” These are areas of the farm that are not productive cropland but that are essential to the operation of the farm because they support existing land in production. Examples include: existing access roads and ways; composting areas; barns and sheds; fire ponds; livestock crossings; woodlot landings; and field edges.

Related land also includes those areas where water management activities take place, such as: pond inlets and outlets; accesses; field surface and subsurface drainage systems, including pipes and outlets; pumphouses; and permanent or temporary culverts.

Related areas may be used continually, such as an access to a field; seasonally, such as the area set aside for the burning of orchard prunings; or infrequently, such as a sand pit for cranberry bog sanding. All of these areas are integral and necessary components of active enterprises.

Definition of Commercial

According to the definition of “land in agricultural use” at 310 CMR 10.04(Agriculture)(a), the land in question must be used to produce or raise certain agricultural commodities “for commercial purposes.” What distinguishes commercial purposes from non-commercial purposes?

The American Heritage Dictionary (Second College Edition, 1985), gives the following relevant definitions:

“1.a. Of or pertaining to commerce.” [“Commerce,” in turn, is defined as “The buying and selling of goods.”]

“3. Having profit as a chief aim.”

Using these definitions, a “commercial purpose” can be characterized by two key elements: first, the activity of selling; and second, the goal of making a profit. It is not enough to have one without the other - both elements must be present. Whether they are present must be determined on a case-by-case basis.

It is not possible to give an exhaustive list of examples that will cover every question that might arise about the meaning of the word “commercial.” The following examples, therefore, are meant as illustrations only:

Examples

Q For many years, Ms. Smith has grown strawberries on her property. A portion of the crop grows in the 100-foot buffer zone to a resource area under the Wetlands Protection Act. Ms. Smith consumes some of the strawberries herself. Some she gives away fresh to friends and relatives. The rest she turns into preserves; she uses some of the preserves herself and, again, she gives the rest away. May she perform “normal maintenance” or “normal improvement” activities, such as spreading compost, without filing with the Conservation Commission?

A The answer is no. The land is not “in agricultural use” as defined in the Agriculture Regulations. Ms. Smith is not selling the strawberries. She has no goal of making a profit.

Q For many years, Mr. Jones has grown strawberries on his property. A portion of the crop grows in the 100-foot buffer zone to a resource area under the Wetlands Protection Act. Mr. Jones consumes some of the strawberries himself. The rest he sells on weekends from his front porch to help cover his costs for fertilizer, water, and the like. May he perform “normal maintenance” or “normal improvement” activities, such as spreading compost, without filing with the Conservation Commission?

A The answer is no. The land is not “in agricultural use” as defined in the Agriculture Regulations. Mr. Jones is selling his strawberries, but he has no goal or expectation of making a profit. Note that whether or not he makes a profit is not the issue - rather, whether or not he has “profit as a chief aim” is the issue.

Q Mrs. Green runs a stable. Her customers board their horses there. The customers take the horses for rides on Mrs. Green’s property. Some of the horse trails pass through wetlands and Mrs. Green clears the trails to keep them open. She also raises and harvests hay, partly in wetlands resource areas and buffer zones, which she feeds to the horses. The customers are charged for the hay that Mrs. Green provides. Is Mrs. Green’s land in agricultural use?

A The answer is yes and no. Yes, the land where hay is raised and harvested is in agricultural use. The hay is an agricultural commodity that is sold by Mrs. Green as part of her for-profit activity in running the stable. She could just as well sell the hay to a feed business and require her customers to supply their own hay; instead, she has cut out the middle man. That does not affect the commercial nature of the activity. However, the riding paths are not in agricultural use. Operating a stable is not commercial agriculture because no commodity grown on the premises is sold. The services associated with the stable - boarding, grooming, and feeding the horses - do not constitute raising an agricultural commodity. It would be different if Mrs. Green bred horses for sale. Merely keeping them on the premises, however, does not qualify the land used in that business for the exemption.

It is important to remember the significance of these activities not qualifying for the Agriculture Exemption. It does not mean that the landowner may not grow strawberries or operate a stable. It does mean that before the landowner takes actions that would remove, fill, dredge, or alter a wetland resource area or alter a Buffer Zone, he or she must file a Notice of Intent and receive an Order of Conditions.

Summary

To summarize, the exemption for normal maintenance or improvement of land in agricultural use must meet the following tests:

- It is the work, or activity, that is exempt, and not the land itself.
- The activity must be considered normal.
- The activity must be considered maintenance OR the activity must be considered improvement; AND
- The activity must occur on land in agricultural or aquacultural use.

If all of these conditions are met, the activity can qualify for the Agriculture Exemption. Before the farmer may proceed with the exempt activity, however, certain conditions must be met.

Conditions

Even though an activity is considered “exempt,” there are conditions that must be satisfied in order to exercise the Agriculture Exemption. Farmers and Conservation Commissioners need to understand these conditions, which can be classified as either “general” or “specific.”

General Conditions

The following general conditions apply every time the Agriculture Exemption is exercised:

- All maintenance or improvement activities shall be “undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands.” This condition is contained in the introductory paragraph to 310 CMR 10.04(Agriculture)(b) and in 310 CMR 10.04(Agriculture)(c)(1).
- Filling or dredging of a salt marsh is prohibited under all circumstances. This condition is contained in the introductory paragraphs to both 310 CMR 10.04(Agriculture)(b) and 310 CMR 10.04(Agriculture)(c).
- All maintenance and improvement activities must be “conducted in accordance with federal and state laws.” This condition is contained in the introductory paragraph to 310 CMR 10.04(Agriculture)(b) and in 310 CMR 10.04(Agriculture)(c)(1). Examples of laws that might be relevant are those dealing with pesticide application, fuel storage, and composting.

Specific Conditions

There also are specific conditions that appear in particular sections of the Agriculture Regulations. These have to do with:

- Limitations on size.
- Limitations on location.
- Limitations on loss of flood storage capacity.
- Particular prohibitions on storage sites for fertilizer and pesticides.
- Protection for rare species habitat.
- Requirements for conservation plans approved by SCS (see page 2-8 of this Guide).

The forestry provisions of the Agriculture Regulations have additional conditions that refer to other laws and regulations, as well as to specific forestry practices.

Selected Exempt Activities

Field Edges

[See 310 CMR 10.04(Agriculture)(b)(5).]

“The management of existing field edges” is one of the exempt activities that is allowed because it is defined as “normal maintenance of land in agricultural use.” What is a “field edge” and how does one manage it? Here are the key points to keep in mind (assuming, of course, that the proposed activity in fact is to occur on “land in agricultural use”):

- a. A managed field edge is a zone surrounding the land in production. Under the Agriculture Regulations, certain activities may occur in this zone in keeping with the Agriculture Exemption.
- b. A managed field edge is different from the boundary of a field. The boundary of a field (the land in production) is a line that marks where the field (which may be squared off - see discussion below) ends and the land outside of the field begins. By contrast, the field edge is not a line but an area.
- c. One purpose of managing a field edge is to maneuver equipment around the land in production; for example, to drive tractors around the perimeter of the field without crossing over furrows or planted crops. A field edge may be used temporarily to park equipment being used in the field. Also, the field edge is an area where trees that provide unwanted shade can be cleared or where vegetation that may harbor pests (called “alternate hosts”) can be removed.
- d. A field edge must be “existing,” meaning that it must surround the land that already is in production. If new land is put into production, the creation of that use and of any field edge to support it would require the filing of a Notice of Intent.
- e. The maximum extent of the managed field edge is “100 feet from the land in production.” If the management of a field edge at a given time extends less than 100 feet from the land in production, the farmer may extend it to the full 100 feet without filing a Notice of Intent (provided all the conditions of the Agriculture Regulations are satisfied). For example, management activities might change to accommodate the requirements of a new commodity or new machinery. To go beyond the 100 feet, a Notice of Intent is required.
- f. The Agriculture Regulations set out specific practices associated with the management of field edges: mowing, burning, brush cutting, and removing trees. However, the Agriculture Regulations are not limited to these activities. Any other activities that are claimed as “management of field edges” must be consistent with the purposes of field edges described in point c, above.
- g. The Agriculture Regulations specifically state that “the management of any field edge that falls within a Bordering Vegetated Wetland is not intended to allow the conversion of Bordering Vegetated Wetland into cropland.” In other words, clearing trees and other vegetation to reduce shading, control pests, and provide better access for tractors does not open the door to expanding the land in production. The field edge must remain a field edge and may not be the cause of creeping expansion of exempt activities.

[See 10.04(Agriculture)(c)(1)(d).]

“The squaring off of fields and bogs” is one of the exempt activities that is allowed because it is “normal improvement of land in agricultural use.” What is “the squaring off of fields and bogs” and what limitations apply?

Here are the key points to keep in mind:

- a. This is not the same as management of field edges. As noted in the discussion above, a field edge is a managed area extending to a maximum of 100 feet around the land in production. By contrast, squaring off refers to straightening out a line marking the limits of the land in production. In other words, the farmer is allowed to take an irregular or jagged boundary and make it regular or straight.



Squaring Off a “Field Boundary”

- b. The purpose of this activity is to make management of the land in production easier. For example, it is much less difficult to operate a plow up and down the length of a field when the boundaries of the land in production are regular. Older fields and cranberry bogs may have been shaped irregularly and newer equipment cannot operate in those areas.
- c. When squaring off fields and bogs, any alteration of a Bordering Vegetated Wetland requires the filing of a permit application - a Notice of Intent.
- d. The purpose of this activity is not to increase the amount of land in production. Rather, the alterations allowed under the Agriculture Regulations must be the smallest amount reasonably necessary to square off the field, that is, to make the boundaries of the land in production regular and even. Therefore, some square footage that was outside the land in production will come into production, but it must be reasonably minimized.
- e. When squaring off fields and bogs, no fill may be placed within Bordering Land Subject to Flooding. In other words, this activity cannot result in the loss of flood storage capacity.

Substantial Fill

[See 10.04(Agriculture)(b).]

In carrying out activities that are exempt because they meet the definition of “normal maintenance,” there is a condition in all cases that prohibits “placing substantial amounts of fill in Bordering Land Subject to Flooding” (BLSF). How much fill constitutes “substantial” fill?

Substantial is a difficult word to pin down. Dictionary definitions do not provide any useful guidance. Therefore, it is necessary to ask the purpose of the condition. Clearly, it is not the intention of the Agriculture Regulations to prohibit filling of BLSF outright; if that were the intention, they would not include the word substantial. Why is it that some amount of filling of BLSF is allowed, but some larger amount of filling is not?

BLSF is regulated under the Wetlands Protection Act because of its ability to store flood waters. Filling such land reduces the amount of flood storage available, increasing the likelihood of storm or flood damage elsewhere. Adding a teaspoon of fill to BLSF will not cause flood waters to flow elsewhere. A substantial amount of fill, however, will have that result.

Accordingly, filling becomes substantial when the amount of fill is enough to reduce the storage capacity of the BLSF. This can be determined by engineering calculations as well as by experience and common sense.

Even with this explanation, deciding whether or not fill is substantial will not be a science; for this reason, farmers are encouraged to seek a Determination of Applicability (see page 2-13 of this Guide) from their Conservation Commission before placing fill in Bordering Land Subject to Flooding.

The 4,000 SF Limit for Construction of Farm Structures

[See 10.04(Agriculture)(c)(1)(c).]

“The construction of farm structures, not including habitable dwellings,” falls within the Agriculture Exemption because it is “normal improvement of land in agricultural use.” The Agriculture Regulations impose a limitation on this activity: the footprint of the new farm structure may not exceed 4,000 square feet. Which of the following interpretations of the regulation is correct?

- a. The 4,000 s.f. limit is applied cumulatively, allowing one or more structures to be built so long as the combined area of the footprints stays under the limit.
- b. Multiple structures can be built and there is no limit to the combined area of the footprints, so long as the footprint of each structure is under 4,000 s.f.

A careful reading of the Wetlands Protection Regulations indicates that the correct answer is b.: there is no cumulative limit so long as each structure’s footprint is less than 4,000 s.f. The Agriculture Regulations allow “the construction of farm structures” (note the plural) “provided that the footprint” (note the singular) “of the farm structure” (note again the singular) “does not exceed 4,000 square feet.” In other words, “structures” - more than one structure - are allowed, provided that each individual structure meets the limit. There is no attempt to impose a cumulative limit.

Of course, each farm structure must meet not only the 4,000 s.f. limit. It also must meet the general standards applied to all “normal improvement” activities: it must be directly related to production or raising of an agricultural commodity - for example, erecting a farm stand would not qualify; construction must be undertaken so as to prevent erosion and siltation of adjacent water bodies and wetlands; and all state and federal laws must be obeyed.

Does the 4,000 s.f. limit on building footprints apply to composting and storage areas? At first glance, that might seem to be the case because “the construction of composting and storage areas” - with no stated limit on building footprints - is listed as another “normal improvement” activity at 310 CMR 10.04(Agriculture)(c)(1)(h). However, such an interpretation would have the practical effect of deleting the condition in 310 CMR 10.04(Agriculture)(c)(1)(c).

If composting or storage is to be done on the ground without construction of a building, then no square foot limits apply. On the other hand, if compost or other farm materials are to be kept in a building, then the building is a “farm structure” subject to a footprint limitation of 4,000 square feet.

The Agriculture Exemption and Conservation Plans

As noted in an earlier section, some agricultural activities are exempt without the need to comply with any specific conditions. Other activities are exempt only if they comply with specific conditions. Certain improvement activities - having to do with water management projects - are noteworthy because they are not exempt unless the activity is part of a farm Conservation Plan (CP) that has been approved by SCS and submitted to the Conservation Commission for review and comment.

Overview

The SCS Conservation Plan process is employed in a second place in the Agriculture Regulations. In the case of the exemption described in the preceding paragraph, there are limits on the number of square feet of Bordering Vegetated Wetlands (BVW) that can be altered. In the second case, these limits are higher - but the activities no longer qualify as exempt. Instead, the Agriculture Regulations provide for a special kind of Wetlands permit known as a “Conservation Plan limited project.” This Conservation Plan limited project is available only if - once again - a process employing an SCS Conservation Plan is followed.

The following sections will describe the use of Conservation Plans under the Agriculture Regulations; the special conditions for exempt projects that employ a CP; and the so-called Conservation Plan limited project that relies on the CP. See also in this Guide Chapter Three, Appendix E, and Appendix F for more information about SCS and the Conservation Plan process.

A Conservation Plan is likely to cover many activities that take place on many portions of a farm - not just activities that relate to wetlands. There is no rule that requires farmers to consult with Conservation Commissions when preparing Conservation Plans. Nonetheless, DEP, DFA, SCS, and everyone else connected with the drafting of the Agriculture Regulations strongly urges farmers and Conservation Commissions to work together in preparing those relevant portions of the Conservation Plan.

Farmers, Conservation Commissions, and Conservation Plans

Farmers are encouraged to contact the Conservation Commission at the very beginning of the planning process. Asking to be placed on the agenda for an informal discussion of the proposed project is a good first step. Inviting Commission members to view the site, together with SCS personnel, can be critical to the success of the process.

Commissioners are encouraged to attend on-site scoping meetings. Commissioners can offer valuable assistance in delineating wetland boundaries and analyzing wetland resource protection issues. The Commission’s constructive input, combined with the farmer’s experience and knowledge of the project, can enhance everyone’s understanding of the issues and make a good CP into one that is excellent.

DEP and SCS have entered into a Memorandum of Understanding - or MOU - concerning the role SCS will play under the Wetlands Protection Regulations. A copy of the MOU can be found in Appendix C to this Guide.

Use of the Conservation Plan is optional. On the one hand, a farmer has the choice of requesting technical assistance from SCS and the Conservation Districts to prepare the CP. On the other hand, the farmer can forego use of the CP and apply for permission to install the improvements through the normal Wetlands Protection Act permit process; rather than relying on an exemption, the farmer will have to file a Notice of Intent with the local Conservation Commission.

Exempt Water - Management Projects

Certain water-management projects that occur partly or entirely within a Bordering Vegetated Wetland (BVW) qualify as exempt “normal improvement” activities when a CP has been approved by SCS and submitted to the Conservation Commission for review and comment. The projects [with the amount of BVW that may be altered, as listed at 310 CMR 10.04(Agriculture)(c)(2)(f)] are:

- Reconstruction of existing dikes (up to 5,000 s.f.).
- Reconstruction and expansion of existing ponds and reservoirs (up to 10,000 s.f.).
- Construction of tailwater recovery ponds (up to 10,000 s.f.).
- Construction of by-pass canals/channels (up to 5,000 s.f.).

In each case, the dike, pond, reservoir, tailwater recovery pond, or by-pass canal/channel must be “directly related to production or raising of the agricultural commodities” described in the definition of “land in agricultural use” found at 310 CMR 10.04(Agriculture)(a).

If a farmer wants to carry out one of these water-management projects as an exempt activity - that is, without filing a Notice of Intent with the Conservation Commission - a Conservation Plan is required. This is a new and unique approach for the Wetlands Protection Regulations. In their work together creating the Agriculture Regulations, DEP, DFA, and representatives of the agricultural and environmental communities have agreed that these projects are “normal” (and therefore exempt) if the improvements are made with the careful planning and technical assistance that SCS provides as part of the CP process.

Key Points

Here are the major points to keep in mind about using CPs for these exempt activities:

- The CP must be submitted to the Conservation Commission for its review at a public meeting before the work is performed. Presently, there are no special forms to be used - simply submit a copy of the plan by hand delivery or certified mail. There is no filing fee. There is no requirement that DEP be notified.
 - Note that the farmer does not need to submit the entire CP - only the portion relating to the work that is claimed to be exempt. After all, a CP may cover many activities taking place in a large area; not all of them will affect wetlands.
- The Conservation Commission may feel the CP was not prepared properly. In that case, it may put its objections in writing and give them to the farmer, who must relay them to SCS.
- Under Section 5(e) of the MOU between DEP and SCS, SCS agrees to honor Conservation Commission objections to wetland boundary delineations. (If there is a wetland boundary established by DEP through an appeal process, however, SCS will use that “final” delineation instead.) Otherwise, SCS need not modify the CP based on the Conservation Commission’s comments, although SCS will carefully consider all comments.
 - By submitting a CP to the Conservation Commission, the farmer is inviting the Commission to visit the site for the purpose of evaluating the wetland boundary delineation. The farmer and the Commission should work together to establish a convenient time to conduct a site visit.
- If the farmer later revises the wetland boundary delineation used in the CP, that revision must be submitted to the Conservation Commission. The Commission then would have the opportunity to comment or object to SCS as described above.
- The farmer must carry out the improvement activity as described in the CP.

*Non-Exempt Water-
Management
Projects*

If a farmer cannot meet the square footage limitations described above for the exempt water-management projects, the only way to perform these improvement activities is to get a permit; that is, to file a Notice of Intent with the Conservation Commission and receive an Order of Conditions allowing the work.

When a farmer wants to receive a permit for non-exempt water-management projects, the Agriculture Regulations include a second use for Conservation Plans, as described at 310 CMR 10.53(5). Under this regulation, the Conservation Commission may allow higher limits on the amount of Bordering Vegetated Wetland to be altered by issuing an Order of Conditions - or permit - for a "Conservation Plan limited project."

The Conservation Commission must, except as described below, issue an Order of Conditions for the following activities [with the amount of BVW that may be altered, as listed at 310 CMR 10.53(5)(e)] under a Conservation Plan limited project:

- Reconstruction of existing dikes (up to 10,000 s.f.).
- Construction of new ponds or reservoirs (up to 20,000 s.f.).
- Expansion of existing ponds or reservoirs (up to 20,000 s.f.).
- Construction of tailwater recovery systems (up to 20,000 s.f.).
- Construction of by-pass canals/channels (up to 20,000 s.f.).

Note that some of the project descriptions differ from those listed for exempt water-management projects.

There are many limited projects in the Wetlands Protection Regulations, but this one is unique. All other limited projects are granted at the discretion of the Conservation Commission - if the Commission believes that it cannot impose conditions that are adequate to protect the wetlands, then it can deny the application. Here, by contrast, the Agriculture Regulations create a presumption (only in 310 CMR 10.53(5)) in favor of the applicant: if there is a CP, then the limited project should be approved as submitted. The burden is not on the farmer to show that the project may safely proceed. Instead, the burden is on the Commission to overcome the presumption.

What does the Commission need to do if it wants to overcome the presumption? It must make a "clear showing" that one or more of the following is true:

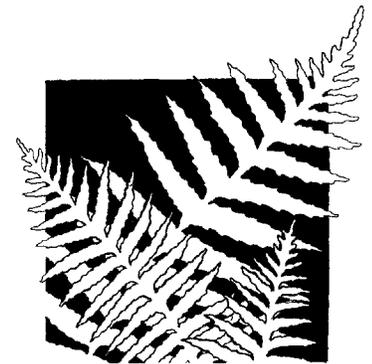
- The work described in the CP does not avoid impacts to wetland resource areas.
- The work described in the CP does not minimize impacts to wetland resource areas when they are unavoidable.
- Construction specifications and mitigation measures contained in the CP do not minimize impacts to wetland resource areas where impacts are unavoidable.
- Construction specifications and mitigation measures contained in the CP do not adequately protect the interests of the Wetlands Protection Act.

These showings are difficult to make when an SCS-certified Conservation Plan has been prepared.

Even if the Conservation Commission does meet the burden of overcoming the presumption, it still must try to impose conditions on the work that will "restore the presumption." That is, the Conservation Commission must attempt to write conditions that will result in avoiding and minimizing wetlands impacts and protecting the interests of the Wetlands Protection Act. The Commission may deny the application outright only if such conditions cannot be determined.

Here are other major points to keep in mind about the Conservation Plan limited project:

- When a farmer files a Notice of Intent for projects in this category, all portions of the CP that relate to the limited project must be included. At a minimum, the NOI must describe the:
 - Project.
 - Number of square feet of each type of resource area that will be altered.
 - Alternatives that were considered in order to avoid alterations of wetland resource areas.



- Under Section 5(e) of the MOU between DEP and SCS, SCS agrees to honor Conservation Commission objections to wetland boundary delineations. (If there is a wetland boundary established by DEP through an appeal process, however, SCS will use that “final” delineation instead.) Otherwise, SCS need not modify the CP based on the Conservation Commission’s comments, although SCS will carefully consider all comments.
- The project may not have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species. There are procedures established under the Wetlands Protection Act (see 310 CMR 10.59) for identifying these impacts; under its MOU with DEP, SCS is required to account for this factor in preparing the CP.
- There shall not be any filling or dredging of a Salt Marsh.



Determining Jurisdiction

Requests for Determination

A Request for Determination of Applicability (RDA) is a procedure established under the Wetlands Protection Regulations at 310 CMR 10.05(3). It allows applicants to find out if they need to file a permit application (Notice of Intent); but applicants do not actually have to file the application to find out. Although it is an optional procedure, it can be a useful tool for avoiding problems even if it turns out that the proposed activity was exempt all along.

Why would a farmer want to exercise the option of filing an RDA? If a farmer is not certain that the Agriculture Exemption applies, doing so might avoid unintentional violations due to applying or understanding the regulations incorrectly. It also could avoid possible confrontations with - and enforcement actions by - the Conservation Commission.

A positive use of the RDA process is to establish a relationship of mutual cooperation with the Conservation Commission by keeping it informed of activities - even exempt activities - on the farm. And farmers can benefit from non-binding suggestions by Conservation Commissions that would be good for the environment and the farmer.

Reasons for Filing RDAs

Determinations can be requested for the following purposes:

- To see if the land - or which parts of the land - where work is proposed is subject to protection under the Wetlands Protection Act. This kind of a Determination, in turn, falls into two categories:
 - Is the land a wetland resource area at all? If the land is not a wetland or part of a buffer zone, no Notice of Intent is required.
 - Even if a wetland resource area is involved, is the land “in agricultural use”? If so, it may be exempt depending on the details of the proposed activity.
- To see if the proposed activity is subject to regulation under the Wetlands Protection Act. Again, there are two categories for this kind of determination:
 - Will the work remove, fill, dredge, or alter a wetland resource area or alter a Buffer Zone? If not, no Notice of Intent is required.
 - Even if there is a regulated impact on a wetland resource area, does the proposed activity qualify as “normal maintenance and improvement”? If so, and the land is found to be “in agricultural use,” then the Agriculture Exemption applies. In that case, no permit application would be required.

This analysis is summarized in the Table on page 2-15 of this Guide.

In theory, requesting a Determination is a simple process. There is a short (2 page) application form to complete and most of the questions are short and simple. There is no filing fee, although some Commissions may require the applicant to cover the cost of an optional public notice. The form is delivered (by hand or by certified mail) to the Conservation Commission, which has 21 days to make its decision by issuing either:

- A **positive** Determination of Applicability, indicating that the area is subject to protection under the Wetlands Protection Act and the activity is subject to regulation under the Act. Therefore, the work may not proceed without the filing of a Notice of Intent.
- A **negative** Determination of Applicability, indicating that either the area is not subject to protection under the Wetlands Protection Act or the activity is not subject to regulation under the Act, or both. Therefore, the work may proceed without the filing of a Notice of Intent.

In the case of an exempt agricultural activity, a negative Determination of Applicability means that the proposed activity is not subject to review, provided that all the general and special conditions (see page 2-12) of the Agriculture Exemption are upheld.

Sometimes, Conservation Commissions attach conditions to a negative Determination of Applicability. If conditions are attached to a negative Determination in the case of an exempt activity, the conditions may be used to describe the activity more fully in order to ensure consistency with the Agriculture Regulations. However, such conditions would not typically be designed to constrain an exempt activity and should not be used or seen as a tool to regulate.

A Conservation Commission cannot require a farmer to submit an RDA as a condition of the farmer exercising the Agriculture Exemption, with the following qualification. DEP does not take the position that an RDA must be filed for a landowner to assert rights under an exemption to the Wetlands Protection Act. However, Conservation Commissions (and DEP) are allowed to bring enforcement actions against suspected violations of the Act. Improper use of the Agriculture Exemption - asserting that the exemption applies when it does not - is just such a violation. Commissions, as well as any member of the public, also may file an RDA for a project that either is proposed or underway as a means of establishing with certainty the permitting requirements (if any) for such activity.

Further, Conservation Commissions and DEP do have the right to require proof that land truly is exempt because it is “in agricultural use.” 310 CMR 10.04(Agriculture)(a), in its final sentence, allows them to “require appropriate documentation, such as a USDA Farm Plan or aerial photography, to demonstrate agricultural use.” If a legitimate question arises about exempt activities, refusal to answer the question can lead to enforcement. Since a Conservation Commission is less likely to suspect a violation when it has had a chance to review the proposed work in advance, the best approach is to establish a cooperative and mutually informative relationship between farmers and Conservation Commissions.

Filing an RDA puts on the record the status of the land as “in agricultural use” and the nature of the proposed activity as “normal maintenance or improvement.” In that way, filing an RDA can be in a farmer’s best interest.

Many provisions of the new regulations contain important limitations on the work that can be done in a Bordering Vegetated Wetland (BVW). These provisions include the following:

- 310 CMR 10.04(Agriculture)(b)(1): exempt normal maintenance practices do not include drainage in a BVW.
- 310 CMR 10.04(Agriculture)(b)(5): management of field edges as an exempt normal maintenance practice does not include conversion of BVW into cropland.
- 310 CMR 10.04(Agriculture)(c)(1)(d): squaring off of fields and bogs as an exempt normal improvement practice does not include alteration of a BVW.
- 310 CMR 10.04(Agriculture)(c)(1)(f): changing commodities as an exempt normal improvement practice does not include filling of BVW.
- 310 CMR 10.04(Agriculture)(c)(2)(a, d, and f): alteration of BVW is subject to square-foot limits for exempt water-management projects done under a Conservation Plan.
- 310 CMR 10.06(g)(2): storm debris may not be placed in a BVW following an emergency.
- 310 CMR 10.06(g)(3): in developing an emergency agricultural water source, impacts to BVW shall be minimized and in any case shall not exceed 2,000 square feet.
- 310 CMR 10.53(5)(e): alteration of BVW is subject to square-foot limits for non-exempt water-management projects done under a Conservation Plan.

Ordinarily, DEP and Conservation Commissions use a standard methodology for delineating wetland boundaries; and SCS personnel have received DEP training in this methodology. Primarily, it relies on vegetation to address the matter of boundary delineation - when certain plant species associated with wetlands predominate, then a BVW is present. If a site has been disturbed, however, and the vegetation has been destroyed by farming or other operations, how can the boundary of the BVW be determined?

The absence of wetlands vegetation on a disturbed site does not prevent the delineation of a wetland boundary. If the disturbed site is part of a larger, undisturbed wetland, or if there is other evidence (such as photos or maps) that the site historically was or appeared to be a wetland, then criteria other than vegetation can be employed. The key is to look for hydrologic conditions - saturation or inundation of the soil - sufficient to support wetland plant species. For example, standing water, groundwater near the surface, or the presence of hydric soils all indicate conditions that would support a wetland plant community if one were allowed to develop.

*Delineating
Bordering
Vegetated
Wetlands on Farms*

Table for Determining Jurisdiction

Note: Under “Outcome,”

“Exempt” means the exemption applies and no Notice of Intent (“NOI”) is required;

“No NOI” means there is no Wetlands Protection Act jurisdiction and no NOI is required; and

“File” means there is jurisdiction under the Wetlands Protection Act, the exemption does not apply, and an NOI must be filed.

Note: Under “Is the Land in Ag Use?” and “Is it Normal Maintenance/Improvement?” it is assumed that no exemptions other than the agricultural exemption apply.

Note: “Is the Work Subject to Regulation?” means “Is the work subject to regulation in the absence of any claim of an exemption?”

Is the Land Subject to Protection?	Is the Land in Ag Use?	Is the Work Subject to Regulation?	Is it Normal Maintenance/Improvement?	Outcome
Yes	Yes	Yes	Yes	Exempt
No	No	No	No	No NOI
Yes	Yes	Yes	No	File
Yes	Yes	No	Yes	No NOI
No	Yes	Yes	Yes	No NOI
Yes	Yes	No	No	No NOI
No	Yes	Yes	No	No NOI
Yes	No	Yes	Yes	File
Yes	No	Yes	No	File
No	Yes	No	Yes	No NOI
Yes	No	No	No	No NOI
No	Yes	No	No	No NOI
No	No	Yes	No	No NOI

The Emergency Provision (310 CMR 10.06(6))

“Normal maintenance or improvement of land in agricultural use” is exempt from the Wetlands Protection Act; such work may proceed without having to file a permit application (Notice of Intent). Work that does not meet the definition of normal maintenance or improvement of land in agricultural use still may not need an NOI if it qualifies as an agricultural emergency.

The emergency provisions are found in a different section from most of the regulations concerning the Agriculture Exemption. Unlike the definitions of “normal maintenance or improvement of land in agricultural use,” which are found at 310 CMR 10.04(Agriculture), the emergency provisions are found at 310 CMR 10.06(6).

Specified Emergency Activities

Only specified emergency activities are allowed under this section of the Wetlands Protection Regulations. Each of these activities has detailed conditions. The activities and their respective conditions are described at 310 CMR 10.06(g)(1 through 3). Note that some of the conditions include square footage limitations for alterations of stream banks and alterations to Bordering Vegetated Wetlands. The specified activities are:

- Eliminating an imminent threat to land in agricultural use [310 CMR 10.06(6)(1)].
- Restoring land in agricultural use that has been damaged due to a storm or other sudden,

unforeseen event [310 CMR 10.06(6)(2)].

- Providing an emergency agricultural water source when the existing agricultural water source suddenly and unforeseeably has been rendered unusable or unavailable [310 CMR 10.06(6)(3)].

These categories have been worded carefully and each and every condition must be met if the work is to qualify as an “agricultural emergency.” For example, a farmer might want to create an emergency agricultural water source because the old source has dried up. But suppose that the old source had been drying up for years, becoming progressively less productive. This work does not qualify as an agricultural emergency because 310 CMR 10.06(6)(3) requires the existing water source to become unavailable suddenly and unforeseeably, not gradually and predictably.

If land in agricultural use has been damaged, it may be restored as an emergency project if the damage was caused by a storm or other sudden, unforeseen event. It is not possible to anticipate every sudden or unforeseen event here, but a flood can stand as one example. Other examples might be a plane crash, a fuel or chemical spill, or a fire.

Even though a Notice of Intent is not required for emergency activities, the farmer still must give written notice of the work to the Conservation Commission and to DEP. The regulations [at 310 CMR 10.06(6)(b)] specify the contents of the notice. The farmer has three days from beginning the work to give this notice - or three days from the end of the emergency, if that would be earlier. The Conservation Commission may conduct a site visit to verify that there really is an emergency as defined in the Agriculture Regulations.

Additionally:

- If the emergency is caused by a storm, the work must begin within 30 days after the storm event.
- The work must be completed within 30 days after it has begun, unless the Commissioner of DEP gives a written extension.
- No work may take place within an estimated rare species habitat. These habitat areas are shown on maps published by the Natural Heritage and Endangered Species Program of the Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement.
- There shall not be any filling or dredging of a Salt Marsh.

*Written Notice
Required*

Every Conservation Commission recognizes that enforcement is necessary and crucial to effective administration of the Wetlands Protection Act. Enforcement techniques are available to stop illegal activity, force a Notice of Intent to be filed, control future work, restore illegally altered areas, and punish and deter violators.

With respect to agricultural activities and the Agriculture Exemption, a farmer may be in violation of the Wetlands Protection Act by performing a non-exempt activity without a permit in an area that is under jurisdiction. Such activities include those that:

- Are neither maintenance nor improvement.
- Are neither “normal” nor “necessary and related” (for example, out of scale with the enterprise or not related to current production).
- Take place on land that is not exempt because it is not “in agricultural use.”
- Do not conform to specific conditions (see page 2-5).
- Do not conform to the design and mitigation requirements of a Conservation Plan.
- Violate any conditions set forth in an Order of Conditions.

Enforcement

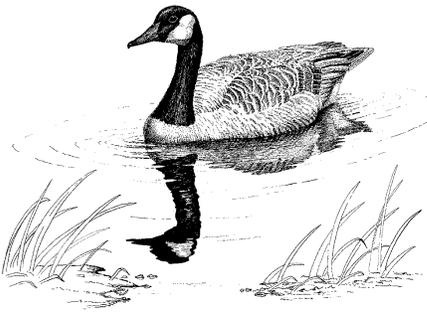
The following documents explain how to determine a violation and pursue enforcement. Each is available in most Conservation Commission offices.

- Massachusetts Association of Conservation Commissions, “Environmental Handbook for Massachusetts Conservation Commissioners” (1991).
- Massachusetts Audubon Society, “A Guide to Understanding and Administering the Wetlands Protection Act” (1992).
- Commonwealth of Massachusetts, Department of Environmental Protection, “An Enforcement Manual for Wetlands Protection in Massachusetts” (1994 update).

If a violation is reported or suspected, the Commission must inspect the site to determine if the Act in fact has been violated and to consider appropriate remedies. In many cases, but not all, the Conservation Commission must receive the landowner’s permission to enter private property; for some excellent treatments of this subject, see the reference resources listed above.

Sometimes “informal” enforcement is sufficient and effective. Conservation Commissions that attempt to resolve a problem with a violator through a visit, phone call, or letter often clear up misunderstandings and achieve compliance or remediation without resorting to formal enforcement measures. This approach is particularly valuable in agriculture, aquaculture, and forestry projects, where the parties may be unclear about a particular practice or the parameters of the Agriculture Exemption.

One goal of enforcement activities is to achieve compliance with the law, thereby protecting wetland resource values. Deterrence is another important goal of enforcement. A problem solving approach often is productive, involving the farmer or forester, Conservation Commission staff and members, and other personnel such as the District Forester or District Conservationist. Whatever the strategy and the course of negotiations, the Commission should provide specific instructions for compliance and should document all agreements.



Section 401 Water Quality Certification Program

The Wetlands Protection Act is a state law. It was passed by the Massachusetts Legislature and is carried out by a state agency (DEP) through local Conservation Commissions.

The federal government also has laws that protect wetlands. The best known of these laws is the Clean Water Act. Section 404 of the Clean Water Act describes the areas and activities over which it has jurisdiction, as well as certain exceptions. In general, this federal law is administered by the Environmental Protection Agency (EPA) and the Army Corps of Engineers, both of which are agencies of the federal government.

However, there is one section of the Clean Water Act that is carried out at the state level. This is Section 401. In areas where there is federal jurisdiction - federal and state jurisdiction are not quite identical - issuance of a federal permit for discharges into wetlands first requires the state to certify that the proposed activity will maintain water quality standards and comply with other appropriate requirements of state law. The state’s Section 401 Water Quality Certification Program for projects affecting wetlands is carried out by DEP’s Division of Wetlands and Waterways.

Generally, if work is exempt under the Massachusetts Wetlands Protection Act, then it will not require a Section 401 Water Quality Certification from DEP. If there is any question about whether a project may require a federal permit, the landowner should contact the Army Corps of Engineers (see Resources and References in Appendix A of this Guide) for more information.

Work that is not exempt under the Massachusetts Wetlands Protection Act may require 401 Water Quality Certification. In March 1995, DEP adopted revised regulations (314 CMR 9.00), detailing the kinds of projects for which review under Section 401 is required. Contact DEP (see Resources and References in Appendix A) for more information. Any farmer proposing to do work that is not exempt under the Wetlands Protection Act should consult these materials.

To summarize:

- The Division of Wetlands and Waterways administers Section 401 of the federal Clean Water Act by issuing 401 Water Quality Certifications for projects that comply with the regulations.
- Work that is exempt under the Wetlands Protection Act and its regulations generally does not require state review or certification under Section 401.
- If there is any question about whether the proposed activity is exempt from Section 404 of the federal Clean Water Act, landowners should consult with the United States Army Corps of Engineers.



Chapter 3: The Soil Conservation Service and Conservation Planning



The Soil Conservation Service, Conservation Districts, and Conservation Plans

The United States Soil Conservation Service and Conservation Districts

The Soil Conservation Service (SCS) of the United States Department of Agriculture (USDA) is a technical assistance agency whose mission is to provide leadership and administer programs to help people conserve, improve, and sustain our natural resources and environment. Soil Conservation Service objectives include:

- Reducing soil erosion.
- Preventing damage caused by floods.
- Conserving water used in agriculture.
- Improving water quality.
- Conserving and developing natural resources in rural and urban communities.
- Promoting good land use through informed land-use decisions.

SCS operates in Massachusetts under a written arrangement with the Commonwealth's sixteen Conservation Districts. SCS has a Massachusetts State Headquarters and seven field offices. Field staff consist of soil conservationists, soil conservation technicians, engineers, and soil scientists.

Conservation Districts were established in Massachusetts in 1945 and are legal subdivisions of state government. They are responsible under state law for conservation work within their respective counties. Districts are given broad responsibilities in the area of conservation of soil and water resources. Conservation Districts are formed locally and are self-governed by an elected board of supervisors with five to seven members.

The purpose of Conservation Districts is to focus attention on land, water, and related natural resource problems and opportunities and to develop programs to address the identified issues. They enlist and coordinate help from public and private sources to carry out the programs. The SCS is a federal agency enlisted by the Conservation Districts to provide technical assistance to private land users and units of government within the Commonwealth of Massachusetts.

The SCS-Assisted Conservation Plan

The Soil Conservation Service provides resource planning and implementation assistance to individuals, groups, and units of government. Plans are developed and implemented for the protection, conservation, and enhancement of soil, water, air, plants, and animal resources (SWAPA). The planning process is dynamic and professional judgment is applied to determine the proper interaction between these elements.

The planning process provides an orderly approach to conservation decision-making. The process is used in all instances where assistance is given to decision makers or clients, regardless of the expected outcome, scope, or source of funding to be used for implementation. The degree of detail used in the planning process will vary with the type, complexity, method of assistance, and the objectives and limitations of client(s).

The Planning Process

The planning process consists of nine elements. Each is essential. Generally, they are carried out in sequence. In some situations, many of the elements can be carried out almost simultaneously. In most situations, the various elements will need to be revisited one or more times as more data are obtained, planning intensifies, and objectives are defined more clearly. This iterative process may occur at any time and can result in a change in focus.

The purposes of the planning and implementation process are to:

- Provide an organized system that helps SCS planners work effectively with decision makers to identify and solve resource problems, needs, or opportunities, and thereby facilitate change leading to sustainability in the natural resource base and the wise use of natural resources.
- Help clients recognize and understand natural resource conservation principles and problems and their causes, treatment needs, and effects of alternative treatments.
- Develop and evaluate alternatives that lead to decisions to select, implement, and maintain conservation treatments and management on the planned land unit and enable the client to achieve his/her objectives, as well as meet social, legal, and program requirements.
- Assess the effectiveness of planning and evaluate the results of treatment.

- Establish a consistent method of providing assistance nationwide and improve effectiveness in training employees in the planning and implementation process.

The following is a brief description of the nine elements of the Planning Process:

This involves the identification of resource problems and opportunities in the planning area. It includes identifying the conditions that impair or degrade one or more of the five resources (SWAPA). It also includes identifying the opportunities to enhance the use of resources. The identified problems and opportunities guide the remainder of the planning process. Initially, the client may only identify one or two problems. As planning progresses and additional information is developed, other problems and opportunities may be identified.

Element 1
(Identify Problems)

This involves the development of an understanding, with the client, of the desired conditions for the planning area as compared to the existing conditions. It includes the desired resource uses, resource problem reductions, and environmental protection. As resources are inventoried and analyzed and alternatives are formulated, objectives may need to be reviewed and modified.

Element 2
(Determine Objectives)

This involves collection of resource information, based on the resource problems and objectives identified in Element 1 and Element 2, that is needed to formulate and evaluate alternative treatment systems. Information will be gathered as needed concerning: soil, water, air, plants, and animal resources; environmental and cultural values; and economic and social conditions.

Element 3
(Inventory Resources)

This involves the study and evaluation of the resources data to clearly define the resource conditions, including any limitations to their use, needed to establish the benchmarks for the remaining planning elements. The process provides the information needed to formulate and evaluate alternatives. These analyses should clearly establish the cause and effect relationships between resources. These analyses also should provide information about existing and future conditions.

Element 4
(Analyze Resource Data)

This involves the development of alternatives that will achieve the client's objectives by solving resource problems and taking advantage of opportunities to improve the resource base. All reasonable alternatives should be considered, including those that will prevent a problem from occurring and those that will address an existing problem. Measures that mitigate potential adverse impacts should be included as appropriate.

Element 5
(Formulate Alternatives)

This involves the evaluation of alternatives to determine their effect in addressing the objectives and problems. This Element also includes an evaluation of the potential effects on social, economic, and environmental concerns. Special attention must be placed on those environmental values protected by law or executive order.

Element 6
(Evaluate Alternatives)

This involves the determination of alternative actions and includes preparing the necessary documentation of the decision process. Also included is the presentation to the client of the effects and impacts of each of the alternatives so that the client is able to select the alternatives that accomplish the established objectives for the planning area. If needed, public review and comment are obtained before a decision is reached. Documentation includes recording the decision in the case file and preparing the conservation or project plan and/or the environmental documents (Environmental Assessment or Environmental Impact Statement).

Element 7
(Make Decisions)

This involves the implementation of the selected alternative. It includes providing technical assistance for management practices and obtaining needed permits, land rights, surveys, final designs, and inspections for structural practices. In addition, it includes operating and maintaining the selected alternative in a manner that assures proper functioning.

Element 8
(Implement Plan)

Element 9
(Evaluate Plan)

*The Field Office
Technical Guide:
A Guide to Good
Conservation*

This involves an evaluation of the effectiveness of the implemented plan to (1) be sure that it is functioning as projected and achieving the client's objectives, (2) identify maintenance needs, and (3) identify needed modifications in the plan, practice, and/or specifications.

The Field Office Technical Guide (FOTG) is one of the most important tools used by the Soil Conservation Service field office staff to carry out the agency's conservation programs. The FOTG is an integral part of conservation planning. It is used in designing components of farm Conservation Plans. It is used with the SCS National Planning Manual, which contains policies and procedures for providing decision makers with technical assistance for all SCS programs.

The FOTG is based on the latest in conservation treatment technology. It helps SCS decision makers identify resource problems, evaluate the effects of conservation treatments, compare alternatives, and select the best options to meet conservation needs and objectives. The FOTG is a dynamic document that continually changes to incorporate new technology and experience.

To update the FOTG, SCS relies heavily on input from universities and experiment stations, SCS plant materials centers, the U.S. Department of Agriculture's Agricultural Research Service and Extension Service, the U.S. Environmental Protection Agency, and other federal and state agencies. SCS works closely with these groups to apply new technology to SCS programs.

The FOTG was developed primarily for SCS use. It is, however, a public document that is available to other state and federal agencies, urban planners, developers, and consultants who are interested in applying effective conservation measures.

At first glance, the FOTG appears to be the same in one field office as it is in another. Actually, the information inside applies specifically to the unique combination of resources in each individual field office area.

Section I of the FOTG contains general references to help SCS conservationists understand all the physical, legal, and other factors affecting conservation in the area so that good decisions about the use of natural resources and conservation management systems can be made. The laws, ordinances, regulations, maps, costs, resources, erosion predictions, and climatic and cultural data included in this section deal with agronomy, biology, forestry, soils, engineering, and economics.

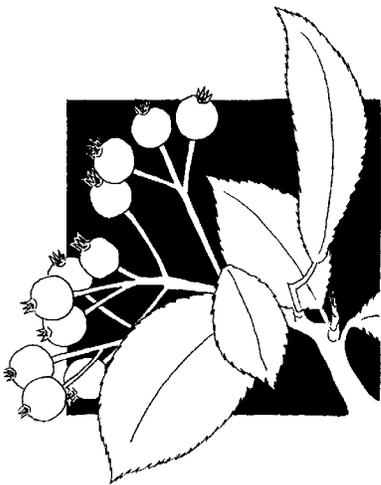
Section II describes soils specific to the field office area. Also included is information about their limitations, suitability, and potential for rural and urban land uses with respect to: water management; construction materials; sanitary facilities; building site development; wildlife habitat; recreational development; windbreaks and environmental plantings; and woodland management and productivity.

Section III contains guidelines for developing conservation management systems that combine sound, practical, and effective conservation practices and management measures that fit local field conditions. This Section describes the considerations that must be addressed to solve resource problems using the best available technology.

Section IV describes the standards and specifications for applying selected conservation practices, such as by-pass channels, dikes, grassed waterways, and ponds.

Section V contains information regarding the environmental, social, cultural, and economic effects of installing and maintaining conservation practices.

The FOTG is the focus of SCS technical expertise in agronomy, biology, ecology, economics, engineering, forestry, geology, sociology, and soil science. It plays a key role in helping decision makers use the best technology available in applying conservation treatments that will ensure, for the benefit of future generations, the prudent management of soil, water, air, and related plant and animal resources.



SCS also has responsibility for technical aspects of the 1985 Farm Bill (the Food Security Act, or “FSA”) and the 1990 Farm Bill (the Food, Agriculture, Conservation and Trade Act, or “FACTA”). One of the most dramatic steps in the soil conservation movement of this century was the Food Security Act of 1985. Backed by farm groups, agricultural industry representatives, and environmental interests, the 1985 Act ties most USDA support for the first time to soil management. The 1990 Farm Bill strengthens many of these provisions.

The “**sodbuster**” **conservation provisions** of FSA and FACTA discourage the production of annually-tilled crops on highly erodible cropland where the land is not carefully treated to reduce erosion to acceptable levels.

The Acts’ **sodbuster** and **conservation compliance provisions** encourage producers to implement an approved conservation plan if they intend to grow annual crops on highly erodible fields. Every conservation plan must meet specifications found in the local Soil Conservation Service (SCS) Field Office Technical Guide. Every plan must also be approved by the local Conservation District. Land users may of course choose not to develop and apply a conservation plan, but the possible loss of USDA benefits provides a strong incentive to participate in the planning process. The 1985 Food Security Act also includes the **Conservation Reserve Program**. Under the Conservation Reserve Program, USDA pays producers annual rental fees to idle (take out of production) highly erodible land for 10 years.

The “**Swampbuster**” **conservation provision helps preserve the important values of wetlands**. Under FSA, agricultural producers lost USDA program benefits if they converted wetlands and planted an agricultural commodity. FACTA expands this so that benefits are lost when a wetland is altered, whether or not a commodity crop is planted.

The **Swampbuster provisions** of the Acts **restrict the conversion of wetlands for agricultural production**. Producers who convert wetlands to annual crop production become ineligible for USDA program benefits. According to the Swampbuster provision, producers who convert wetlands to annual crop production after December 23, 1985, may be disqualified from USDA program support. They can regain eligibility by stopping production of annual crops on converted wetlands.

Whenever land users apply for a USDA support program, they must fill out USDA’s form AD-1026. This form certifies that they have not converted a wetland to crop production since December 23, 1985. The form also certifies that they will not convert a wetland during the support program’s contract period.

Wetlands are defined using the federal method, using hydric (wet) soils and hydrophytic (water-loving) vegetation as indicators of wetland areas. SCS maintains a list of the kinds and combinations of soils and plants that define a wetland area.

This provision has several exceptions, however. Land users are not subject to Swampbuster if they:

- Began converting a wetland to cropland before December 23, 1985.
- Made a substantial, verifiable financial commitment to wetland conversion before December 23, 1985.
- Converted wetlands that had been created artificially - for example, through irrigation.
- Produced crops on wetlands that became dry through natural conditions such as drought.
- Converted wetlands where SCS has determined that the conversion has a minimal effect on “wetland values.”

To receive assistance from SCS, a farmer simply contacts the appropriate Conservation District and asks for it. The farmer then will be asked to enter into an agreement in which he or she becomes a “Cooperator” with the District. The agreement allows SCS personnel to be on the farm and it shows a good-faith effort on the part of SCS, the Conservation District, and the farmer. The technical assistance request then will be scheduled for servicing, which will essentially be on a first-come, first-served basis.

A Memorandum of Understanding (MOU) between SCS and DEP (see Appendix C of this Guide) establishes the basis for cooperation between SCS and DEP. SCS, through the Conservation Districts, will work with farmers to develop resource management systems and design conservation practices. The goal is to provide appropriate protection to wetland resources and therefore meet the requirements of the Wetlands Protection Act. With respect to the Conservation Plan requirements of the Agriculture Exemption or the so-called Conservation Plan limited project, farmers need to contact their District office at the start of a project that needs a Conservation Plan.

Farmers also must comply with the provisions of FSA and FACTA. Failure to follow the conservation provisions, whether intentional or not, can significantly alter the profitability of a producer's enterprise. For further information or assistance with any of these provisions, contact the Soil Conservation Service, Agricultural Stabilization and Conservation Service, Cooperative Extension, or the local Conservation District.



Chapter 4: Practices and Terms



Practices and Terms

Introduction

This section contains descriptions of many agricultural practices and terms. It is divided into the following areas:

- “General farming” and
- Cranberry production.

[See Chapter Six of this Guide for Forestry Practices and Terms.]

This section offers a basic introduction to terms and practices that may be unfamiliar to the non-farming reader. It is not meant to provide an exhaustive catalog of all agricultural activities; the list has been chosen to focus attention on those practices that are quite common and may interact with resources that are under the jurisdiction of the Wetlands Protection Act.

It is important to understand that the terms and practices listed here are not necessarily “exempt” or “normal” just because they are included in this document; exemption depends on a number of factors, such as location, that must be taken into account. However, it is likely that these practices typically would be considered normal maintenance or improvement when performed in the proper context and on an appropriate scale. **It also is important to understand that if a practice or term is not listed here, it does not mean that it should not be considered “normal.”**

Agriculture is a dynamic industry. Farmers continually modify their operations in response to new technologies, changing economic and market conditions, and environmental considerations. We can expect change in Massachusetts agriculture to continue and even accelerate in the foreseeable future. Agricultural practices continually are being modified as farmers, foresters, and research, extension, and other professionals seek to improve methods of production and management. Therefore, descriptions and definitions in these sections are subject to modification over time.

Note: In the following sections, an asterisk () next to the term or practice means that the agriculture provisions of the Wetlands Protection Regulations specifically identify limitations on that term or practice.*

General Farming Practices and Terms

Access road: Established ways are used by vehicles, machinery, livestock, or people to get to a field, storage area, or other active component of the farm.

***Access road maintenance:** (see Road maintenance, below).

Alternate host: Insects and diseases require a plant habitat to complete their life cycles; and without the habitat, the pest cannot survive. (Although technically incorrect, but of practical importance, the term alternate host often is used to describe plants that are attractive to pests but not necessary for their survival.) The host plant often is removed from areas around fields as an alternative to pesticides or because it is the only method available. “Alternate host” also describes certain other plants that provide niches for beneficial insects and therefore are encouraged on the farm.

***Brush cutting and clearing:** Brush and trees around the perimeter of a field are removed in order to maintain access and working areas, maintain or enhance air circulation, reduce frost risk, eliminate hosts for pests (see Alternate host, above), minimize weed incursion, and maintain or enhance sunlight falling on cropland. The frequency and the area of cutting and clearing depend on the objective, the crop, and the location (with respect to slope, direction of the sun, etc.).

***Buildings (construction and maintenance):** Structures found on a farm may be used to house, protect, and maintain equipment and machinery. Barns, greenhouses, crop storage facilities, and a variety of sheds and outbuildings related to production also may be located on the farm. Some structures must be located in relation to cropland or pasture, utilities, or other facilities and infrastructure. Maintenance includes painting and repairs or replacement of roofs, siding, or foundations.

Burning: Burning is used to dispose of brush and pruning and, in some cases, to manage weeds or other pests in and around fields. Burning also is used to prune low bush blueberries. State law allows agricultural burning any time of year; however, most agricultural burning is done during the winter months under damp or snowy conditions to minimize danger to surrounding areas. A permit is required from the local fire department to assure safety.

Composting: Microorganisms use a biological process to convert organic materials such as manure, leaves, paper, and crop and food wastes into a soil-like material called compost. Composting that occurs under controlled conditions occurs faster than it would under natural conditions.

***Compost production:** Composting requires the storage and mixing of ingredients. Particular pieces of equipment, such as windrow turners, may be used to mix and turn the materials. The composting work area typically is flat and designed to drain moisture from the site. Activities may include bringing and stockpiling compost materials from on or off the farm onto the work area, manipulating the piles or rows, and maintaining the working surface and drainage of the site.

Conservation structures: Installations exist on many farms to protect land from erosion. These include diversions, grassed waterways, hedgerows, and windbreaks (see Diversions, Grassed Waterways, Hedgerow planting and Windbreaks, below). Conservation structures sometimes manipulate and reshape portions of the land. Some installations require engineered designs and technical assistance from providers such as the Soil Conservation Service. Maintenance and repair may be necessary for proper functioning.

Cover cropping: Sometimes, crops are planted for purposes other than harvest, often to protect the soil from erosion. Permanent cover crops are used in orchards and some small fruit plantings and on land associated with crops. Permanent cover crops may be mowed on a regular basis. Bare soils or mulches are maintained in the crop row to control weeds. Winter cover crops commonly are seeded after harvesting an annual crop and are plowed down in the spring.

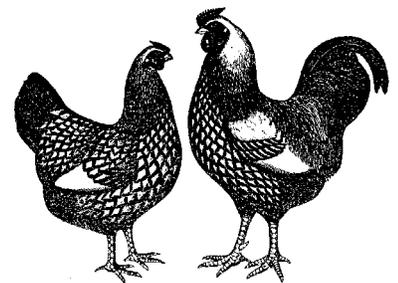
Besides reducing erosion, cover crops take up residual nutrients that otherwise would be subject to leaching. Non-permanent cover crops usually are plowed down in the spring. As they break down, they make a small contribution to the amount of organic matter in the soil and slowly release nutrients that become available for plant growth. Not all fields are planted to winter cover crops because some crops cannot be harvested until late in the fall, when it is too cold for the cover crop seed to germinate.

Critical area planting: Vegetation such as trees, shrubs, vines, grasses, or legumes are established on highly erodible or critically eroding areas.

Crop rotation: It is a common practice to plant a planned sequence of different crops in different areas. Rotation aids in the management of insects, diseases, weeds, soil, and nutrients. Hay, grains and legumes, and row crops may be in a rotation of four to eight years, for example. A field may lie inactive for one or more years as part of a rotation that seeks to build soil fertility or manage weeds or other pests.

Diversion: A channel is constructed across the slope with a supporting ridge on the lower side to divert excess water from one area for use or safe disposal in other areas. Diversions are used to control runoff damage on crop and pasture lands, as part of a pollution abatement system, and in barnyard and feedlot areas.

Drainage system: Water must flow, either naturally or by manipulation, from a field to enhance growing and field management conditions. Drainage systems, such as grassed swales, may be installed on the surface of the land; or under the ground (sub-surface), consisting of tiles and/or plastic drainage pipe.



Surface drainage typically consists of an open ditch constructed to a designed size and grade. These systems need to be maintained to function properly. Proper maintenance includes dredging of surface ditches and removal of materials such as fallen limbs and thick vegetation, which may inhibit water flow. However, increasing the width or depth of the channel beyond its original size is not considered normal maintenance.

Sub-surface drainage systems are designed and installed to specifications that consider soil type, grade, and cropping requirements. Sub-surface systems may have a main line with several laterals feeding it, plus an outlet. Tiles, pipes, and outlet structures must be maintained to prevent clogging and sometimes must be dug up and repaired or replaced.

Equipment maintenance and repair: Equipment must be kept up routinely and regularly on the farm by the farmer. There may be an equipment shop for such activities; however, some repairs must be performed where a breakdown occurs.

Fallow land: Technically, fallow land is land that has been plowed but not seeded. A field may be left fallow to kill off weed roots or because a second or cover crop has not been planted. Often, “fallow” is used to mean “inactive,” implying a field that has been planted (in hay, pasture, or cover crop) but is not currently managed for production. Fields may be inactive as part of a rotation, to “rest” or replenish the soil, or for market or economic considerations.

Fencing: Fences keep animals in or out of certain places. Fences, including gates, must be kept in good repair. This includes replacing posts and wire as needed. Fence rows should be kept clear of shrubs, trees, and tall weeds including those that are noxious. Fences may be permanent, as around the perimeter of a pasture, or temporary, such as the moveable wire fencing used in rotational grazing.

Fertilizing: Fertilizer provides supplemental nutrients necessary for crop growth. A soil or tissue test indicates the amount and type of nutrients needed. Fertilizer materials include commercial fertilizers, manures, compost, rock flours, and dusts. They usually are applied at or just before seeding/planting and as side dressings or top dressings during the growing season. In some cases, fertilizers are applied as a liquid sprayed on the foliage.

***Field edge:** A field edge is a strip or zone of land surrounding a field. These areas are maintained to prevent adverse effects on crop growth and to access fields and manipulate equipment. Management includes removal of vegetation that is shading crops or providing habitat for pests. Plants that are “alternate hosts” for pests may need to be removed from field edges. Mowing, cutting, and burning are typical field edge management activities. Equipment may be stored temporarily along a field edge. The width necessary for a field edge varies depending on the crop, its location, and requirements for equipment and access.

Grassed Waterway: Natural or constructed channels are shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff. Grassed waterways help carry runoff without causing erosion or flooding and help improve water quality. They are maintained by mowing and removing debris and sediments as needed (without reshaping or increasing capacity).

Greenhouses: Enclosed, light transmissive structures are used to grow plants, most typically vegetable and flower crops. The plants may be transplanted outdoors or harvested right from the greenhouse. Greenhouses usually remain in one location for an indefinite period, but typical units erected today do not have concrete or excavated foundations and are not considered permanent structures. Rather, they are plastic covered and consist of large metal hoops or wooden frames with supporting posts inserted in the ground. Greenhouses require water and usually have electricity and heating units that burn gas, oil, or wood. Some contain solar heat storage.



Harvesting: Methods of collecting a crop from the field vary widely depending on the crop, the market, and other conditions. Some crops are harvested by machine and others by hand. Some crops, such as potatoes, are harvested once while others, such as blueberries, are harvested several times during the season.

Hedgerow planting: Rows of plants, generally woody, are established in, across, or around a field. Hedgerows are used to delineate a field border, serve as a fence or screen, provide food and cover for wildlife, and act as a windbreak. Hedgerows are maintained by pruning, trimming, and replanting as necessary.

Irrigation: Crops are irrigated using one or more technologies and sources of water. Irrigation frequently is an economic necessity for successful production of higher value crops such as fruits, vegetables, flowers, and nursery plants. The need for irrigation varies with weather conditions, soil characteristics, crop, and market. Sprinkler and drip (trickle) irrigations are the two basic types most commonly used in Massachusetts.

Irrigation systems consist of a water source, pump, pipe (to transport water to the field), and distribution pipe and nozzles (in the field). The most common sources for irrigation water are ponds and streams, but wells and public water sometimes are used. Most irrigation pipe is portable, consisting of sections that are set up temporarily on top of the ground and moved as needed. Main lines from the source to the field are either portable or permanent (many of these are buried). Sprinkler systems usually consist of portable pipes in the field but sometimes these are permanent. Traveling (self-propelled) units also are popular due to lower labor requirements for moving the system. Sprinkler systems sometimes are used to protect crops such as strawberries from frost.

Drip or trickle systems consist of tubes laid down the row. The tubes have holes spaced along their length that emit small quantities of water. Drip tubes are removed at the end of the season. Perennial crops may utilize a permanent system of plastic pipes and “spaghetti tubes” - small tubes with metal emitters on the end.

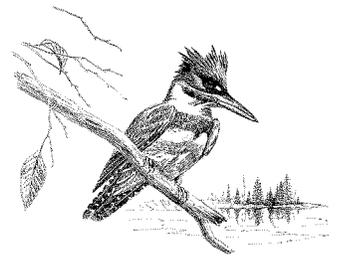
Small amounts of fertilizers sometimes are dissolved in water and applied during drip irrigation. This can improve nutrient management and reduce leaching potential by providing a small but constant nutrient supply during the growing season.

Some container-grown nursery crops are irrigated by means of capillary beds. These are closed systems utilizing a saturated layer of fine sand on top of polyethylene. Nursery containers take up water from the sand through capillary action.

Irrigation systems must be maintained well to function properly. Irrigation ponds and their shores and access ways must be kept clear of brush and undesirable vegetation. Feeder streams also must be kept free of obstructions and normal flow must be maintained. Roadways, dams, and other associated structures must be kept in good physical repair. Ponds may need to be dredged periodically to maintain capacity. Access must be maintained to streams used for irrigation. Additionally, the stream bed around the intake pipe must be kept free of debris, silt, and other materials that interfere with water uptake.

Land smoothing: Areas of cropland must be smoothed where depressions, mounds, and other irregularities interfere with the application of soil and water conservation and management practices. Generally, bulldozers or other equipment are used to level the surface. Land smoothing does not mean adding substantial amounts of fill.

Liming: Calcium carbonate (lime) is added to soil to raise soil pH, thereby reducing soil acidity. Liming is necessary because nearly all soils in Massachusetts are naturally too acid for proper growth of most agricultural crops. Lime is applied whenever the need is indicated by soil test. A few crops, such as blueberries and some nursery plants, require an acid soil and may necessitate the application of an acidifying material such as sulfur.



Livestock crossing: Animals cross streams at selected places to get from barnyard to pasture or from pasture to pasture. Animals may walk through the water, although some crossings consist of bridges or culverts that allow them to stay out of wet areas.

Livestock watering facility: Animals are supplied with drinking water from a specialized watering facility or from direct access to a pond or stream. Access areas typically are fenced to control livestock movement. Such systems are maintained by keeping intakes, pipes, outlets, and access areas free from obstructions. Some watering facilities do not allow direct access but consist of pumps and piping to bring water from a pond, stream, or well to a watering facility in a pasture, barnyard, or feeding area. Although they may be of smaller capacity than irrigation systems, their maintenance requirements are similar.

***Manure storage and management systems:** Combinations of facilities and practices are designed to handle animal wastes. The practice may be as simple as stockpiling manure along a field edge until it is spread on the land. Some farms install systems such as lagoons and above-ground slurry storage structures to retain manures, which then are applied to the land. Many farmers also have paved barn yards and feeding areas or have developed composting systems. These systems allow farmers to recycle on-farm nutrients to enhance crop production. Systems that are designed and managed properly also prevent the leaching of nutrients into groundwater or the washing of nutrients into surface water. These practices also help to reduce reliance on purchased inputs such as fertilizers, making agriculture more sustainable.

Mowing: Vegetation may be cut either for a crop (like hay) or as a maintenance practice (such as to improve fertility on a field, or clear field edges, access ways, side slopes, etc.).

Mulches: A variety of materials are applied to the soils around a crop, serving a number of purposes. Organic mulches, such as straw, are used to reduce weed growth and protect plants during the winter. They also contribute to building soil organic matter. Plastic mulches are used to enhance crop growth by raising soil temperature. Some also block sunlight, thus providing weed control. All mulches conserve soil moisture by reducing evaporation. Plastic mulches also reduce nutrient leaching. Non-degradable mulches are removed at the end of the season.

Netting: Netting is used to shade certain crops or protect crops from bird damage. It requires support structures that consist typically of poles and wires.

Nutrient management: Farmers carefully manage the amount, form, placement, and timing of applications of plant nutrients. The purpose of this practice is to supply plant nutrients for optimum crop yields, to minimize leaching of nutrients to surface water and groundwater, and to maintain or improve the chemical or biological condition of the soil.

Pastures: Designated fields contain plants that livestock graze. Pastures are an important food source on most livestock farms. A pasture may be planted to a forage crop or it may be native, naturally growing stock. A permanent pasture is an area permanently dedicated to grazing, although it may be inactive temporarily. A temporary pasture is an area that is designated for livestock feeding for a particular period of time, such as one season's worth of grazing on an established hayfield or end-of-harvest grazing on row crop residues. Pastures must be well maintained to provide abundant and healthy food for animals. They may be mowed to prevent establishment of shrubs and trees. Noxious and competitive weeds also may need to be controlled, typically with herbicides. Pastures are fertilized using lime, manure, compost, or commercial fertilizer. They also are reseeded periodically to maintain productive species; sometimes, this requires turning over the soil.

Pest management practices: Various strategies are used to protect crops and animals from losses due to pests such as insects, diseases, weeds, and certain wildlife. Commercial pesticides are an important part of pest management. They must be used in accordance with label instructions and federal and state laws and regulations. Numerous alternative strategies are being employed to replace or reduce the use of synthetic pesticides. These include the use of parasites, predators, crop rotation, row covers, and mulches and propane flamers to kill weeds, insects, and potato vines.

Integrated Pest Management (IPM) employs many of these strategies to manage pests with a goal of minimizing pesticide use. A key part of IPM is monitoring pests to better time or eliminate some pesticide applications if populations are below a certain threshold. Technology is changing rapidly and we can expect to see farmers adopt many new pest management practices in the future.

Pollination: Many fruits and several vegetables (such as cucumbers) require pollination by bees. Often, hives are maintained by farmers or they are rented and brought near the field during the season.

***Pond:** In addition to naturally occurring ponds, on a farm a pond is an impoundment of water made by constructing a dam or an embankment or by excavating a pit or a dugout. Ponds on farms provide water for livestock, fish and wildlife, irrigation, crop and orchard spraying, frost control, fire control, and other related uses. Ponds require periodic removal of accumulated sediments and vegetation. Depending on the use, access also must be maintained.

Pruning: In the production of many fruit and nursery crops, and some vegetables such as tomatoes, it is necessary to cut and remove parts of a plant. Prunings may be chopped in the field or removed and burned. Removal and destruction of prunings, which may contain pests or diseases, is essential to good crop management and field health.

Pump houses (construction and maintenance): Pump houses are built to protect irrigation and pumping equipment from weather and possible vandalism. The pump house is built next to the water source for efficient access. Maintenance includes painting, re-roofing, new siding, and replacement of decayed timbers.

***Reservoir:** Small storage pits are constructed to regulate or store a supply of water for irrigation. Typically, water is stored for relatively short periods of time to: provide for regulating fluctuating flows in streams or channels; provide suitable irrigation water supply or improved management of irrigation water; permit more efficient use of labor; avoid nighttime operation; and provide storage for reuse irrigation systems.

***Road maintenance:** Roads must be maintained year-round by: repairing surfaces, including grading and filling in pot holes; correcting washouts; restabilizing side slopes; mowing back brush along roadsides; pruning tree branches; and cleaning, repairing and replacing culverts and gates. Under the Agriculture Exemption, maintenance does not include enlarging road width, changing culvert size, or constructing new roads.

Row tunnels/row covers: To extend the season of some warm season crops, materials are used to protect them from adverse spring or fall weather conditions. Row tunnels range in size from strips of clear plastic a few feet wide supported by small wire hoops to “high tunnels” (unheated greenhouses). Floating row covers usually are a fabric laid over the crop and held down by soil that covers the edges of one or several rows (“wide row covers”). In addition to extending the season, row tunnels and covers sometimes aid in pest management by acting as a barrier to some insects and by keeping excess moisture off plants, thereby reducing disease pressure.

Seeding and transplanting: Seeds are planted and growth is transplanted to establish new crops. Seeding usually is accomplished by machine while transplanting is done either by hand or with the aid of a mechanical transplanter.

Silage and feed storage: Livestock feed crops are stored after the harvest. While storage structures such as silos and bunkers are commonly used, some silage, haulage, or hay may be stored in the field or along the field edge, often under a tarp.

***Squaring-off of fields:** The corners of fields may need to be reshaped to facilitate management by equipment. This practice is not intended to enlarge the field.

Tillage: Soil is stirred or turned. Plowing, harrowing, and rototilling turn under crop residue, incorporate soil amendments, or prepare land for seeding or planting. Cultivating and hoeing are for weed control and soil aeration and are used to incorporate soil amendments, such as fertilizer, that are applied during the growing season. Some crops, such as potatoes, also are tilled during cultivation. Subsoiling is practiced to loosen compacted soils and break up plow pans.

Minimum tillage (sometimes called no-till or conservation tillage) is a system in which seed (primarily field corn) is planted in a field without disturbing crop stubble and without plowing or harrowing. A special planter is used to till a narrow strip just wide enough for planting, while leaving most of the soil undisturbed. One of the chief reasons for using this system is to reduce soil erosion on hillsides.

Trellises: Posts and wires are used to support some crops. They may be permanent, as in the case of grapes or dwarf apples, or erected for one season for an annual crop such as tomatoes.

***Water management system:** Various systems are used to bring, hold, or take away the water that is used on a farm. Such systems may occur naturally or be constructed. Typically, they require maintenance. Water management systems are:

Canals/channels are natural or artificial courses in which water flows with a free surface. They provide discharge capacity required for flood prevention, drainage, and other water management purposes. Open channels require regular maintenance to keep them free from obstruction and to maintain their designed-for carrying capacity. (See also By-pass Canal/Channel in Chapter Four, "Cranberry Practices," at page 4-10.)

Dike. See Dike in Chapter Four, "Cranberry Practices," at page 4-10 .

Farm ponds. See Pond, above.

Field ditches/cross ditches are graded for collecting excess water in a field and to drain surface depressions. They collect or intercept excess surface water, such as sheet flow, from natural and graded land surfaces; or they channel flow from furrows and carry it to an outlet. Also, they collect or intercept excess subsurface water and carry it to an outlet (see Drainage system, above).

Grassed waterway. See Grassed waterway, above.

Irrigation systems. See Irrigation, above.

Reservoirs. See Reservoir, above.

Subsurface drainage system. See Drainage system, above.

Watering facility. See Livestock watering facility, above.

Water transport systems consist of a series of open channels (see Canals/Channels, above), pipes, or a combination of channels and pipes, that bring water to or take water away from farmland or buildings.

Water storage systems include ponds, reservoirs, canals, water holes, tailwater recovery systems, or other natural or man-made containment of water for use on farms.

Windbreaks: Permanent plantings of trees, shrubs, or grasses or annual plantings of crops (such as corn or amaranth) protect adjacent cropland from wind damage. They typically are placed in a row or strip and may be at the edge of a field or in the field.

See diagrams at end of Chapter.

Note: Many cranberry practices and terms are the same as those used in Chapter Four, "General farming practices" (see page 4-2). Where the practice or term is unique to cranberry production, or where particular attention should be drawn to the use of that practice or term in the context of cranberry production, a more detailed description follows.

***Brush cutting and tree clearing:** (See also under General Farming.) The reasons for clearing the perimeter of a cranberry bog are:

- Removal of brush and saplings to promote air movement, which helps reduce frost risk and cuts down on fungal growth.
- Removal of vegetation that serves as a host for certain insects, decreasing the risk of infestations on the bog and reducing usage of insecticides.
- Removal of vegetation to minimize weed incursion and help cut down on usage of herbicides.
- Providing the abundant sunlight required by a healthy cranberry plant. The area to be kept clear depends upon the slope, the type of vegetation present, and the direction of the sun.

Burning: See under General Farming.

***By-pass canal/channel:** Water normally is diverted temporarily when a moving stream bisects a bog area. The by-pass canal/channel diverts the stream to the perimeter of the bog area and out of the target area of pesticide applications.

Construction and maintenance of pump houses: See under General Farming.

Construction and maintenance of buildings: (See also under General Farming.) For cranberry operations, structures may be located near bogs to provide easy and efficient access on and off the bed.

Critical area planting: (See also under General Farming.) Typically, these areas around bogs include the side slopes, dikes, ditches, or sand borrow areas in the adjacent uplands of the bogs.

***Dike:** An embankment of earth is constructed to protect land against overflow or to regulate water. Dikes include perimeter and interior dikes that impound water temporarily for harvesting, trash removal, pest control, winter flooding, or other management purposes. Dikes also include "low flow" dikes that contain the flow of water in the stream channel and temporarily retain chemically-polluted water on the bog for the period required to maintain water quality after chemigation.

Dike and flume maintenance: It is necessary to repair and widen most cranberry bog dikes because they originally were built by hand and are not wide or strong enough to accommodate large vehicles. In addition, animals bore holes in dikes, causing structural damage. A combination of wind action, when the bogs are flooded, and heavy rains also cause deterioration of the dikes, making graveling and re-sloping necessary. Properly maintained dikes provide storm water protection. Time and weather have taken their toll on water control flumes that were made of wood or concrete to the point where replacement with new metal flumes is necessary. In some cases, the old flumes were small and it is necessary to enlarge them to improve water management efficiency for the existing bog. Faulty, leaking flumes result in lost water, making flume replacement a water conservation practice.

Cranberry Practices
and Terms (with
diagrams of
cranberry bog
system



Ditch cleaning: Ditches facilitate flooding and draining of a bog and keep the water table close to the root zone during the growing season. These ditches must be cleaned to keep water freely flowing, to keep stagnant water moving, and to reduce the use of fungicides. Cleaning also helps to keep down certain weeds that grow in excessively wet conditions, thus reducing the use of herbicides. Excessive flooding at blossom time will devastate a cranberry crop; thus, free-running ditches are necessary.

Drainage systems: See under General Farming.

Equipment maintenance: (See also under General Farming.) In addition to general farm equipment and machinery, cranberry growers particularly depend on the irrigation pump which, because irrigation is used for frost protection as well as for other functions, must be able to start on a moment's notice and run without fail for 10-12 hours. These units are tested and maintained on a regular basis. Equipment also is used for harvesting, sanding, and ditch cleaning. Such equipment typically is constructed, maintained, and repaired in areas and buildings adjacent to bogs.

Fertilizer and pesticide application: Fertilizers are applied to cranberry beds to replace nutrients necessary for growth. Fertilizing the bogs begins in early spring and continues until fall. Time and rate of application varies with each bog. However, growers strive to maximize nutrient uptake by the plants. Fertilizers can be applied aerially with the use of helicopters or on the ground through irrigation systems, rotary spreaders, or motorized vehicles. Application of pesticides and fungicides is a necessary component of cranberry agriculture to prevent damage to the cranberry plant by a variety of insects, fungi, and diseases. During the growing season, each grower scouts the cranberry beds for insects and disease. If the insect population reaches a predetermined economic threshold, then the grower decides which chemical is necessary to eliminate the problem. Chemicals are applied to the cranberry bog using chemigation systems, helicopters, and portable spray units. Herbicides are applied to the bog in the spring as pre-emergence broadcast applications to control weed seeds and as a post-emergence wipe during the summer to control weeds above the vine level.

Flooding and flood release: Cranberry growers flood their acreage for three primary reasons:

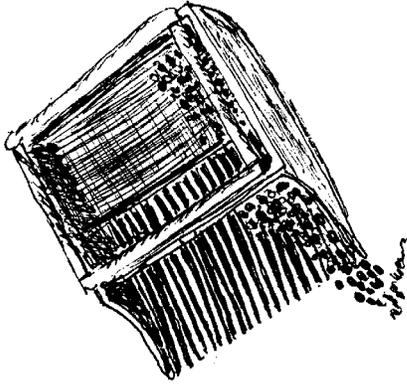
- Water harvesting, done during September through November, which requires a flood over the bog to assist collection of the fruit and includes a trash flow (use of the flood to float out dead leaves and berries, which are skimmed from the water to reduce sources of rot).
- Protection from winter injury from December through March.
- Enhancement of fruit quality by holding a flood from mid-April to mid-May (known as "late water").
- For frost protection (by a small number of growers without irrigation).
- As a cultural practice to reduce insect damage; in some cases it is the only known control.

When flooding the bogs, growers use portable pumps and/or stationary lift pumps.

Flume: See Water control structure, below.

Gate and fence construction: Gates and fences are built to control access to a bog to minimize vandalism and thefts. Construction and maintenance of gates occurs throughout the year.

Harvesting: The cranberry harvest takes place once a year from mid-September through early November. Two methods of harvest are employed. One method is the "dry method," which uses machines to rake the berries off the vines into boxes or bags. Berries are removed from the bog by either bog vehicles or helicopters. The other method, the "wet method," involves flooding the bog with up to a foot of water and using a reel to free the berries from the vines. Berries are corralled and removed from the bog by pump or conveyors. Typically, nearly 80% of the crop is wet harvested.



Irrigation canal: Permanent channels are constructed to convey water from the source of supply to one or more bogs. The conservation objectives are to prevent erosion or degradation of water quality and to convey water efficiently in order to minimize losses.

Irrigation pit: Storage reservoirs are constructed to regulate or store a water supply for bog irrigation. Reservoirs may be either: open pits excavated below the ground surface to intercept and store surface water or groundwater; or impoundments that hold surface water, provided that the depth of water above the original ground level does not exceed three feet.

Irrigation systems: (See also under General Farming.) Planned water delivery systems are essential for cranberry production. One type is the underground low-volume sprinkler system. This system is essential for applying water for frost protection and irrigation, as well as for applying pesticides and fertilizers. When new bogs are made, before vines are set out, a sprinkler system is set in place. Many systems that were buried in bogs during the 1960s and 1970s now are being replaced or upgraded as new technology develops. The old systems generally were undersized and need to be replaced with larger pipes. The proper spacing and sizing of the modern systems provides uniform distribution of irrigation water, leading to a more conservative use of water. Modern systems usually are made of black “poly” pipe plowed into the ground or trenched in by backhoes (as in the case of main feed line). For most of the year, only the sprinkler heads are seen; following harvest, these heads are removed and put back into place in early spring. Such systems rely on effective utilization of the available supply of irrigation water to manage crop needs while minimizing water loss. The timing, rate, and amount of water used is determined and controlled in a planned and efficient manner.

Land smoothing: (See also under General Farming.) Equipment is used to level the surface of bogs to minimize the amount of water needed to flood the bog to a depth of 6 inches for cultivation practices.

Mowing: (See also under General Farming.) Upland areas adjacent to cranberry beds periodically are mowed during the growing season to prevent seeding on the bog and to minimize the risk of fire. Underbrush is cut, too, and removed from areas around the bog at different times throughout the year.

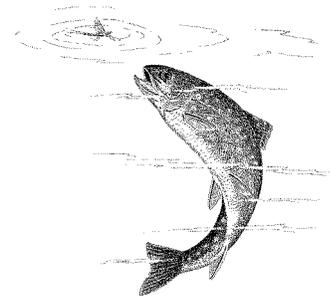
Nutrient management: See under General Farming.

Pest management: See under General Farming.

Pollination: Cranberry plants must be pollinated to produce fruit. Cranberries normally bloom from mid-June to mid-July. To aid in the pollination process, hives of bees are brought to the bogs during this period. Generally, one hive of bees is required for the pollination of one acre of bog. Bees typically are brought to the bog on trucks during evening or night hours since that is the time when all bees are in the hive. Once the cranberries are pollinated, bees may be removed to pollinate other crops. Generally, bees are present on cranberry bogs for approximately one month in early summer. Many growers own or rent hives that may be kept on the property year-round.

***Pond construction and maintenance:** See under General Farming.

Pruning: (See also under General Farming.) The areas of cranberry plants that produce berries are called “uprights.” Pruning cranberry vines removes the woody portion of the plant, which produces few uprights. Pruning out the undesirable parts enables the plant to put more strength into producing uprights, thus increasing berry production. Pruning also eliminates the heavy vine growth that promotes the development of rot in berries. Pruning takes place during picking for dry harvested bogs and in the spring for wet harvested bogs.



Regulating water flow: The utilization of water from lakes and ponds is managed by controlling dams and flumes. Most growers hold deeded water rights. Fluctuations in water levels may occur during flooding and flood release associated with harvesting, winter protection, and late water.

***Reservoirs and water storage systems:** See under General Farming.

Road maintenance: See under General Farming.

Sand pit clearing and maintenance: Periodic sanding of cranberry vines is a critical part of cranberry cultivation (see Sanding, below). Cranberry growers must either purchase sand or use designated natural sand deposits located on their property. These sand deposits are considered “necessary, related land” and usually are located in the hills surrounding the bogs. They require that the trees and brush be cleared and the topsoil removed to allow the grower to extract the deposits.

Sanding: Sanding stimulates new cranberry vine growth, suppresses insects, improves drainage of surface water, and helps to hasten the breakdown of the trash layer, thus making more nutrients available. Every few years, one-half to one inch of sand is applied to cranberry bogs as an essential part of good bog management. Sand can be applied directly to the vines in the spring or fall, but the most cost-effective method is to apply sand on the ice of a winter-flooded bog. To apply sand, most growers use specialized sanders (which often they build themselves) or helicopters.

***Squaring off bogs:** Corners and edges of bogs often need reshaping. Many bogs in southeastern Massachusetts were constructed in the early 1900s by hand labor. Straightening the edges, corners, and odd-shaped pieces of irregular bogs increases the efficiency of tasks such as harvesting and mowing with modern equipment. It also improves irrigation coverage.

Stripping and replanting: All plant material may be stripped from the bog and replaced with new vine stock for the following reasons:

- The bog is out of grade, requiring excessive quantities of water to flood it. Modern land leveling lasers and larger equipment regrade the bog.
- The existing variety has a low yield or is prone to rot.
- Weeds (such as briars), poison ivy, or bushes have overtaken the vines.

***Tailwater recovery system:** Transported irrigation tailwater is collected and stored for reuse in a distribution system for bog irrigation. It is one of the most important management practices used by cranberry growers. Its purpose is to conserve bog irrigation supplies and water quality by collecting the water that runs off the field surface for reuse on the bog. It minimizes the risk of chemicals leaving the bog. As a water conservation measure, tailwater recovery is an economically sound way of maintaining an adequate water supply. Tailwater recovery also helps to control flooding by providing temporary storage during periods of excessive rainfall. Components of a system include pickup ditches, sumps, pumps, pipelines, water control structures, and water detention ponds. Maintenance requirements for these systems are the same as for ponds.

Trapping: Growers control muskrat and other burrowing animals on the cranberry bog. These animals tunnel into a cranberry bed, causing the muck soils to collapse and rendering the bed unusable. Muskrats are the major cause of dike failure. Muskrats are trapped during a specific season regulated by the Massachusetts Division of Fisheries and Wildlife.

Water control structure (flume): Steel or aluminum structures, installed in a dike that conveys water, control the direction or rate of flow or maintain a desired water surface elevation in a bog. The purpose is to control the stage, discharge, distribution, delivery, or direction of the flow of water in open channels or other areas where water is used. Another purpose is water quality control, such as sediment reduction or water chemigation holding time (to neutralize applied chemicals before discharging from the bog). These structures usually are installed in conjunction with a dike that separates bogs or at an outlet or inlet to a bog. All waters containing pesticides must be retained for the length of time required by the products' labels. (See **Dike and flume maintenance**, above.)

Diagram: Cranberry Bog System

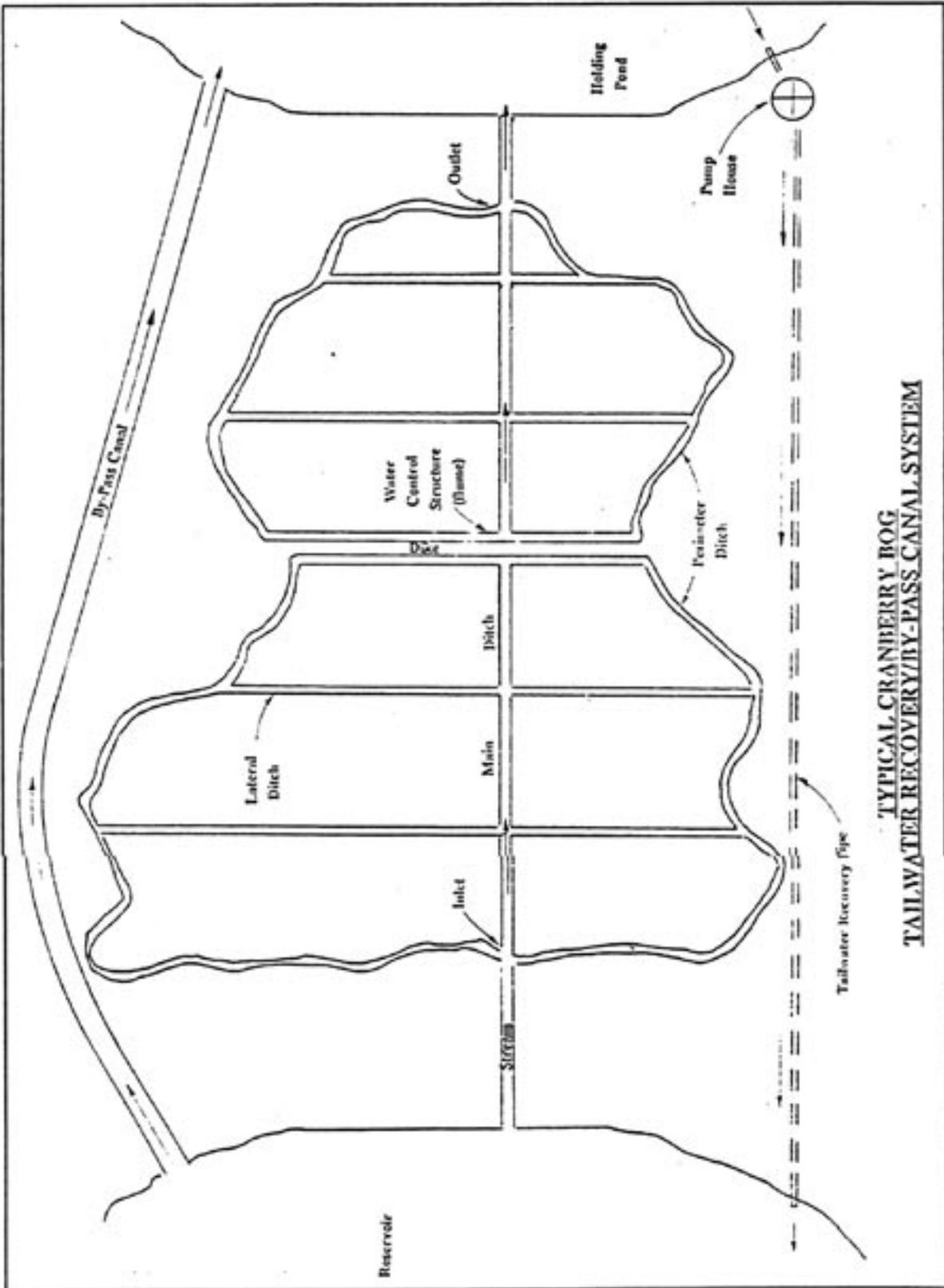
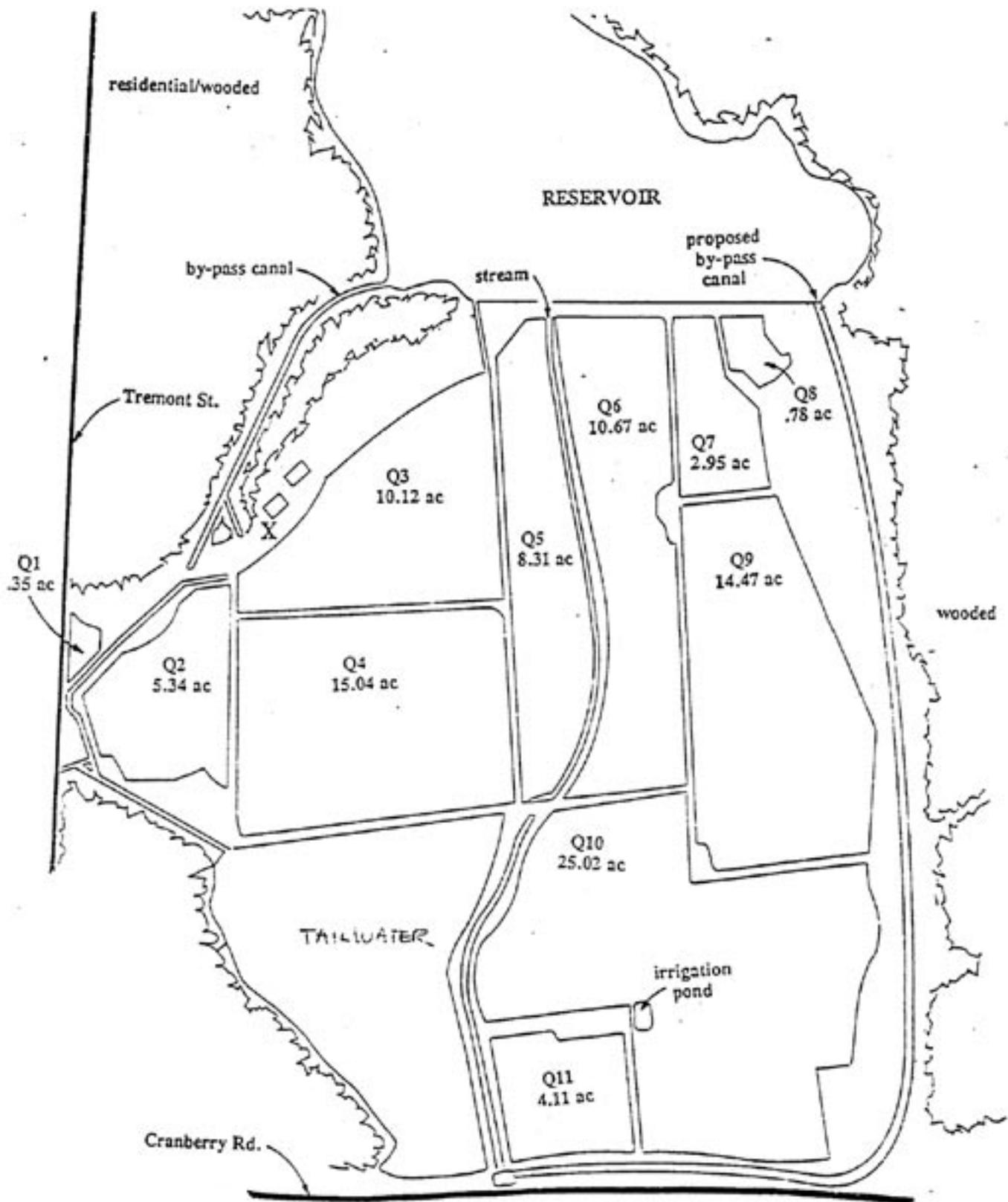


Diagram: Cranberry Bog System



Chapter 5: The Forestry Regulations



Image by Vivek Joshi

The Forestry Regulations

Introduction

In 1991, the Massachusetts Legislature established the Farmland Advisory Committee (FAC) and directed the Department of Environmental Protection (DEP) to clarify the definition of “normal maintenance or improvement of land in agricultural use” as it applies to the exemption under the Wetlands Protection Act. DEP adopted regulatory language related to the agricultural exemption for row crops, cranberries, and other commodities in May 1993. The revised Wetlands Protection Regulations for forestry activities (310 CMR 10.00) were adopted in November 1995. In addition to addressing a legislative mandate, the forestry regulations are part of DEP’s continuing effort to streamline permitting and provide a better understanding of the standards while maintaining wetlands protection.

In 1993, the FAC established a forestry subcommittee to work with DEP to review the Wetlands Protection Regulations. This subcommittee also reviewed the Department of Environmental Management (DEM) Forest Cutting Practices Act Regulations (304 CMR 11.00) at the same time. The subcommittee included representatives from DEM, DEP, the Massachusetts Department of Food and Agriculture, the Massachusetts Division of Fisheries and Wildlife, and other environmental and forestry agencies and groups.

The subcommittee proposed amendments to the regulations for both the Wetlands Protection Act and Forest Cutting Practices Act (FCPA). The amendments to the FCPA Regulations strengthen environmental protection for surface waters and wetlands during forest harvesting operations. This protection has been accomplished in the FCPA Regulations through increased emphasis on Best Management Practices (BMPs) and clarification of the standards for cutting, and engineering and logging.

The relationship between the Forest Cutting Practices Act and the Wetlands Protection Act has been greatly improved by regulatory changes in notification requirements, agency and landowner responsibilities, and definitions of terms and practices. A strong spirit of cooperation among local, state, and federal environmental agencies and organizations has been formed as a result of the work of the forestry subcommittee and will continue through outreach and training efforts. A Memorandum of Understanding between DEM and DEP further defines each agency’s role and encourages this cooperation in the future.

This chapter serves as guidance for dealing with the revised Wetlands Protection Regulations for forestry activities. The information provided here updates and supersedes information regarding forestry contained in the earlier chapters of this document.

One important difference between the revisions for forestry and the rest of the Agriculture Regulations is that the forestry portion is **not subject to a sunset provision** [see 10.04 (Agriculture)©]. Also, while the agriculture exemption specifically applies to commercial agriculture (defined in Chapter Two), there is one exception to this requirement. Under the provision, for cutting of trees for one’s own use (310 CMR 10.04 Agriculture(a)(15)), it is not necessary that the activity be for commercial purposes. This exception has not changed from the previous regulations for forestry activities.

Another item to note involves the agriculture emergency provisions of 10.06(6). In 1993, three emergency activities particular to agriculture were created: stream bank stabilization, removal of storm debris from streams, and development of an emergency water source when the existing source has become unusable. Such emergency activities may apply to forestry areas when it is necessary to eliminate an imminent threat to forest land or to restore forest land damaged by a storm.

Understanding Forestry in Massachusetts

The Massachusetts Forest

Almost two thirds of the Massachusetts landscape is covered by trees. This has occurred even though Massachusetts is the third most densely populated state in the nation. It is even more remarkable given the historic agricultural use of the landscape. The forests of today are the result of past landclearing for farming and timber and the natural regeneration that has occurred on these cleared lands. These forests have again reached the stage where they provide scenic vistas, thriving wildlife populations, forest products, and recreational opportunities.

The forests of Massachusetts are quite diverse in composition since they lie within the southern limits of the coniferous woodlands of northern New England and the northern limits of the mixed deciduous woodlands of the mid-Atlantic states. A rich mixture of species, including white pine, hemlock, oak, red maple, and hickory occur throughout the state. Birch and sugar maple are concentrated in western Massachusetts, and pitch pine is found on the sandy soils of Cape Cod and the Islands. White pine is the dominant sawtimber species, followed by red maple and red oak.

Unlike in many other states, in Massachusetts public ownership (state and federal forests) and industrial ownership account for a very small portion of the forest land. Approximately 95 percent of the forest land in Massachusetts is owned by non-industrial, private individuals and about 80 percent of Massachusetts forest products come from private land. The Commonwealth owns 11 percent of forest land, while the federal government holds merely one percent.

Although the amount of forest land in Massachusetts did not change significantly between 1972 and 1985, the number of owners increased dramatically, from 125,000 to 235,000. The result is that individual parcels are much smaller; the average parcel of forest land in Massachusetts today is approximately 14 acres. Many newer forest landowners hold parcels under nine acres. The majority of forest parcels under private ownership range from 20 to 200 acres. Ownership goals and management strategies vary widely.

There is no "typical" owner, and no single reason for owning forest land. The reasons for forest ownership include recreation, wildlife habitat improvement, scenic amenity, the harvesting of timber and cordwood for sale or personal use, and watershed management. Farms often have managed woodlots as part of their diversified operation, and use their own forest products for on-farm projects such as fencing, barns, and fuel. Although forests produce many benefits or products, the commercial sale of timber is the one that most often offers the landowner monetary gain that can offset the costs of owning the land.

Timber harvesting can be planned and undertaken in a way that is compatible with or enhances the other goals that landowners have for their forests. DEM Service Foresters or private consultants are good sources of information on how to plan a harvest to meet a variety of landowner goals.

The U.S. Forest Service estimates recent substantial increases in timber growth in Massachusetts, both in volume and in size of trees. Growth exceeds harvesting by almost 3 to 1, revealing that Massachusetts has been extremely conservative in harvesting its timber resources.

Forested wetlands occupy low and poorly drained areas and provide important wetland functions such as flood control, protection of water quality, and wildlife habitat. Most of the forested wetlands in Massachusetts are dominated by red maple interspersed with a variety of other plants. These forested wetlands have regenerated naturally and in response to specific site conditions such as beaver activity.

Forested Wetlands

Commercial harvesting of timber in these areas is not typical since most of these areas have low quality forest products. Some vegetated wetlands, however, contain certain valuable timber trees (e.g. ash) that may be harvested as part of a management plan. Others may be used as a source of cordwood or fuelwood.

The primary concerns associated with silvicultural activity in forested wetlands are related impacts from rutting, soil compaction, sedimentation, and soil erosion during the harvesting activity or when crossing wetlands or streams. It is the rare woodlot that does not contain streams or wetlands. The soils in wetlands typically cannot support commercial timber harvesting equipment. However, impacts to these areas can be minimized by using best management practices (BMPs). A good source of information on BMPs is DEM's 1995 Massachusetts Forestry Best Management Practices Manual (see Appendix A for information on obtaining this document through DEM offices).

Forest Values and Uses

Recreational Opportunities

Massachusetts forests provide citizens with many benefits. The public enjoys recreational opportunities, such as hiking, hunting, birding, biking, skiing, and snowmobiling. Many private landowners allow public access to their forests for recreational uses. Publicly held lands host forest recreation activities on nearly 400,000 acres. In fact, the Massachusetts tourism industry significantly depends on the colorful fall foliage, which attracts over 1.2 million travellers. Spring maple sugaring also draws large numbers of tourists to sugar houses across the state.

Habitat for Game and Non-Game Wildlife

Forests support a wide diversity of habitat for game and non-game wildlife. Game species include black bear, white-tailed deer, wild turkey, grouse, waterfowl, and fish. The U.S. Fish and Wildlife Service estimated that game-related activities contributed over \$550 million to Massachusetts in 1985. It also is estimated that over 50 percent of the state's population has participated in non-game activities, such as observing and photographing wildlife.

Managing forested lands for wildlife habitat is an increasingly popular component of forest management. Landowners can create or enhance certain habitat with relatively simple management techniques, such as creating small openings or edges, managing for particular tree species, leaving small stands of poplar or alder, leaving dead trees for dens, or planting or releasing native nut or fruit producing trees or shrubs. Forested riparian (streamside) areas are critical for shading streams and maintaining suitable light and temperature conditions for aquatic plants and animals.

Water Resource Protection

Forests are effective in removing excess nutrients and sediments from surface runoff and in absorbing air-borne pollutants. Streamside and wetland forests serve as both filters and sinks, trapping sediments, pesticides, and urban pollutants. The quality, quantity, and regularity of stream flow are all affected by the conditions of the surrounding forest. There are 150,000 acres of municipal water supply forest lands in Massachusetts, nearly 50,000 acres of which are under active forest management. The active management of this forest land has directly affected water quality, water quantity, wildlife habitat, and recreation. For example, the Metropolitan District Commission has forest management plans for the 85,000 acres of public water supply land it manages. These management plans have a primary goal of water quality protection and also may have wildlife habitat and wood production objectives.

Aesthetic Value

Forests provide aesthetic value to owners and others. Some forest owners make management choices purely for aesthetic reasons, such as for a view, diversity, or preservation of a specimen tree. Forest land serves as open space in the Commonwealth, contributing to the quality of life both in rural and suburban areas. This also is true in cities, where urban forests reduce noise pollution, improve air quality, provide wind breaks, and create a more pleasing visual environment.

Wood Products

Massachusetts forests provide a wide range of products, from hardwood and softwood lumber to biomass and fuelwood. The Massachusetts forest products industries employ approximately 15,000 people in the primary and secondary sectors.

The primary sector is composed of foresters, loggers, and sawmill owners, who are dependent on the public and private forests of the Commonwealth. There are about 200 professional foresters in Massachusetts. Many are consultant foresters who provide services to private landowners by developing management plans, cutting plans, and overseeing the harvest and sale of timber. The Department of Environmental Management (DEM) has Management Foresters responsible for the management of the public state forests and Service Foresters responsible for providing technical assistance to landowners and for overseeing the Forest Tax Law (Chapter 61) and the Forest Cutting Practices Act (Chapter 132). There are approximately 700 licensed timber harvesters in the Commonwealth. Foresters work with owners to design plans for forest management, while the timber harvesters implement the plan when it involves the cutting of trees with commercial value.

The secondary industry is made up of nearly 800 companies that produce a variety of wood products, including pallets, architectural millwork, furniture, and boat parts. In addition to local companies that use this native product, Massachusetts forest products are in demand by national and international markets. Another important market consists of many people who rely on cordwood to heat their homes, as well as wood that is used in chip form to generate steam and electricity.

The Practice of Forestry

Forest management may involve an orderly plan for achieving the objectives of the landowner or it may involve a decision to not conduct an active management plan. In either case, the forest may be considered land in agricultural use. However, whether the activity that occurs in this area is exempt from the Wetland Protection Regulations is dependent on how the work is carried out and if it meets the conditions of the exemption as specified in 310 CMR 10.04.

A forest management plan specifies forest conditions, goals, and activities for reaching the goals. A fundamental purpose of forest management is to keep the forest healthy and productive. Goals of forest management may include recreation, wildlife habitat enhancement, protection of water quality, and production of forest products. Managing for a commercial product often involves practices such as thinning, pruning, and seeding, as well as harvesting. Since these activities are considered normal maintenance or improvement, they are exempt.

Natural regeneration typically is abundant and easy to obtain in this region. Silviculture is a group of activities concerned with the establishment, development, care, and reproduction of forest stands. A silvicultural system is a planned program of treatments over the life of a stand, based primarily on a regeneration method. Regeneration occurs through seedlings, stump sprouts, or root suckers. Silvicultural systems intended to foster regeneration focus on manipulating light levels and scarifying the forest floor. There are several distinct silvicultural systems:

- Even-aged systems such as clearcutting, shelterwood, seed tree, and coppice provide for regeneration so that the trees in the new stand will be of approximately the same age, and will all be cut at the end of a rotation.
- The selection system is used in uneven-aged management. Uneven-aged stands contain at least three distinct age classes. The term “selection” should not be confused with “selective cutting.” “Selective cutting” is not a silvicultural term.
- Intermediate treatments consist of cuts carried out in established stands to improve the existing stand and to regulate its growth without directing effort at promoting regeneration. Intermediate treatments regulate and improve species composition, improve tree quality, release young stands, or reduce competition by removing less desirable or unwanted species, or poorly formed, injured, or over-mature trees. Types of intermediate treatments include thinning, weeding, releasing, and improvement cuttings.

As stated earlier, harvesting in wetlands is uncommon, although some harvest of cordwood and timber does occur. When a harvest in wetlands does take place, the type of silviculture method that may be applied is limited by conditions in the Wetlands Protection Act exemption and by limits in the Forest Cutting Plan, which is reviewed and approved by DEM. For instance, since only 50 percent of the basal area within a wetland may be harvested at any one time within a three-year period, a clearcut or seed tree harvest within a wetland could not be conducted.

Typically, it is harvesting activities, which involve equipment, that can impact wetland resource areas. It is not always possible to avoid crossing a resource area to access a timber stand. Heavy equipment can cause rutting and soil compaction, and the felling and dragging of trees can cause erosion and sedimentation, although these impacts can be controlled with the use of BMPs. The Forest Cutting Plans approved by DEM specify BMPs for protection of water quality and wetlands. There is a section of the Forest Cutting Plan application that addresses the use of BMPs and the

Silviculture

Impacts to Resource Areas

cutting plan regulations specify requirements and guidelines on how the work should take place. These requirements include the stabilization of exposed areas such as skid roads, the use of filter strips, and restrictions on the use of equipment within certain areas.

Specific types of BMPs that can be used when working in or crossing wetlands include the placement of temporary portable bridges, wooden mats, or tree limbs and tops directly on the surface of the wetland to support equipment. Temporary bridges and wooden mats are removed at the completion of work. Tree limbs and tops can be left in place, especially if their removal would cause more impacts. For example, it would cause less damage to leave in place tops that are frozen or embedded in the soil.

Stream crossings are a source of potential negative impact to resource areas such as banks and land under water. Important considerations such as type, dimension, and maintenance of stream crossings typically are specified in Forest Cutting Plans. In addition, the Wetlands Protection Regulations specify certain requirements that will further minimize impacts to wetlands and water quality, such as using BMPs and conducting work when the soil is frozen, dry, or otherwise stable.

Streams can be crossed in a number of ways, depending on conditions present within the stream and in the areas immediately adjacent to the stream. Streams with shallow banks (less than one foot in height) and rocky stream beds can be forded - crossed without the use of a structure such as a bridge - as long as the areas immediately adjacent to the stream are stabilized (usually with tree limbs or tops). Streams with shallow banks and soft beds or streams with steep banks (greater than one foot in height) should be crossed with portable bridges or culverts. See the DEM Massachusetts Forestry Best Management Practices Manual for more information.

Timber Production

The management needs for forest products vary depending on the type of product and site conditions. Many factors influence the decision on how to manage forest land for timber. These factors include the condition of the stand (age, species, density), the type of soils, the size of the parcel, and access.

In Massachusetts, the overcrowding of trees often affects the quality of trees that may be harvested for sawtimber, veneer wood, and other wood products. Therefore, the amount of forest growth and the species composition may need to be controlled to yield a high quality product. For this reason, there may be many activities that need to occur within a stand before the primary harvest is achieved. These activities may include pruning, pre-commercial harvesting, or harvesting for an intermediate product (cordwood or pulpwood). Some or all of these activities may occur in wetlands.

A typical timber harvesting operation has many components, and is often part of a forest management plan. Access to and within the site is one of these components. Access issues include access from a public way to the property, locating a landing for the harvested trees, and using existing logging roads or creating new logging roads where needed. These roads also may be used to conduct non-harvest activities such as pruning and thinning.

The harvesting of trees involves many activities. The trees that are to be harvested need to be identified and marked in the field. The harvesting equipment needs to be brought to the site. This operation may include one person with a chainsaw and cart for a simple cordwood harvest or several loggers with equipment and machinery for a large timber harvest. Equipment is needed to fell the standing trees and machinery is needed to move the felled trees. Moving the felled trees may occur in two general ways, forwarding or skidding. Forwarding involves carrying logs to the landing. Skidding involves dragging the merchantable portion of the tree to the landing. From the landing, the trees or logs are transported on a logging truck to a mill.

Whether the activity involves maintenance, harvesting, or access, impacts to wetlands can be minimized through planning, careful operation, and compliance with the conditions specified in the Wetlands Protection Regulations and on the approved Forest Cutting Plan. In addition, while there may be some apparent impacts due to the use of forestry machinery in these areas, such as rutting and the creation of slash, the impacts generally are minor and temporary. These impacts can be controlled by using BMPs and often are mitigated by natural processes. For instance, ruts created by the tracks of machinery or the winching of logs are eliminated within a year or two by the natural freezing and

thawing of the ground, provided that the ruts are not filled with gravel or similar material. The use of BMPs such as waterbars or broadbased dips on skid trails are relatively simple techniques that can be used to minimize erosion.

Maple syrup is another Massachusetts forest product. There are approximately 200 maple producers in Massachusetts, producing about 40,000 gallons of syrup annually with a retail value of over \$1.6 million. While maple sap is considered an agricultural commodity in the Wetlands Protection Regulations, maple sugarbush management may be seen as a hybrid of agriculture and forestry activities. Forests which contain sugar maple trees may be managed expressly for the production of sap, which is harvested as a crop from the sugar maple stand, known as a sugarbush. Maple sugar production often is an integral component of a diversified farm.

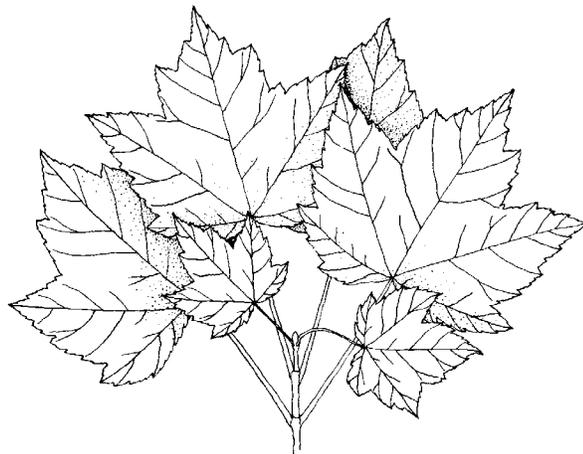
Maple Sugar Production

Maple sugaring involves harvesting and processing maple sap into maple syrup and other maple products. It also involves the management of the sugar maple trees primarily by pruning and thinning. It may involve managing a woodlot for cordwood. This cordwood may be used to fuel an evaporator or it may be sold to purchase another fuel. Only those normal maintenance and improvement activities related to managing the sugarbush (the maple sap producing trees), the harvest of the sap, and the management and harvesting of the woodlot are considered exempt. Harvesting of cordwood to fuel the evaporator is exempt as long as it is conducted in accordance with the provisions for cutting for one's own use. Harvesting of wood for commercial sale to purchase another fuel for the evaporator is an exempt activity provided that the work is done with an approved Forest Cutting Plan and meets the other provisions of the exemption.

In general, forest management practices to obtain maximum production of maple sap are different from those for management for timber or cordwood. Many naturally seeded forests of sugar maples are tapped for sap but volume and sweetness may be quite low. Often, active management can improve production and quality. Another type of sugarbush might be referred to as "non-forest," and may be found as part of pasture land, along roads, fence lines, and hedgerows. These areas, if managed, are considered land in agricultural use. The planting of a sugarbush is rare. The composition of sugarbushes and their specific management needs vary.

Managing the forest for maple products and harvesting those products are considered normal maintenance practices. Managing a sugarbush includes thinning crop-tree selection, provision for regeneration, and protection from pests, grazing, and road impacts.

The processing of sap to syrup takes place in sugar houses which contain evaporating equipment, filters, bottling equipment, and sometimes a packaging and a sales section. While the harvesting (collection) of sap is exempt from the Wetlands Protection Regulations, the processing of sap into maple products is not exempt. Also, constructing a sugar house in an area subject to the Wetlands Protection Regulations is not exempt.



Forestry Provisions of Chapter 131, Section 40

Exempt Activities

The Wetlands Protection Act (WPA) provides an exemption for “work performed for normal maintenance or improvement of land in agricultural use.” In the Wetlands Protection Regulations (310 CMR 10.00), forestry is considered an agricultural activity. Therefore, the forestry provisions of the Wetlands Protection Regulations are included with other agricultural activities under 310 CMR 10.04 Agriculture, in the definitions section. **In the forestry provisions of the Wetlands Protection Regulations, only those portions of the forest that are subject to the jurisdiction of the Wetlands Protection Act (i.e. in wetland resource areas and buffer zones) are regulated.** Forestry activities outside these areas are not regulated, unless and until such activity causes an impact, such as siltation, to a resource area.

As with other agricultural activities, certain forestry activities are exempt from WPA review if they:

- 1) meet the definition of “normal maintenance or improvement of land in agricultural use”;
- 2) meet general conditions for the exemption; and
- 3) meet specific conditions for individual activities included in the exemption.

It is the activity, or the work, that is exempt, not the land. Even though a parcel of land within jurisdiction is forested, a particular activity on that land may not be exempt from the Wetlands Protection Act. Not all activities that take place in the woods, including on a farm woodlot, are exempt. For example, cutting trees to establish a trail or a scenic view is not exempt.

Exempt activities are those that are performed as “normal maintenance” or “normal improvement.” For forestry, normal maintenance activities involve the management and harvesting of forest products, either for commercial sale or for one’s own use within certain thresholds. The activities that are considered to be “normal maintenance or normal improvement of land in agricultural use” are described in the Wetlands Protection Regulations (310 CMR 10.04 Agriculture).

For an activity to qualify for an exemption it must take place on forest land that is “land in agricultural use,” meaning land presently and primarily used to grow forest products such as biomass, sawlogs, and cordwood. Because forest products take a long time to grow, it is sometimes difficult to show active use. **Nonetheless, for the forestry activity to qualify for the exemption, the land must be devoted to continued production of forest products.** Evidence of such committed use would include, for example, a 10-year Forest Management Plan such as required for Chapter 61 or enrollment in a federal or state program to improve forest resources such as the Stewardship Incentive Program. A Forest Cutting Plan approved by DEM also is evidence of continued forest land use. However, lack of these formal plans does not necessarily mean the land is not devoted to continued production of forest products.

Land undergoing a change from forest to development or to open land for farming, and forests used only for recreation or scenic amenity do not qualify as “land maintained in forest use.” Therefore, such activities occurring in wetland resource areas or buffer zones would not be exempt from the Wetlands Protection Regulations.

A necessary and related forestry activity is the creation and use of landings for forest products. These are areas where wood that is being harvested is collected and stored prior to being removed from the site by logging trucks. However, the exemption for landings specifies that they must not be located in Bordering Vegetated Wetlands or banks.

Normal Maintenance Activities

The maintenance of existing forest boundary lines up to five feet wide, maintenance of fire breaks on state lands, and the non-harvest management practices of pruning, pre-commercial thinning, or the planting of seedlings are considered normal maintenance activities. These activities are exempt from the Wetlands Protection Regulations.

Commercial harvesting of forest products from a resource area is an exempt activity if it is carried out in accordance with the Forest Cutting Plan Regulations (304 CMR 11.00) and complies with other conditions identified in the agricultural provisions of the Wetlands Protection Regulations. Therefore, an approved Forest Cutting Plan is needed from DEM, as well as compliance with the

Wetlands Protection Regulations.

Another exempt maintenance activity is the harvesting of trees by owners for their own use, provided threshold limits and all conditions are observed, and a Forest Cutting Plan is obtained when necessary.

- The harvesting of trees during any 12-month period within a wetland resource area or buffer zone is exempt if it does not exceed 5,000 board feet or 10 cords and the following conditions are met:
 - crown cover in the harvested area shall be 50 percent or greater after the harvest;
 - work shall occur only when the ground is frozen, dry, or otherwise stable;
 - there shall be no cutting, removal, or destruction of trees and understory vegetation within 25 feet of a bank;
 - slash cannot be placed within 25 feet of a bank;
 - there shall be no filling, excavation, or other change in topography or hydrology; and
 - landings cannot be placed in a Bordering Vegetated Wetland or on a bank.

(Note: a Forest Cutting Plan is not required for this category.)

- The harvesting of trees during any 12-month period within a wetland resource area greater than 5,000 board feet or 10 cords, but less than 10,000 board feet or 20 cords, is exempt if an approved Forest Cutting Plan is obtained and the work meets the following conditions:
 - crown cover in the harvested area shall be 50 percent or greater after the harvest;
 - slash cannot be placed within 25 feet of a bank;
 - there shall be no filling, excavation, or other change in topography or hydrology; and
 - landings cannot be placed in a Bordering Vegetated Wetland or on a bank.

Normal improvement forestry activities constitute a small section of the exemption, because most activities on land devoted to forest use are considered maintaining the land in production. An exempt forestry improvement activity is the installation of new forest boundaries up to five feet wide.

*Normal
Improvement
Activities*

While a change of agricultural commodity within a wetland (e.g. from corn to tomatoes) is exempt under the Agricultural Regulations, changing from forest production or sap production to another agricultural commodity is not exempt. For example, changing from forest use within a wetland to a pasture or cropfield requires a permit.

*Change in
Commodity*

Construction and maintenance of temporary accessways for commercial harvesting or for cutting of forest products for one's own use are exempt from the Wetlands Protection Regulations provided that certain conditions in 310 CMR 10.04(b)(16) are met. An accessway may only be placed in a resource area if it is shown to be impractical to avoid that location.

Accessways

Where access through a resource area cannot be avoided, the impacts to the resource area must be minimized by:

- constructing the access according to BMPs;
- conducting the activity when the soil is frozen, dry, or otherwise stable;
- stabilizing the accessway to prevent erosion into wetland resource areas; -- designing the accessway to allow unobstructed passage of flows from a 25-year storm event;
- removing the accessway or stream crossing within one year of completing the work; and
- substantially restoring the topography and site conditions so that pre-existing vegetation can return.

Construction of new permanent accessways is not an exempt activity and requires a permit.

Limited Projects for Non-Exempt Forestry Activities

Some forestry activities in resource areas or buffer zones are not exempt from the Wetlands Protection Regulations. However, several new limited projects related to forestry activities have been created in the regulations. These limited projects are permanent accessways for forestry and cutting of trees for one's own use within specific thresholds: more than 10,000 but less than 25,000 board feet or more than 20 but less than 50 cords. [Note: these thresholds are higher than the limits for the exemption.]

In these cases, a Notice of Intent must be filed with the local Conservation Commission and an Order of Conditions must be issued. Forestry limited projects must meet some general requirements such as the use of BMPs. Conservation Commissions also have the discretion to include other conditions as needed to protect the interests identified in the Act.

Constructing an accessway to remain in place after completion of a harvest, or converting what was originally a temporary accessway to permanent status are limited projects, and require a permit. In addition to other limited project requirements, the work must be carried out under a DEM Forest Cutting Plan or on land subject to a permanent conservation restriction that maintains the land in perpetual forest use.

Cutting of trees by owners for their own use above the exempt activity threshold may be permitted under a limited project. Cutting of more than 10,000 board feet or 20 cords, but less than 25,000 board feet or 50 cords within resource areas requires the filing of a Notice of Intent with the local Conservation Commission.

Relationship with Sections 401 and 404 of the federal Clean Water Act

Forestry activities that are exempt under the Wetlands Protection Act and its regulations generally do not require state review or certification under Section 401, of the federal Clean Water Act. [See related information in Chapter Two.] If there is any question about whether the proposed activity is exempt from Section 404, landowners should consult the United States Army Corps of Engineers (see Appendix A for contact information).

Enforcement

In certain circumstances, enforcement may be necessary to achieve wetlands protection and effective administration of the Wetlands Protection Act. Enforcement techniques are available to stop an illegal activity, require the filing of a Notice of Intent, control future work, restore illegally altered areas, and punish and deter violators.

With respect to forestry activities, a violation of the Wetlands Protection Act may occur if the activity:

- is an exempt activity but is not conducted according to the general conditions or specific conditions of the exemption;
- is a non-exempt activity and is conducted without a valid Order of Conditions or does not conform to a valid Order of Conditions.

Recommended Procedures

If a violation is observed or suspected, verification of the violation is necessary. The Conservation Commission should contact a DEM Service Forester in their region for information or assistance (see Appendix A). The Commission should be prepared to provide some general information to the Service Forester, including location of the activity, whether a Forest Cutting Plan certificate has been posted, and specific concerns about the project. (Note: a Forest Cutting Plan certificate should be posted at the entrance to the job site as a requirement of the Forest Cutting Plan Regulations.) If the work is being conducted under an approved Forest Cutting Plan, the Service Forester is responsible for checking compliance under that approval. The Conservation Commission and the Service Forester should cooperate to bring the activity into compliance.

In certain circumstances, the Conservation Commission may need to act immediately. If the Service Forester cannot be contacted or if the activity is causing extreme impacts to wetlands, the Conservation Commission should work with the landowner or logger to correct the problem. As with other agricultural activities, sometimes informal enforcement is sufficient and effective. Resolution of a problem through a site visit, telephone call, or letter can clear up misunderstandings and achieve compliance or remediation without resorting to formal enforcement measures. However, it may be appropriate to issue an enforcement order to stop work.

Any enforcement action must be limited to those activities that are affecting wetland resource areas. The Commission should follow up by contacting the Service Forester so that the Commission and DEM can work together to bring the work into compliance.

DEP and DEM have developed a Memorandum of Understanding (MOU) (See Appendix I) that establishes a basis for cooperation between the two agencies. The MOU addresses the coordination and implementation of the Wetlands Protection Act Regulations and the Forest Cutting Practices Act Regulations, as well as each agency's role in enforcement. The MOU also recommends procedures for Conservation Commissions regarding the review of Forest Cutting Plans and enforcement.

Working with Chapters 131 and 132

The Forest Cutting Practices Act (Massachusetts General Law Chapter 132, Sections 40-46) regulates the harvest of forest products. The Act (FCPA) and its regulations (304 CMR 11.00) are administered by the Massachusetts Department of Environmental Management, Division of Forests and Parks. The FCPA regulates cutting on forest lands to ensure that the following interests are not jeopardized:

- conservation of water
- maintenance of air and water quality
- prevention of floods
- prevention of soil erosion
- improving conditions for wildlife
- improving conditions for outdoor recreation
- continuing and increasing the supply of forest products

Any commercial harvest is subject to the FCPA, with the exception of clearing of rights of way for public utilities and public highways; maintenance cutting in pastures; cutting for non-commercial use of the landowner; clearing land for cultivation; clearing land for a change of use such as development or mining; and small, commercial harvests (not exceeding 25,000 board feet or 50 cords).

The FCPA requires that before forest cutting takes place, the landowner must provide written notice to the local Conservation Commission and the appropriate DEM regional office. This notice consists of a completed Forest Cutting Plan.

The Forest Cutting Plan provides information about the area to be harvested, such as the owner's objectives, the trees to be harvested, location of roads and landings, location of wetland resource areas, and location and description of any stream or wetland crossings. There is a special section of the application devoted to wetland issues. The plan also includes information about the landowner and identifies the licensed timber harvester. The landowner must provide notice of the filing to certain abutters specified in the Forest Cutting Plan Regulations.

On the recently revised DEM Forest Cutting Plan form there is a check-off for rare species. The forester will check the area-described in the plan against the rare species atlas issued by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). If the area to be harvested is indicated to be in estimated wetland or upland rare species habitat, the plan is forwarded

Overview of Chapter 132

Forest Cutting Plans

to NHESP. NHESP will determine if there is a potential impact and will advise DEM. If necessary, DEM will make appropriate changes to the plan.

The DEM Service Forester reviews the cutting plan for conformance with the FCPA and its regulations. When the plan is approved, the landowner is provided with a copy of the approved plan and a cutting plan certificate, which must be posted at the entrance to the harvest area.

The local Conservation Commission has the opportunity to comment to DEM on the plan before it is approved. This allows Commissions to review the Cutting Plan and to raise concerns regarding wetlands locations or impacts before the activity commences. Conservation Commissions are strongly encouraged to work closely with the DEM Service Foresters when reviewing a Forest Cutting Plan or a harvesting activity.

The FCPA regulations contain detailed standards and guidelines for harvest activities. All harvest methods must ensure regeneration of the forest. There are standards for cutting, roads, trails and landings, buffer strips, filter strips, wetlands, and certified vernal pools. The standards for wetland resource areas are detailed and stress avoiding or minimizing access through wetlands. When access is unavoidable, it must be built, stabilized, and maintained according to BMPs.

Relationship Between Chapters 131 and 132

With the recent revisions to both the Chapter 131 and Chapter 132 regulations, and the accompanying Memorandum of Understanding between DEM and DEP, these interrelated regulations now function in a clear, coordinated way for landowners as well as agency staff. Basically, this relationship enables landowners to qualify for some agricultural exemptions under the Wetlands Protection Act by meeting the regulatory requirements of the FCPA.

Under the Wetlands Protection Regulations, certain forestry activities such as commercial harvesting and cutting for one's own use within thresholds are exempt from review only with an approved Forest Cutting Plan. Commercial harvesting is exempt from the Wetlands Protection Act provided that:

- a Forest Cutting Plan is properly filed with both DEM and the local Conservation Commission;
- wetland resource areas are properly identified on the Plan;
- the Plan is approved by the (DEM) Director or his/her agent;
- the Plan is properly and faithfully executed; and
- certain additional conditions are complied with as specified in the Wetlands Protection Regulations.

Therefore, while an approved Forest Cutting Plan is necessary to meet the agriculture exemption, the additional conditions included in the Wetlands Protection Regulations also must be met. The additional conditions include the general exemption conditions required for all exempt agricultural activities:

- the activity is "undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands" (310 CMR 10.04(b));
- the activity is conducted in accordance with federal and state laws;
- the activity results in no dredging or filling of salt marsh; and
- the activity results in no substantial amount of fill in Bordering Land Subject to Flooding.

Other conditions are specific to the exemption for activities that are conducted with a Forest Cutting Plan and include:

- landings shall not be located in a Bordering Vegetated Wetland or on a bank;
- exposed soils shall be stabilized;
- there is no filling, excavation, or other change in topography or hydrology (except where allowed for construction of accessways);
- the cutting and removal of trees within Bordering Vegetated Wetlands shall be limited to 50 percent of the basal area;
- work shall be conducted when the ground is frozen, dry, or otherwise stable to support the equipment; and

- the cutting plan application shall be submitted to the Conservation Commission and DEM not less than 10 days prior to the work.

[Note: the Conservation Commission has the opportunity to comment to DEM on the plan during the 10-day period before it is approved. However, Commissions also are able to comment on Forest Cutting Plans even after that period.]

Cutting of trees for one's own use and construction of accessways for forestry activities have additional conditions that were discussed earlier in this Chapter.

Chapter 6: Forestry Practices and Terms



Forestry Practices and Terms

Introduction

This chapter contains descriptions of many forestry practices and terms. It offers a basic introduction to terms and practices that may be unfamiliar to the nonfarming reader. This list is not meant to provide an exhaustive catalog of all forestry activities; the contents have been chosen to focus attention on those practices that are quite common and may interact with resources that are under the jurisdiction of the Wetlands Protection Act.

It is important to understand that the terms and practices listed here are not necessarily “exempt” or “normal” just because they are included in this document; exemption depends on a number of factors, such as location, that must be taken into account. However, it is likely that these practices typically would be considered normal maintenance or improvement when performed in the proper context and on an appropriate scale. It also is important to understand that if a practice or term is not listed here, it does not mean that it should not be considered “normal.”

Note: In the following sections, an asterisk () next to the term or practice means that the agriculture provisions of the Wetlands Protection Regulations specifically identify limitations on that term or practice.*

Practices and Terms

***Accessway:** a road over which logging flocks, skidders, tractors, and other forestry vehicles pass to reach the logging site or landing.

Basal area: the area, in square feet, of the cross section of a tree taken at breast height (4.5 feet above the ground).

Best management practice (BMP): a method, measure, or practice based on the best available research and scientific information and that is technically and economically feasible. For forest management practices, BMPs primarily address methods for controlling erosion, water quality impacts, and non-point source pollution.

Biomass: wood fiber used to generate energy; an example is chipped wood that is used to fuel biomass energy facilities.

Board foot: a quantity of wood one inch by one foot by one foot, commonly used to estimate the volume of wood in a tree, sawlog, veneer log, or piece of lumber.

Broadbased dip: a BMP in which an area along a road or skid trail is sloped to divert stormwater runoff from the road or skid trail into a filter strip.

Coniferous: trees that produce cones (e.g. pine or hemlock).

Consulting forester: a forester who acts as an agent for individuals, firms, or other clients by providing various services, including boundary marking, management planning, and timber sale administration.

Coppice growth: vegetative growth from a cut stump or root system.

Cord: a unit of measure for stacked wood, defined as 128 cubic feet of wood, bark, and air space.

Corduoy: logs or poles laid crosswise and side by side to support equipment on an accessway. When used in a stream or wetland, the corduroy is usually laid parallel to the flow of water.

Cordwood: any wood cut to stackable lengths and used in a wood stove or fireplace to generate heat. Also known as fuelwood.

***Crown cover:** the percent of the ground's surface that would be covered by a vertical projection of foliage from trees with a diameter at breast height of five inches or greater, where minor gaps between branches are disregarded and areas of overlapping foliage are counted only once.

Deciduous: trees that drop all of their leaves once a year (e.g. maple or ash).

Diameter at breast height (dbh): the size of a tree measured through the trunk at 4.5 feet above the ground.

***Fire break:** a vegetation-free strip of land strategically placed to help stop fires from spreading. Also known as a fire lane.

Ford: a location at a stream where the banks are firm and shallow (less than one foot in height) and the stream bed is rocky so that equipment can cross without a structure.

Forest: land where the crowns of trees of any size occupy at least 15 percent of the area and that contains at least 7.5 square feet of basal area per acre; or land with a plantation containing at least 500 trees per acre; or land recently harvested that is in the process of regenerating.

***Forest boundary/forest boundary line:** the property line of a forested property marked with signs, paint, or other markings; also may consist of cleared paths typically about five feet wide.

***Forest Cutting Plan:** a plan for the cutting of trees submitted in accordance with Massachusetts General Law Chapter 132, Sections 40-46 and regulations at 304 CMR 11.00.

Forest management plan: a long-term plan for management of forested property, typically prepared by a consulting forester; required for enrollment in Chapter 61.

Forest products: a variety of harvested materials from the forest, including but not limited to: sawlogs, cordwood, pulpwood, and biomass, but not including the gathering of foraged products such as nuts or berries.

Intermediate cut: a silvicultural practice conducted in an established stand between the seedling stage and maturity to improve the existing stand and to regulate its growth without any effort directed at promoting regeneration.

***Landing:** a location on a property where forest products such as logs are brought by a skidder, forwarder, or tractor and assembled for loading and transporting over public roads for processing.

Licensed timber harvester: a person licensed under Chapter 132 as a timber harvester; he or she must show familiarity with laws and regulations regarding timber harvesting.

Massachusetts Forestry Best Management Practices Manual: a guide prepared by the Department of Environmental Management and the University of Massachusetts/Department of Forestry and Wildlife Management that provides foresters and timber harvesters with best management practices (BMPs) and guidelines to minimize erosion from harvesting operations; most recently updated in 1995.

Pre-commercial thinning: the cutting or killing in place of trees with little or no commercial value in order to improve the residual stand.

Pulpwood: wood used to make pulp for paper and paper products.

Rotation: the total number of years from the initial establishment of a stand to maturity and final harvest.

Sawlog: a log that is sawed into lumber that meets regional standards of diameter, length, and freedom from defect, including a minimum eight-foot length and a minimum diameter at the small end of six to eight inches.

Sawtimber: trees that have a diameter at breast height of at least 9.6 inches.

Seed tree: any tree of seed-bearing age used in the seed-tree method of regenerating a stand, where a small number of trees per acre of seed-bearing age are retained to reseed the area.

Shelterwood: a forest management method used in mature even-aged stands, where one to three cuttings are made to encourage natural regeneration of the stand from seed growth and to protect the regeneration.

Silviculture: the theory and practice of controlling forest establishment, composition, and growth.

***Skid road/skid trail:** a system of trails in the woods over which logs are moved from the stump to the landing.

***Slash:** the branches, bark, tops, chunks, stumps, and uprooted or broken trees left on the ground after logging.

Stand: a contiguous area where the species, size, age, and general condition of the trees are uniform enough to be distinguished from adjacent areas; often coincides with a forest type.

Sugarbush: a stand of sugar maple trees managed for the production of maple sap; may include only sugar maple trees or a mixed stand of sugar maple and hardwood trees, containing timber, fuelwood, and sap-producing trees.

Timber stand improvement (TSI): a collective term for one of several intermediate treatments or non-harvest activities used to give a competitive advantage to the desired trees in a forest stand. TSI includes release cutting, improvement cutting, thinning, and pruning.

Waterbar: a BMP in which soil or poles are used as a berm to divert stormwater runoff from a road or skid trail into a filter strip.



Appendices



A. Resources and References

U.S. Natural Resources Conservation Service Field Offices and District Conservationists (formerly called the Soil Conservation Service) www.ma.nrcs.usda.gov/

With the exception of DEP's information, all agency names, addresses, phone numbers, and contacts are from the original text in 1996 and have not been updated.

State Headquarters

451 West Street
Amherst, MA 01002-2995
(413) 253-4350
Cecil Curran, State Conservationist

Barnstable Field Office (serving the Cape Cod, Dukes, and Nantucket Conservation Districts)
Flintrock Road
P.O. Box 709
Barnstable, MA 02630
(508) 362-9332
Donald W. Liptack, District Conservationist

Greenfield Field Office (serving the Franklin Conservation District)
55 Federal Street, Room 270
Greenfield, MA 01301
(413) 772-0384
Diane Leone, District Conservationist

Holden Field Office (serving the Northeastern, Northwestern, and Southern Worcester Conservation Districts)
The Medical Arts Center Building
52 Boyden Road
Holden, MA 01520-2587
(508) 829-6628
Ronald E. Thompson, District Conservationist

Northampton Field Office (serving the Hampden and Hampshire Conservation Districts)
Potpourri Mall
243 King Street, Room 39
Northampton, MA 01060
(413) 586-5440
Deborah Johnson, District Conservationist

Pittsfield Field Office (serving the Berkshire Conservation District)
78 Center Street (Arterial)
Pittsfield, MA 01201
(413) 443-6867
Mark W. Grennan, District Conservationist

West Wareham Field Office (serving the Bristol, Norfolk, and Plymouth Conservation Districts)
15 Cranberry Highway
West Wareham, MA 02576
(508) 295-7962
Leonard R. Reno, Jr., District Conservationist

Westford Field Office (serving the Essex, Middlesex and Suffolk Conservation Districts)
319 Littleton Road, Suite 205
Westford, MA 01886
(508) 692-5163
Daniel J. Lenthall, District Conservationist

Questions about the Wetlands Protection Act and regulations can be directed to wetlands staff in DEP's Boston office and four regional offices.

Lealdon Langley, Program Director, Wetlands/Waterways Program (617) 574-6882
Michael Stroman, Wetlands Protection Program, Wetlands Chief (617) 292-5526
1 Winter Street, 6th floor
Boston, MA 02108

Central Regional Office
627 Main Street
Worcester, MA 01608
(508) 792-7650
FAX (508) 792-7651
Phil Nadeau, Section Chief

Northeast Regional Office
1 Winter Street
Boston, MA 02108
(617) 292-5752
FAX (617) 556-1049
Rich Tomczyk, Acting Section Chief

Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347
(508) 946-2800
FAX (508) 946-6557
Elizabeth Kouloheras, Section Chief

Western Regional Office
State House West, 4th Floor
436 Dwight Street
Springfield, MA 01103
(413) 784-1100
FAX (413) 784-1149
Robert McCollum, Section Chief

Department of Environmental Management
Leverett Saltonstall Building
100 Cambridge Street
19th floor
Boston, MA 02202
(617) 727-3180

Copies of the Massachusetts Forestry Best Management Practices Manual can be obtained from DEM Boston office and regional headquarters. DEM Service Foresters can be contacted through regional headquarters.

DEM, Division of Forests and Parks, Regional Offices:

NOTE: Office hours are 8:00 a.m. to 4:30 p.m. on weekdays.

Region I Headquarters: Southeastern Massachusetts (Barnstable, Bristol, Islands, Norfolk, and Plymouth Counties)

*Massachusetts
Department of
Environmental
Protection,
Wetlands/
Waterways
Program*

www.mass.gov/dep/brp/ww/rpwwhome.htm

*Massachusetts
Department of
Environmental
Management,
Division of Forests
and Parks*

www.mass.gov/dcr/forparks.htm

Division of Forests and Parks
Myles Standish State Forest
Cranberry Road, Box 66
South Carver, MA 02566
(508) 866-2580

Region II Headquarters: Northeastern Massachusetts (Essex and Middlesex Counties)
Division of Forests and Parks
Carlisle Regional Headquarters
817 Lowell Road, Box 829
Carlisle, MA 01741
(508) 369-3351

Region III Headquarters: Central Massachusetts (Worcester County)
Division of Forests and Parks
Worcester County Regional Office
Route 110, Box 155
Clinton, MA 01510
(508) 368-0126

Region IV Headquarters: Connecticut Valley (Franklin, Hampden, and Hampshire Counties)
Division of Forests and Parks
Connecticut Valley Regional Office
P.O. Box 484
University of Massachusetts
Amherst, MA 01004
(413) 549-5993

Region V Headquarters: Berkshire (Berkshire County)
Division of Forests and Parks
Berkshire County Regional Office
South Mountain Visitors Center
740 South Street, Box 1433
Pittsfield, MA 01202
(413) 442-8928

DEM Forest Stewardship Program
463 West Street
Amherst, MA 01002
(413) 256-1201

Massachusetts Association of Conservation Commissions (MACC):
Main Office
Sally A. Zielinski, Executive Director
10 Juniper Road
Belmont, MA 02178
(617) 489-3930
FAX (617) 489-3935

*Massachusetts
Association of
Conservation
Commissions (MACC)
and MACC West
www.maccweb.org*

Massachusetts Association of Conservation Commissions: Western Outreach Office
Alexandra D. Dawson, Esq., Coordinator
2 West Street
Hadley, MA 01035
(413) 584-2724

Cape Cod Cranberry Growers Association
P.O. Box 730
East Wareham, MA 02538
(508) 295-4895
FAX (508) 291-1511

*Cape Cod Cranberry
Growers Association
www.cranberries.org*

Massachusetts Aquaculture Association
P.O. Box 209
Barnstable, MA 02630
(508) 240-5342

*Massachusetts
Aquaculture Association
www.massqua.org/growers.shtml*

Massachusetts Forestry Association
P.O. Box 1096
Belchertown, MA 01007-1096

*Massachusetts
Forestry Association
www.massforests.org/ma-forests/common-types.htm*

Massachusetts Association of Professional Foresters
P.O. Box 9505
North Amherst, MA 01059-9505

*Massachusetts
Association of
Professional Foresters
www.massforesters.org*

Massachusetts Association of Timber Harvesters
P.O. Box 484
Athol, MA 01331

*Massachusetts
Association of Timber
Harvesters
www.massforesters.org*

Massachusetts Wood Producers Association
P.O. Box 455
Northampton, MA 01061

*Massachusetts Wood
Producers Association
www.massforest.com*

Massachusetts Audubon Society
208 South Great Road
Lincoln, MA 01773
(617) 259-9500

*Massachusetts
Audubon Society
www.massaudubon.org*

*University of
Massachusetts Extension
www.umassextension.org*

University of Massachusetts Cooperative Extension
212 Stockbridge Hall
University of Massachusetts
Amherst, MA 01003-0099
(413) 545-4800
(Please call this number for all agent and department referrals.)

*Massachusetts
Department of Food
and Agriculture
www.mass.gov/agr*

Department of Food and Agriculture
Jonathan L. Healy, Commissioner
100 Cambridge Street, 21st floor
Boston, MA 02202
(617) 727-3000
FAX (617) 727-7235

Central Massachusetts Office
142 Old Common Road
Lancaster, MA 01523
(508) 792-7712

Division of Agricultural Development
(617) 727-3018 x188

Bureau of Land Use
(508) 792-7712

Bureau of Markets
(617) 727-3018 x173

Bureau of Education and Outreach
(617) 727-3018 x178

Bureau of Fairs and Equine Activities
(617) 727-3018 x166

Division of Dairy Services
(617) 727-3018 x180

Division of Regulatory Services
(617) 727-3020 x120

Bureau of Animal Health
(617) 727-3018 x121

Bureau of Farm Products
(617) 727-3018 x141

Pesticide Bureau
(617) 727-3000 x127

Bureau of Plant Pest Control
(617) 727-3000 x123

New England Small Farm Institute
Judith F. Gillan, Executive Director
P.O. Box 937
Belchertown, MA 01007
(413) 323-4531
FAX (413) 323-9594

*New England Small Farm
Institute
www.smallfarm.org*

Massachusetts Society of Municipal Conservation Professionals
Brian Monahan, President
c/o Massachusetts Association of Conservation Commissions
10 Juniper Road
Belmont, MA 02178
(617) 489-3930

*Massachusetts
Society of Municipal
Conservation
Professionals
www.maccweb.org*

Massachusetts Farm Bureau Federation
15 Great Road, P.O. Box 651
Bedford, MA 01730
(617) 275-4374
FAX (617) 275-7420
(Please contact this office for county chapter information.)

*Massachusetts Farm
Bureau Federation
www.massfarmbureau.com*

Army Corps of Engineers
Regulatory Division
424 Trapelo Road
Waltham, MA 02254-9149
(800) 362-4367
(617) 647-8335

*U.S. Army Corps of
Engineers
www.nae.usace.army.mil/*

Massachusetts Association of Conservation Districts
Irvil Kear, President
319 Littleton Road, Suite 205
Westford, MA 01886
(508) 692-9395
FAX (508) 392-1305

*Conservation
Districts in
Massachusetts
www.mass.gov/envir/dcs/districts/default.htm*

Berkshire Conservation District
78 Center Street
Pittsfield, MA 01201
(413) 443-1776

Bristol Conservation District
P.O. Box 475
Dighton, MA 02715
(508) 669-6558

Cape Cod Conservation District
P.O. Box 296
West Barnstable, MA 02668
(508) 362-6327

Dukes Conservation District
P.O. Box 1010
Edgartown, MA
(508) 627-9088

Essex Conservation District
562 Maple Street
Hathorne, MA 01937
(508) 774-5578

Franklin, Hampden, and Hampshire Conservation Districts
243 King Street, Room 39
Northampton, MA 01060
(413) 584-1464

Middlesex Conservation District
319 Littleton Road, Suite 205
Westford, MA 01886
(508) 692-9395

Nantucket Conservation District
P.O. Box 1146
Nantucket, MA 02554
(508) 228-0714

Norfolk Conservation District
400 Main Street
Walpole, MA 02081
(508) 668-0995

Worcester Conservation Districts (Northeastern, Northwestern, and Southern)
91 McCormick Road
Spencer, MA 01562
(508) 885-2595

Plymouth Conservation District
15 Cranberry Highway
West Wareham, MA 02576
(108) 295-5495

*Resource Conservation
and Development Areas*

Berkshire Pioneer Resource Conservation and Development Area
Michael A. Whalen, Coordinator
463 West Street
Amherst, MA 01002
(413) 256-1607
FAX (413) 253-4375

Pilgrim Resource Conservation and Development Area
Deborah K. Johnson, Coordinator
15 Cranberry Highway
West Wareham, MA 02576
(508) 295-1317

Division of Fisheries and Wildlife
 Leverett Saltonstall Building
 100 Cambridge Street
 19th floor
 Boston, MA 02202
 (617) 727-3151

Massachusetts
 Division of Fisheries
 and Wildlife
www.mass.gov/dfwele/dmf/index.html

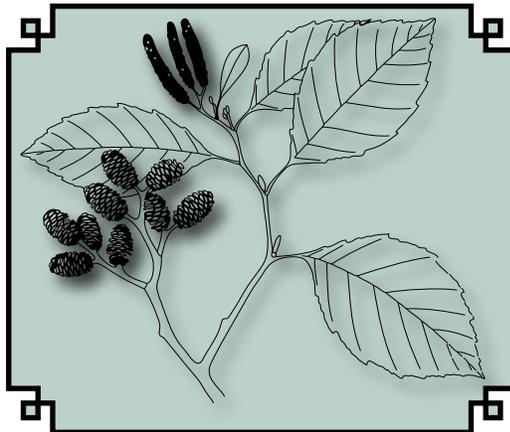
Division of Fisheries and Wildlife
 Field Headquarters
 Route 135
 Westborough, MA 01581
 (508) 366-4479

Natural Heritage and Endangered Species Program
 Henry Woolsey
 Route 135
 Westborough, MA 01581-3337
 (508) 792-7270 x200

Natural Heritage and
 Endangered Species
 Program
www.mass.gov/dfwele/dfw/nhesp/nhesp.htm

Agricultural Composting Association
 P.O. Box 608
 Belchertown, MA 01007
 (413) 323-9294

Agricultural Composting
 Association



Adams	Colrain	Hampden	Monroe	Pittsfield	Tyringham
Agawam	Conway	Hancock	Montague	Plainfield	Wales
Alford	Cummington	Hatfield	Monterey	Richmond	Ware
Amherst	Dalton	Hawley	Montgomery	Rowe	Warwick
Ashfield	Deerfield	Heath	Monson	Russell	Washington
Becket	Easthampton	Hinsdale	Mount Washington	Sandisfield	Wendell
Belchertown	East Longmeadow	Holland	New Ashford	Savoy	Westfield
Bernardston	Egremont	Holyoke	New Marlborough	Sheffield	Westhampton
Blandford	Erving	Huntington	New Salem	Shelburne	West Springfield
Brimfield	Florida	Lanesborough	North Adams	Shutesbury	West Stockbridge
Buckland	Gill	Lee	Northampton	Southampton	Whately
Charlemont	Goshen	Lenox	Northfield	South Hadley	Wilbraham
Cheshire	Granby	Leverett	Orange	Southwick	Williamsburg
Chester	Granville	Leyden	Otis	Springfield	Williamstown
Chesterfield	Great Barrington	Longmeadow	Palmer	Stockbridge	Windsor
Chicopee	Greenfield	Ludlow	Pelham	Sunderland	Worthington
Clarksburg	Hadley	Middlefield	Peru	Tolland	

*DEP Western
 Region
 436 Dwight Street
 Suite 402
 Springfield, MA 01103
 Telephone: 413-784-1100
 Fax: 413-784-1149*

DEP Central Region

627 Main Street
Worcester, MA 01608
Telephone: 508-792-7650
Fax: 508-792-7651

Acton	Charlton	Hopkinton	Millbury	Rutland	Uxbridge
Ashburnham	Clinton	Hubbardston	Millville	Shirley	Warren
Ashby	Douglas	Hudson	New Braintree	Shrewsbury	Webster
Athol	Dudley	Holliston	Northborough	Southborough	Westborough
Auburn	Dunstable	Lancaster	Northbridge	Southbridge	West Boylston
Ayer	East Brookfield	Leicester	North Brookfield	Spencer	West Brookfield
Barre	Fitchburg	Leomonster	Oakham	Sterling	Westford
Bellingham	Gardner	Littleton	Oxford	Stow	Westminster
Berlin	Grafton	Lunenburg	Paxton	Sturbridge	Winchendon
Blackstone	Groton	Marlborough	Pepperell	Sutton	Worcester
Bolton	Harvard	Maynard	Petersham	Templeton	
Boxborough	Hardwick	Medway	Phillipston	Townsend	
Boylston	Holden	Mendon	Princeton	Tyngsborough	
Brookfield	Hopedale	Milford	Royalston	Upton	

DEP Southeast Region

20 Riverside Drive
Lakeville, MA 02347
Telephone: 508-946-2800
Fax: 508-947-6557

Abington	Dartmouth	Freetown	Mattapoisett	Provincetown	Tisbury
Acushnet	Dennis	Gay Head	Middleborough	Raynham	Truro
Attleboro	Dighton	Gosnold	Nantucket	Rehoboth	Wareham
Avon	Duxbury	Halifax	New Bedford	Rochester	Wellfleet
Barnstable	Eastham	Hanover	North Attleborough	Rockland	West Bridgewater
Berkley	East Bridgewater	Hanson	Norton	Sandwich	Westport
Bourne	Easton	Harwich	Norwell	Scituate	West Tisbury
Brewster	Edgartown	Kingston	Oak Bluffs	Seekonk	Whitman
Bridgewater	Fairhaven	Lakeville	Orleans	Sharon	Wrentham
Brockton	Fall River	Mansfield	Pembroke	Somerset	Yarmouth
Carver	Falmouth	Marion	Plainville	Stoughton	
Chatham	Foxborough	Marshfield	Plymouth	Swansea	
Chilmark	Franklin	Mashpee	Plympton	Taunton	

DEP Northeast Region

1 Winter Street
Boston, MA 02108
Telephone: 617-932-7600
Fax: 617-932-7615

Amesbury	Chelmsford	Hingham	Merrimac	Quincy	Wakefield
Andover	Chelsea	Holbrook	Methuen	Randolph	Walpole
Arlington	Cohasset	Hull	Middleton	Reading	Waltham
Ashland	Concord	Ipswich	Millis	Revere	Watertown
Bedford	Danvers	Lawrence	Milton	Rockport	Wayland
Belmont	Dedham	Lexington	Nahant	Rowley	Wellesley
Beverly	Dover	Lincoln	Natick	Salem	Wenham
Billerica	Dracut	Lowell	Needham	Salisbury	West Newbury
Boston	Essex	Lynn	Newbury	Saugus	Weston
Boxford	Everett	Lynnfield	Newburyport	Sherborn	Westwood
Braintree	Framingham	Malden	Newton	Somerville	Weymouth
Brookline	Georgetown	Manchester-By-The-Sea	Norfolk	Stoneham	Wilmington
Burlington	Gloucester	Marblehead	North Andover	Sudbury	Winchester
Cambridge	Groveland	Medfield	North Reading	Swampscott	Winthrop
Canton	Hamilton	Medford	Norwood	Tewksbury	Woburn
Carlisle	Haverhill	Melrose	Peabody	Topsfield	

(Rev. 6/05)

B. The Wetlands Protection Act and Agriculture Regulations

Wetlands Protection Act (Massachusetts General Laws Chapter 131, Section 40)

(As amended through August 31, 1993)

1. No person shall remove, fill, dredge or alter any bank, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding, other than in the course of maintaining, repairing or replacing, but not substantially changing or enlarging, an existing and lawfully located structure or facility used in the service of the public and used to provide electric, gas, water, telephone, telegraph and other telecommunication services, without filing written notice of his intention to so remove, fill, dredge or alter, including such plans as may be necessary to describe such proposed activity and its effect on the environment and without receiving and complying with an order of conditions and provided all appeal periods have elapsed. Said notice shall be filed by delivery in hand to the conservation commission or its authorized representative or by certified mail, return receipt requested, to said commission, or, if none, to the board of selectmen in a town or the mayor of a city in which the proposed activity is to be located. Upon such filing, the receipt of such notice shall be acknowledged in writing on the face thereof and shall include the time and date so received. A person delivering said notice by hand shall be given a receipt in writing acknowledging the time and date of such filing. Copies of such notice shall be sent at the same time by certified mail to the department of environmental protection. To defray state and local administrative costs each person filing such a notice shall pay a filing fee, determined on a sliding scale basis by the commissioner of environmental protection after consultation with the secretary of environmental affairs. Fifty percent of any filing fee in excess of twenty-five dollars shall be made payable to the department of environmental protection, in a manner to be determined by the commissioner of environmental protection, at the same time as the copies of the notice are sent to the department of environmental protection. The remainder of said fee shall be made payable to the city or town; provided, that said remainder shall be expended solely by the local conservation commission for the performance of its duties under this chapter and shall accompany the copy of the notice sent to the city or town. No such notice shall be sent before all permits, variances, and approvals required by local by-law with respect to the proposed activity, which are obtainable at the time of such notice, have been obtained, except that such notice may be sent, at the option of the applicant, after the filing of an application or applications for said permits, variances, and approvals; provided, that such notice shall include any information submitted in connection with such permits, variances, and approvals which is necessary to describe the effect of the proposed activity on the environment. Upon receipt of any notice hereunder the department of environmental protection, hereinafter called the department, shall designate a file number for such notice and shall send a notification of such number to the person giving notice to the conservation commission, selectmen, or mayor to whom the notice was given. Said notification shall state the name of the owner of the land upon which the proposed work is to be done and the location of said land.

2. Within twenty-one days of the receipt by a conservation commission of a written request made by any person and sent by certified mail, said commission shall make a written determination as to whether this section is applicable to any land or work thereon. When such person is other than the owner, notice of any such determination shall also be sent to the owner.

3. The term "applicant" as used in this section shall mean the person giving notice of intention to remove, fill, dredge or alter.

4. The term "person" as used in this section shall include any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the commonwealth or political subdivision thereof, administrative agency, public or quasi-public corporation or body, or any other legal entity or its legal representatives, agents, or assigns.

5. The term "bogs" as used in this section shall mean areas where standing or slowly running water is near or at the surface during a normal growing season and where a vegetational community has a significant portion of the ground or water surface covered with sphagnum moss (Sphagnum)

The following is reprinted from the original text. The most current version of the Wetlands Protection Act, including the Riverfront Area provisions, may be downloaded from this Web site: www.mass.gov/legis/laws/mgl/131-40.htm.

and where the vegetational community is made up of a significant portion of one or more of, but not limited to nor necessarily including all, of the following plants or groups of plants: aster (*Aster nemoralis*), azaleas (*Rhododendron canadense* and *R. viscosum*), black spruce (*Picea mariana*), bog cotton (*Eriophorum*), cranberry (*Vaccinium macrocarpon*), high-bush blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), laurels (*Kalmia angustifolia* and *K. polifolia*), leatherleaf (*Chamaedaphne calyculata*), orchids (*Arethusa*, *Calopogon*, *Pogonia*), pitcher plants (*Sarracenia purpurea*), sedges (*Cyperaceae*), sundews (*Droseraceae*), sweet gale (*Myrica gale*), white cedar (*Chamaecyparis thyoides*).

6. The term “coastal wetlands” as used in this section, shall mean any bank, marsh, swamp, meadow, flat or other lowland subject to tidal action or coastal storm flowage.

7. The term “freshwater wetlands” as used in this section, shall mean wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of the year; emergent and submergent plant communities in inland waters; that portion of any bank which touches any inland waters.

8. The term “swamps” as used in this section, shall mean areas where ground water is at or near the surface of the ground for a significant part of the growing season or where runoff water from surface drainage frequently collects above the soil surface, and where a significant part of the vegetational community is made up of, but not limited to nor necessarily include all of the following plants or groups of plants: alders (*Alnus*), ashes (*Fraxinus*), azaleas (*Rhododendron canadense* and *R. viscosum*), black alder (*Ilex verticillata*), black spruce (*Picea mariana*), buttonbush (*Cephalanthus occidentalis*), American or white elm (*Ulmus americana*), white Hellebore (*Veratrum viride*), hemlock (*Tsuga canadensis*), highbush blueberry (*Vaccinium corymbosum*), larch (*Larix laricina*), cowslip (*Caltha palustris*), poison sumac (*Toxicodendron vernix*), red maple (*Acer rubrum*), skunk cabbage (*Symplocarpus foetidus*), sphagnum mosses (*Sphagnum*), spice bush (*Lindera benzoin*), black gum tupelo (*Nyssa sylvantica*), sweet pepperbush (*Clethra alnifolia*), white cedar (*Chamaecyparis thyoides*), willow (*Salicaceae*).

9. The term “wet meadows” as used in this section where ground water is at the surface for the significant part of the growing season and near the surface throughout the year and where a significant part of the vegetational community is composed of various grasses, sedges and rushes; made up of, but not limited to nor necessarily including all of the following plants or groups of plants: blue flag (*Iris*), vervain (*Verbena*), thoroughwort (*Eupatorium*), dock (*Rumex*), false loosestrife (*Ludwigia*), hydrophilic grasses (*Gramineae*), loosestrife (*Lythrum*), marsh fern (*Dryopteris*), rushes (*Juncaceae*), sedges (*Cyperaceae*), sensitive fern (*Onoclea sensibilis*), smartweed (*Polygonum*).

10. The term “marshes” as used in this section, shall mean areas where a vegetational community exists in standing or running water during the growing season and where a significant part of the vegetational community is composed of, but not limited to nor necessarily including all, of the following plants or groups of plants: arums (*Araceae*), bladder worts (*Utricularia*), bur reeds (*Sparganiaceae*), button bush (*Cephalanthus occidentalis*), cattails (*Typha*), duck weeds (*Lemnaceae*), eelgrass (*Vallisneria*), frog bits (*Hydrocharitaceae*), horsetails (*Equisetaceae*), hydrophilic grasses (*Gramineae*), leatherleaf (*Chamaedaphne calyculata*), pickerel weeds (*Pontederiaceae*), pipeworts (*Eriocaulon*), pond weeds (*Potamogeton*), rushes (*Juncaceae*), sedges (*Cyperaceae*), smartweeds (*Polygonum*), sweet gale (*Myrica gale*), water milfoil (*Halragaceae*), water lilies (*Nymphaeaceae*), water starworts (*Callitrichaceae*), water willow (*Decodon verticillatus*).

11. The conservation commission, selectmen or mayor receiving notice under this section shall hold a public hearing on the proposed activity within twenty-one days of the receipt of said notice. Notice of the time and place of said hearing shall be given by the hearing authority at the expense of the applicant, not less than five days prior to such hearing, by publication in a newspaper of general circulation in the city or town where the activity proposed and by mailing a notice to the applicant and to the board of health and the planning board of said city or town. The conservation commission and its agents, officers and employees, may enter upon privately owned land for the purpose of performing their duties under this section. No conditions shall be imposed, nor shall any determination be rendered by a conservation commission, in reference to this section, unless the conservation commission meets with a quorum present.

12. If after said hearing the conservation commission, selectmen or mayor, as the case may be, determine that the area on which the proposed work is to be done is significant to public or private water supply, to the groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to protection of land containing shellfish, to the protection of wildlife habitat or to the protection of fisheries, such conservation commission, board of selectmen or mayor shall by written order within twenty-one days of such hearing impose such conditions as will contribute to the protection of the interests described herein, and all work shall be done in accordance therewith. If the conservation commission, selectmen or mayor, as the case may be, make a determination that the proposed activity does not require the imposition of such conditions, the applicant shall be notified of such determination within twenty-one days after said hearing. Such order or notification shall be signed by the mayor or a majority of the conservation commission or board of selectmen, as the case may be, and a copy thereof shall be sent forthwith to the applicant and to the department.

13. If a conservation commission has failed to hold a hearing within the twenty-one day period as required, or if a commission, after holding such a hearing has failed within twenty-one days therefrom to issue an order, or if a commission, upon a written request by any person to determine whether this section is applicable to any work, fails within twenty-one days to make said determination, or where an order does issue from said commission, the applicant, any person aggrieved by said commission's order or failure to act, or any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which said land is located, may by certified mail and within ten days from said commission's order or failure to act, request the department of environmental protection to determine whether the area on which the proposed work is to be done is significant to public or private water supply, to the groundwater supply, to flood control, to storm damage prevention, to prevention of pollution, to protection of land containing shellfish, to the protection of wildlife habitat or to the protection of fisheries. The commissioner of environmental protection or his designee also may request such a determination within said ten days. The party making any such request shall at the same time send a copy thereof by certified mail to the conservation commission, board of selectmen or mayor which conducted the hearing hereunder. If such party is other than the applicant, a copy of the request shall also be sent at the same time certified mail to the applicant. Upon receipt of such request the department shall make the determination requested and shall by written order issued within seventy days of receipt of such request and signed by the commissioner or his designee, impose such conditions as will contribute to the protection of the interests described herein; provided, however, that said department shall notify the applicant within thirty days of the receipt of such request if his application or request is not in proper form or is lacking information or documentation necessary to make the determination. Such order shall supersede the prior order of the conservation commission, board of selectmen or mayor, and all work shall be done in accordance therewith, but in no event shall any work commence until ten days have elapsed following the issuance of said order. At any time prior to a final order of determination by the department, any party requesting a determination may in writing withdraw the request, and such withdrawal shall be effective upon receipt by the department. Notwithstanding the withdrawal, the commissioner or his designee may continue the determination if he notifies all parties within ten days of receipt of the withdrawal. A copy of such order shall be sent to the applicant, to the conservation commission, board of selectmen or mayor which conducted the hearing hereunder. As used in this section the words "wildlife habitat" shall mean those areas subject to this section which, due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas, or breeding areas for wildlife.

14. No work proposed in any notice of intention shall be undertaken until the final order, determination or notification with respect to such work has been recorded in the registry of deeds, or if the land affected thereby be registered land, in the registry section of the land court for the district wherein the land lies. If the final order, determination or notification requires the recording of a plan which (1) shows the location of the work, (2) is prepared by a registered professional engineer or land surveyor and (3) is in recordable form, no work proposed in the notice of intention shall be undertaken until such plan has been recorded in the registry of deeds or, if the land affected thereby is registered land, in the registry section of the land court for the district wherein such land lies.

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15. Within twenty-one days of the receipt of a written request, by the applicant or the owner of the property, for a certificate of compliance, the issuer of the final order shall grant such request if the activity, or portions thereof, complies with such final order. The certificate of compliance shall state that the activity, or portions thereof, has been completed in accordance with such order.
16. Any site where work is being done which is subject to this section shall display a sign of not less than two square feet or more than three square feet bearing the words, "Massachusetts Department of Environmental Protection File Number ..." and the sign shall display the file number assigned to the project.
17. If the department of environmental protection finds that any proposed work would violate the provisions of chapter ninety-one, it shall proceed immediately to enforce the provisions of said chapter.
18. The provisions of this section shall not apply to any mosquito control work done under the provisions of clause (36) of section five of chapter forty, of chapter two hundred and fifty-two or of any special act; to maintenance of drainage and flooding systems of cranberry bogs, to work performed for normal maintenance or improvement of land in agricultural use or in aquacultural use; or to any project authorized by special act prior to January first, nineteen hundred and seventy-three.
19. Within one hundred and twenty days of the effective date of this act, the department, upon the advice and consent of the Commissioner of the Department of Food and Agriculture, shall promulgate rules and regulations pursuant to this section which shall establish definitions for the term "normal maintenance or improvement of land in agricultural, or in aquacultural use" for each agricultural commodity, or where appropriate because of similarities in cultural practices, groups of commodities in the Commonwealth. The department shall create a farmland advisory board to be appointed by the commissioner, consisting of five persons one a member of the cooperative extension service, one a member of the USDA soil conservation service, one a member of a municipal conservation commission who has a demonstrated expertise in agricultural issues, and two commercial farmers with expertise in different agricultural commodities to assist the department in the drafting of rules and regulations pursuant to this paragraph.
20. The notice of intention required in the first paragraph of this section shall not apply to emergency projects necessary for the protection of the health or safety of the commonwealth which are to be performed or which are ordered to be performed by an agency of the commonwealth or a political subdivision thereof. An emergency project shall mean any project certified to be an emergency by the conservation commission of the city or town in which the project would be undertaken, or if none, by the mayor of said city or the selectmen of said town. If the conservation commission, mayor, or selectmen, as the case may be, fail to act favorably within twenty-four hours of receipt of a request for certification of an emergency project, said project may be so certified by the commissioner or his designee. In no case shall any removal, filling, dredging, or alteration authorized by such certification extend beyond the time necessary to abate the emergency.
21. Notwithstanding the provisions of section fourteen of chapter twenty-one A or any other provision of law to the contrary, the notice of intention required in the first paragraph of this section shall not apply to a maintenance dredging project for which a license has been previously issued within ten years by the division of waterways of the department of environmental protection. A person intending to fill or dredge under such previously issued license shall file a written notice by certified mail to the conservation commission or if none, to the board of selectmen in a town or mayor of a city in which the land upon which the dredging project is located. Such notice shall contain the name and address of the applicant.
22. If the conservation commission, the board of selectmen or mayor fails to notify the applicant at the applicant's address within twenty days of the receipt of such notice of the specific objections to the commencement of such dredging fill or maintenance dredging contemplated under said license, the applicant may commence such work without any further notice to other agencies of the commonwealth. Notwithstanding failure to notify an applicant, as hereinbefore provided, the conservation commission, the board or selectmen or mayor may at any time designate an area at which spoilage from the dredging may be placed and may require the relocation of shellfish before such maintenance dredging takes place.
23. If the conservation commission, the board of selectmen or mayor cites specific objections to the notice of intention, such conservation commission, board of selectmen or mayor may order a hearing as provided in this section and all other pertinent provisions of this section shall apply.

24. Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of any order issued under this section shall forthwith comply with any such order or restore such real estate to its condition prior to any such violation; provided, however, that no action, civil or criminal, shall be brought against such person unless such action is commenced within three years following the recording of the deed or the date of the death by which such real estate was acquired by such person. Any court having equity jurisdiction may restrain a violation of this section and enter such orders as it deems necessary to remedy such violation, upon the petition of the attorney general, the commissioner, a city or town, an owner or occupant of property which may be affected by said removal, filling, dredging or altering, or ten residents of the commonwealth under the provisions of section seven A of chapter two hundred and fourteen.

25. Rules and regulations shall be promulgated by the commissioner to effectuate the purposes of this section. However, failure by the commissioner to promulgate rules and regulations shall not act to suspend or invalidate the effect of this section. In addition to the other duties provided for in this section, a conservation commission and its agents, officers, and employees; the commissioner, his agents and employees; environmental officers, and any officer with police powers may issue enforcement orders directing compliance with this section and may undertake any other enforcement action authorized by law. Any person who violates the provisions of this section may be ordered to restore property to its original condition and take other actions deemed necessary to remedy such violations.

26. No person shall remove, fill, dredge or alter any area subject to protection under this section without the required authorization, or cause, suffer or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with an enforcement order issued pursuant to this section. Each day such violation continues shall constitute a separate offense except that any person who fails to remove unauthorized fill or otherwise fails to restore illegally altered land to its original condition after giving written notification of said violation to the conservation commission and the department shall not be subject to additional penalties unless said person thereafter fails to comply with an enforcement order or order of conditions.

27. Whoever violates any provision of this section, (a) shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years, or both such fine and imprisonment; or (b), shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each violation.

Definitions of Agriculture (310 CMR 10.04 (Agriculture))

10.04: continued

Agriculture. For the purposes of 310 CMR 10.04 the following words and phrases have the following meanings:

(a) Land in agricultural use means land within resource areas or the Buffer Zone presently and primarily used in producing or raising one or more of the following agricultural commodities for commercial purposes:

1. animals, including but not limited to livestock, poultry, and bees;
2. fruits, vegetables, berries, nuts, maple sap, and other foods for human consumption;
3. feed, seed, forage, tobacco, flowers, sod, nursery or greenhouse products, and ornamental plants or shrubs; and
4. forest products on land maintained in forest use, including but not limited to biomass, sawlogs, and cordwood, but not including the agricultural commodities described in 310 CMR 10.04 (Agriculture) (a)1. through 3.

Additionally, land in agricultural use means land within resource areas or the Buffer Zone presently and primarily used in a manner related to, and customarily and necessarily used in, producing or raising such commodities, including but not limited to: existing access roads and livestock crossings; windbreaks; hedgerows; field edges; bee yards; sand pits; landings for forest products; fence lines; water management projects such as reservoirs, farm ponds, irrigation systems, field ditches, cross ditches, canals/channels, grass waterways, dikes, sub-surface drainage systems, watering facilities, water transport systems, and water storage systems; agricultural composting sites; agricultural storage and

The following is reprinted from the original text. The most current version of the DEP Wetland regulations, including the Riverfront Area provisions and Simplified Review Process for projects located in a Buffer Zone, may be downloaded from DEP's Web site: www.mass.gov/dep/brp/ww/regs.htm.

work areas; and land under farm structures.

Land in agricultural use may lie inactive for up to five consecutive years unless it is under a United States Department of Agriculture (USDA) contract for a longer term pursuant to the Conservation Reserves Program (the Food Securities Act of 1985, as amended by the Food, Agriculture, Conservation and Trade Act of 1990; and 7 CFR 1410), or it is used for the forestry purposes described in 310 CMR 10.04 (Agriculture (b)14., 15., 16. and 17.). The issuing authority may require appropriate documentation, such as a USDA Farm Plan or aerial photography, to demonstrate agricultural use.

(b) Normal maintenance of land in agricultural use, which in all cases does not include placing substantial amounts of fill in Bordering Land Subject to Flooding or filling or dredging a Salt Marsh, means the following activities, without enlargement as to geographical extent, that are occurring on land in agricultural use, when directly related to production or raising of the agricultural commodities references in 310 CMR 10.04 (Agriculture) (a), when undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands, and when conducted in accordance with federal and state laws:

1. all crop management practices, not to include drainage in a Bordering Vegetated Wetland, customarily employed to enhance existing growing conditions, including but not limited to: tillage, trellising, pruning, mulching, shading, and irrigating; and all customary harvesting practices such as digging, picking, combining, threshing, windrowing, baling, curing, and drying;
2. the use fertilizers, manures, compost materials, and other soil amendments; pesticides and herbicides; traps; and other such materials;
3. the repair or replacement of existing access roads and livestock crossings;
4. the maintenance of:
 - a. existing forest boundary lines up to five feet wide limited to cutting vegetation within the existing boundary lines;
 - b. windbreaks;
 - c. hedgerows; and
 - d. fire breaks on land maintained in forest use and owned by the Metropolitan District Commission, the Department of Environmental Management, or the Department of Fisheries, Wildlife, and Environmental Law Enforcement;
5. the management of existing field edges, limited to within 100 feet from the land in production, including the following practices:
 - a. mowing;
 - b. burning;
 - c. brush cutting; and
 - d. removing trees

The management of any field edge that falls within a Bordering Vegetated Wetland is not intended to allow the conversion of Bordering Vegetated Wetland into cropland. Therefore, the field management practices described in 310 CMR 10.04 (Agriculture) (b)(5)a. through d. may occur in a Bordering Vegetated Wetland provided that:

- i. the cutting or removal of trees and understory vegetation shall not occur within 25 feet of the bank of a water body that is not managed within the land in production (field ditches, cross ditches, grass waterways, irrigation systems, and farm ponds are examples of managed water bodies) unless the trees or understory vegetation are removed to control alternative hosts but no more than 50% of the canopy may be removed, or except to maintain existing dikes;
- ii. slash, branches, and limbs resulting from the cutting and removal operations shall not be placed within 25 feet of the bank of a water body that is not managed within the land in production; and
- iii. no tilling, filling, excavation, or other change in the existing topography shall occur within the field edge;

6. The maintenance and repair of existing fences and the management of temporary fence lines;

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7. the cleaning, clearing, grading, repairing, dredging, or restoring of existing man-made or natural water management systems such as reservoirs, farm ponds, irrigation systems, field ditches, cross ditches, canals/channels, grass waterways, dikes, sub-surface drainage systems, watering facilities, water transport systems, vents, and water storage systems, all in order to provide drainage, prevent erosion, provide more effective use of water, or provide for efficient use of equipment, and all for the purpose of maintaining favorable conditions for ongoing growing or raising of agricultural commodities;
 8. the maintenance and repair of ongoing agricultural composting sites, storage areas, and work areas and the storage of fertilizers, pesticides, manures, compost materials, and other soil amendments, provided that such storage occurs only in the Buffer Zone or Bordering Land Subject to Flooding;
 9. the repair and maintenance of existing farm structures;
 10. the seeding of eroded or disturbed areas;
 11. maintaining the flow of existing natural waterways;
 12. the keeping of livestock and poultry and the management of beehives;
 13. the cultivation of cranberries, including the following practices:
 - a. the activities described in 310 CMR 10.04 (Agriculture) (b) 1. through 11.;
 - b. the application of sand to existing bogs and the excavation of sand from sand pits;
 - c. the repair and reconstruction of water control structures including flumes, pumps, dikes, and piping above and below the ground;
 - d. the regrading, including modification of drainage, and replanting of existing cranberry bogs;
 - e. the repair and replacement of dikes;
 - f. water harvesting activities; and
 - g. flooding and flood release;
 14. the cutting and removal of trees for the purpose of selling the trees or any products derived therefrom, when carried out in accordance with a Forest Cutting Plan approved by the Department of Environmental Management (DEM) under the provisions of M.G.L. c. 132, §40 through 46, and subject to the following:
 - a. the cutting and removal of trees within Bordering Vegetated Wetland shall be limited to no more than 50% of the basal area of the area to be cut and the work shall be conducted when the soil is frozen, dry or otherwise stable to support the equipment used;
 - b. except for the construction of maintenance of access described in 310 CMR 10.04(b)16., there shall be no filling, excavation, or other change in topography or hydrology of resource areas;
 - c. all soils that are exposed during or after any work described in 310 CMR 10.04 (Agriculture) (b) 14, shall be stabilized to prevent the soils from eroding into Bordering Vegetated Wetlands beyond the work area or into open water bodies, in accordance with the Massachusetts Forestry Best Management Practices Manual,
 - d. the person claiming the exemption shall submit by certified mail or hand delivery at the same time to the conservation commission and the appropriate DEM Regional Office not less than ten days prior to the commencement of the activity, a copy of the Forest Cutting Plan that describes the proposed cutting and removal of trees and any activity within resource areas or the Buffer Zone. The conservation commission shall have the opportunity to comment to DEM on the plan;
 - e. landings for forest products shall not be located in Bordering Vegetated Wetland or Bank; and
 - f. any Forest Cutting Plan that is not affirmatively approved by DEM under M.G.L. c. 132, §40 through 46 but instead is deemed approved due to the expiration of some period of time following the submittal of the plan to DEM for approval shall not be considered “approved” by DEM for the purposes of 310 CMR 10.04.
 15. notwithstanding the use of the words “for commercial purposes” in the first sentence of 310 CMR 10.04 (Agriculture) (a), the cutting of trees within resource areas and the Buffer Zone by owners for their own use, not to exceed 5,000 board feet or ten cords of wood during any 12 month period without an approved Forest Cutting Plan or the cutting of trees within resources areas of greater than 5,000 board feet or ten cords but less than 10,000 board feet or 20 cords of wood during any 12 month period with an approved Forest Cutting Plan, provided that:

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- a. after the cutting, the remaining trees in the resource area (and the Buffer Zone, if the activity is being conducted without an approved Forest Cutting Plan) shall be evenly distributed throughout the area where cutting occurred and the crown cover shall not be less than 50%. Crown cover is determined as the percent of the ground's surface that would be covered by a vertical projection of foliage from trees with a diameter at breast height of five inches or greater, where minor gaps between branches are disregarded and areas of overlapping foliage are counted only once;
 - b. the cutting and removal of trees shall occur only during those periods when the ground is sufficiently frozen, dry, or otherwise stable to support the equipment used;
 - c. the cutting, removal, or other destruction of trees and understory vegetation without a Forest Cutting Plan shall not occur within 25 feet of the Bank, except for the purpose of providing access for the activities described in 310 CMR 10.04 (Agriculture) (b) 15.;
 - d. the placement of slash, branches, and limbs resulting from the cutting and removal operations shall not occur within 25 feet of Bank;
 - e. no filling, excavation, or other change shall occur in the existing topography or hydrology of a resource area;
 - f. landings for forest products shall not be located in Bordering Vegetated Wetland or Bank; and
 - g. any Forest Cutting Plan that is not affirmatively approved by DEM under M.G.L. c. 132, §40 through 46, but instead is deemed approved due to the expiration of some period of time following the submittal of the plan to DEM for approval shall not be considered "approved" by DEM for the purposes of 310 CMR 10.04.

16. the construction of new temporary access or the maintenance of existing legally construed access for forestry activities described in 310 CMR 10.04(b)14. or 10.04(b)15. provided that:

- a. every practicable effort shall be made to avoid access, including stream crossings, and the construction of landings through and in resource areas;
- b. where access, including stream crossings, through resource areas cannot be avoided, every practicable effort shall be made to minimize impacts resulting from construction of new access including, but not limited to, maintaining and improving (but not enlarging) existing access. Activities shall be conducted when the soil is frozen, dry, or otherwise stable to support the equipment used;
- c. where DEM has determined through its review and approval of the Forest Cutting Plan that access is impracticable without constructing new access or stream crossings:
 - i. access shall be designed, constructed, and maintained in accordance with the Massachusetts Forest Best Management Practices Manual;
 - ii. stream crossings shall be stabilized to prevent erosion using methods described in the Massachusetts Forestry Best Management Practices Manual. When crossing involve fill, culverts or other structures that will obstruct flow, they shall be designed, constructed, and maintained in accordance with the Massachusetts Forestry Best Management Practices Manual to allow the unobstructed passage of existing flows for at least the 25 year storm;
 - iii. access or stream crossings shall be removed within one year of completion of the work described in the approved Forest Cutting Plan;
 - iv. following removal of access, the topography and site conditions shall be substantially restored to allow pre-existing vegetation to be reestablished; and
 - v. activities shall be conducted when the soil is frozen, dry, or otherwise stable to support the equipment used.

17. non-harvest management practices for forest products on land maintained in forest use limited to pruning, pre-commercial thinning or planting of tree seedlings.

(c) Normal improvement of land in agricultural use, which in all cases does not include filling or dredging a Salt Marsh, includes but is not limited to:

1. the following activities when they occur on land in agricultural use or when they occur within the Buffer Zone or Bordering Land Subject to Flooding that is not land in agricultural use, when they are directly related to production or raising of the agricultural commodities referenced in 310 CMR 10.04 (Agriculture) (a), and when they are undertaken in such a manner as to prevent

erosion and siltation of adjacent water bodies and wetlands and the activity is conducted in accordance with federal and state laws:

- a. the installation of permanent fencing, windbreaks, hedgerows, or the cutting of vegetation to create forest boundaries up to five feet wide;
- b. the installation of dikes within a cranberry bog;
- c. the construction of farm structures, not including habitable dwellings, provided that the footprint of the farm structure does not exceed 4,000 square feet and no filling of Bordering Land Subject to Flooding occurs beyond the footprint of the building;
- d. the squaring-off of fields and bogs, provided that the activity does not alter a Bordering Vegetated Wetland, there is no increase in the amount of land in production beyond the minimum increase necessary resulting from making the boundary of any field or bog more regular, and no fill is placed within Bordering Land Subject to Flooding;
- e. the construction of by-pass canals/channels and tail water recovery systems;
- f. a change in commodity other than from maple sap production of forest products to any other commodity, provided that there is no filling of Bordering Vegetated Wetland and drainage ditches or the subsurface drainage system are not increased or enlarged;
- g. the construction of a water management system such as a reservoir, farm pond, irrigation system, field ditch, cross ditch, canal/channel, grass waterway, dike, subsurface drainage system, watering facility, water transport system, vent, or water storage system, or of a livestock access; and
- h. the construction of composting and storage areas.

For the activities described in 310 CMR 10.04 (Agriculture)(1)d. through h, there shall be no net loss of flood storage capacity; and

2. the reconstruction of existing dikes, the reconstruction and expansion of existing ponds and reservoirs, and the construction of tailwater recovery ponds and by-pass canals/channels occurring partly or entirely within a Bordering Vegetated Wetland, when directly related to production or raising of the agricultural commodities referenced in 310 CMR 10.04 (Agriculture)(a), in accordance with the following:

- a. Prior to performing the work, the person claiming the exemption shall submit to the conservation commission for its review at a public meeting that portion of a certified farm Conservation Plan (CP) which relates to the work to be conducted in a Bordering Vegetated Wetland. The CP must be prepared in cooperation with the U.S.D.A. Soil Conservation Service (SCS) and comply with the terms of the January 20, 1993, Memorandum of Understanding (MOU) between the Department and SCS concerning CPs;
- b. The conservation commission may, within 21 days of receiving the CP, provide the person claiming the exemption with written notification containing specific comments detailing the manner in which the CP has not been prepared in compliance with the terms of the MOU;
- c. The person claiming the exemption shall provide SCS with a complete copy of the notification;
- d. All revisions to the CP that relate to the delineation of Bordering Vegetated Wetlands shall be submitted to the conservation commission in accordance with 310 CMR 10.04 (Agriculture)(2);
- e. All work shall be done in accordance with the CP; and
- f. The maximum amount of Bordering Vegetated Wetland which may be altered by the above activities is:
 - i. 5,000 square feet for reconstruction of an existing dike;
 - ii. 10,000 square feet for expansion of an existing pond or reservoir;
 - iii. 10,000 square feet for construction of a tailwater recovery pond; and
 - iv. 5,000 square feet for construction of a by-pass canal/channel.

(d) The provisions of 310 CMR 10.04 (Agriculture) shall expire three years from its effective date except that the provisions relative to forestry shall continue in effect.

Agricultural Emergency (310 CMR 10.06(6))

10.06: Emergencies

(1) Any person requesting permission to do an emergency project shall specify why the project is necessary for the protection of the health or safety of the citizens of the Commonwealth and what agency of the Commonwealth or subdivision thereof is to perform the project or has ordered the project to be performed. If the project is certified to be an emergency by the conservation commission or the Commissioner, the certification shall include a description of the work which is to be allowed and shall not include work beyond that necessary to abate the emergency. A site inspection shall be made prior to certification.

(2) An emergency certification shall be issued only for the protection of public health or safety.

(3) The time limitation for performance of emergency work shall not exceed 30 days or 6 days for Immediate Response Actions approved by the Bureau of Waste Site Cleanup (BWSC) of the Department of Environmental Protection in accordance with the provisions of 310 CMR 40.0410, unless written approval of the Commissioner is obtained.

(4) A copy of an emergency certification shall be sent to the Department when it is issued by a conservation commission, and to the conservation commission when it is issued by the Department.

(5) The Department may, on its own motion or at the request of any person, review: an emergency certification issued by a conservation commission and any work permitted thereunder; a denial by a conservation commission of a request for emergency certification; or the failure by a conservation commission to act within 24 hours of a request for emergency certification. Such review shall not operate to stay the work permitted by the emergency certification unless the Department specifically so orders. The Department's review shall be conducted within seven days of: issuance by a conservation commission of the emergency certification; denial by a conservation commission of the emergency certification; or failure by a conservation commission to act within 24 hours of a request for emergency certification. If certification was improperly granted, or the work allowed thereunder is excessive or not required to protect the health and safety of citizens of the Commonwealth, the Department may revoke the emergency certification, condition the work permitted thereunder, or take such other action as it deems appropriate.

(6) Agricultural Emergencies

(a) Notwithstanding the provisions of 310 CMR 10.06(1) through (4), any person may undertake work for the emergency agricultural activities described in 310 CMR 10.06(6)(g) when necessary to:

1. eliminate an imminent threat to land in agricultural use;
2. restore land in agricultural use that has been damaged due to a storm or other sudden, unforeseen event; or
3. provide an emergency agricultural water source when the existing agricultural water source suddenly and unforeseeably has been rendered unusable or unavailable.

(b) Written notice of any work undertaken as an emergency activity under 310 CMR 10.06(6) must be received by the conservation commission and mailed to the Department within three days after the work has commenced or within three days after the end of the emergency event, whichever is sooner. Such notice shall state the name of the person performing the work, the name of the property owner (if different), the property and the location on the property where the work is to be performed, the exact nature of the emergency and of the work which is to be performed, and when the work was begun and when it is expected to be completed. The commission may, as its discretion, conduct a site visit to view the work being performed under such notice and to confirm that the information in the notice is correct.

(c) When an emergency is caused by a storm, any work undertaken as an emergency activity under 310 CMR 10.06(6) must commence within 30 days following the storm event which caused the agricultural emergency.

(d) Any work undertaken as an emergency activity under 310 CMR 10.06(6) shall be completed within 30 days from the commencement of such work unless written approval for a later completion date is given by the Commission.

(e) No work under 310 CMR 10.06(6) shall be allowed within estimated habitat which is indicated on the most recent Estimated Habitat Maps of State-Listed Rare Wetlands Wildlife

published by the Natural Heritage and Endangered Species Program of the Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement.

(f) Work under 310 CMR 10.06(6) shall not fill or dredge a Salt Marsh.

(g) Only the following emergency activities are allowed under 310 CMR 10.06(6)(a):

1. The installation of stream bank stabilization measures, provided that:
 - a. such activity is carried out in accordance with Soil Conservation Service best management practices;
 - b. no more than 100 linear feet of bank are altered per storm event, and no more than 200 linear feet of new rip rap of gabions are placed on the bank of a stream under this provision cumulatively; and
 - c. after the 200 foot threshold has been reached the placement of additional rip rap or gabions following future storm events shall require the filing of a Notice of Intent.
2. The removal of storm debris, including trees, brush, branches, and cobbles, that were deposited in a stream channel during the storm event, provided that:
 - a. after the material is removed it is not placed on a bank or in a Bordering Vegetated Wetland;
 - b. Soil Conservation Service best management practices are followed: and
 - c. removal of material from a stream is limited to 100 linear feet per storm event.
3. The development of an emergency agricultural water source where the existing agricultural water source suddenly has been rendered unusable because of contamination, sudden diversion, or other unforeseen circumstances. Where an emergency agricultural water supply is required:
 - a. the work shall be conducted so that impacts to Bordering Vegetated Wetland are minimized and all impacts, including excavation, access, and any other alterations to Bordering Vegetated Wetland, shall not exceed 2,000 square feet;
 - b. the size of the water supply shall be limited to that necessary to provide the amount of water required to abate the emergency, but not to exceed 2,000 square feet;
 - c. a Notice of Intent shall be filed if the agricultural water supply is to be used for more than 60 days, in which case the agricultural water supply shall comply with existing performance standards under 310 CMR 10.53(3)(a), (b), and (g); and
 - d. all work shall comply with the Water Management Act, M.G.L. c. 21G.

(h) The provisions of 310 CMR 10.06(6) shall expire three years from its effective date.

(7) Notwithstanding any other requirement of 310 CMR 10.06, Immediate Response Actions receiving oral approval from the Bureau of Waste Site Cleanup (BWSC) of the Department of Environmental Protection pursuant to 310 CMR 40.0420(2), or initiated up to 24 hours prior to notification to and oral approval by BWSC pursuant to 310 CMR 40.0420(7) and (8), may commence before requesting the conservation commission to issue an emergency certification under 310 CMR 10.06, so long as such request is made within 24 hours after BWSC has orally approved commencement of the Immediate Response Action. Once a request for emergency certification has been made pursuant to 310 CMR 10.06(7), work that commenced before such filing may continue pending a decision on the request by the conservation commission. Such work may also continue pending a decision on a request for Departmental review unless the request has not been filed with the Department within one business day of: issuance by the conservation commission of the emergency certification; denial by a conservation commission of the emergency certification; or failure by a conservation commission to act within 24 hours of a request for emergency certification.

The Agricultural Limited Projects (310 CMR 10.53(3)(a, b, and c))

10.53: General Provisions

- (1) If the issuing authority determines that a resource area is significant to an interest identified in the Act for which no presumption is stated in the Preamble to the applicable section, the issuing authority shall impose such conditions as are necessary to contribute to the protection of such interests.
- (2) When the site of a proposed project is subject to a Restriction Order which has been duly recorded under the provisions of M.G.L. c. 131, s. 40A, such a project shall conform to both the provisions contained in that Order and to Part III of 310 CMR 10.00.

(3) Notwithstanding the provisions of 310 CMR 10.54 through 10.57 and 10.60, the issuing authority may issue an Order of Conditions and impose such conditions as will contribute to the interests identified in the Act permitting the following limited projects (although no such project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59):

(a) Work on land to be used primarily and directly in the raising of animals, including but not limited to dairy cattle, beef cattle, poultry, sheep, swine, horses, ponies, mules, goats, bees and fur-bearing animals or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such animals: and work on land to be used primarily and directly in the raising of fruits, vegetables, berries, nuts and other foods for human consumption, feed for animals, tobacco, flowers, sod, trees, nursery or greenhouse products, and ornamental plants and shrubs; or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such products, provided they are carried out in accordance with the following general conditions and any additional conditions deemed necessary by the issuing authority;

1. there shall occur no change in the existing topography or the existing soil and surface water levels of the area:
2. all fertilizers, pesticides, herbicides and other such materials shall be used in accordance with all applicable state and federal laws and regulations governing their use; and
3. all activities shall be undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands as specified by the U.S.D.A. Soil Conservation Service. "Guidelines for Soil and Water Conservation", A plan prepared by the U.S.D.A. Soil conservation Service through a county conservation district for the improvement of land for agriculture shall be deemed adequate to prevent erosion and siltation.

(b) Work on land to be used primarily and directly in the raising of cranberries or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such products, provided it is carried out in accordance with the following general conditions and any additional conditions deemed necessary by the issuing authority:

1. all fertilizers, pesticides, herbicides and other such materials shall be used in accordance with all applicable state and federal laws and regulations governing their use; and
2. all activities shall be undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands as specified by the U.S.D.A. Soil Conservation Service, "Guidelines for Soil and Water Conservation".

(c) Work on land to be used primarily and directly in the raising of forest products under a planned program to improve the quantity and quality of a continuous crop or on land to be used in a related manner which is incidental thereto and represents a customary and necessary use in raising such products, provided it is carried out in accordance with the following general conditions and any additional conditions deemed necessary by the issuing authority:

1. there shall occur no change in the existing topography or the existing soil and surface water levels of the area except for temporary access roads:
2. the removal of trees shall occur only during those periods when the ground is sufficiently frozen, dry or otherwise stable to support the equipment used; and
3. all activities shall be undertaken in such a manner as to prevent erosion and siltation of adjacent water bodies and wetlands as specified by the U.S.D.A. Soil Conservation Service, "Guidelines for Soil and Water Conservation."
4. the placement of slash, branches and limbs resulting from the cutting and removal operations shall not occur within 25 feet of the bank of a water body.

(r) The construction of a new access for forestry, including leaving in place an access constructed in accordance with 310 CMR 10.04 (Agriculture)(b) 14.d., or the enlargement of an existing access for forestry, provided that:

*Access for Forestry
Limited Project (310
CMR 10.53(3)(r))*

1. the access is constructed:
 - a. in accordance with a Forest Cutting Plan approved by the Department of Environmental Management (DEM) under the provisions of M.G.L. c. 132, §§40 through 46; or
 - b. on land subject to a permanent, recorded conservation restriction that has been created in accordance with M.G.L. c. 184, §§ 31 through 33, inclusive, and maintains the land in perpetual forest use;
2. the access is of the minimum practicable width that is required for the cutting and removal of trees;
3. practicable alternative access across upland is not available;
4. the number of access ways located within resource areas is minimized;
5. activities shall be conducted when the soil is frozen, dry, or otherwise stable to support the equipment used;
6. the access does not increase flood stage or velocity;
7. the design and installation of the access complies with the Massachusetts Forestry Best Management Practices Manual. When the access involves fill, culverts or other structures that will obstruct flow, it shall be designed, constructed, and maintained in accordance with the Massachusetts Forestry Best Management Practices Manual. When crossings involve fill, culverts or other structures that will obstruct flow, they shall be designed, constructed, and maintained in accordance with the Massachusetts Forestry Best Management Practices Manual to allow the unobstructed passage of existing flows for at least the 25 year storm, and

(s) the cutting of trees by owners for their own use of more than 10,000 board feet or 20 cords but less than 25,000 board feet or 50 cords during any 12 month period, provided that:

*Forestry Cutting for
Own Use Limited
Project (310 CMR
10.53(3)(s))*

1. after the cutting, the remaining trees in the resource area shall be evenly distributed throughout the area where cutting occurred and the crown cover shall not be less than 50%. Crown cover is determined as the percent of the ground's surface that would be covered by a vertical projection of foliage from trees with a diameter at breast height of five inches or greater, where minor gaps between branches are disregarded and areas of overlapping foliage are counted only once;
2. the cutting and removal of trees shall occur only during those periods when the ground is sufficiently frozen, dry, or otherwise stable to support the equipment used;
3. the cutting, removal, or other destruction of trees and understory vegetation shall be minimized within 25 feet of the bank of a water body, except for the purpose of providing access for the activities described in 310 CMR 10.04 (Agriculture)(b)15.;
4. the placement of slash, branches, and limbs resulting from cutting and removal operations shall not occur within 25 feet of the bank of a water body;
5. no filling, excavation, or other change shall occur in the existing topography or hydrology of a resource area; and
6. landings for forest products shall not be located in Bordering Vegetated Wetland or Bank.

(5) Notwithstanding the provisions of 310 CMR 10.53(1), 10.54 through 10.57, and 10.60, the issuing authority shall issue an Order of Conditions permitting for the support of existing agricultural production the reconstruction of existing dikes, the construction of new ponds or reservoirs, the expansion of existing ponds or reservoirs, and the construction of tailwater recovery systems and bypass canals/channels, provided that the following criteria are met:

*The Conservation
Plan Limited Project
(310 CMR 10.53(5))*

(a) The Notice of Intent shall include all relevant portions of the farm Conservation Plan (CP) covering the work which has been prepared for the property and the applicant in cooperation with the United States Soil Conservation Service (SCS) pursuant to the January 20, 1993, Memorandum of Understanding (MOU) between the Department and SCS concerning CPs. At a minimum, the Notice of Intent shall include a description of the project, the number of square feet of each type of resource area that will be altered, and the alternatives that were

considered in order to avoid alterations of wetland resource areas.

(b) There shall be a rebuttable presumption, which may be overcome upon a clear showing to the contrary, that:

1. work described in the CP avoids impacts to wetland resource areas or minimizes impacts where they are unavoidable; and
2. construction specifications and mitigation measures contained in the CP minimize impacts where impacts are unavoidable and adequately protect the interests of the Act.

(c) If any presumption set forth in 310 CMR 10.53(5)(b) is overcome upon a clear showing to the contrary, the issuing authority shall impose such conditions on the work as are necessary to restore the presumption.

(d) The project will not have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

(e) The maximum amount of Bordering Vegetated Wetland which may be altered by the above activities is:

1. 20,000 square feet for the construction or expansion of a pond or reservoir;
2. 20,000 square feet for the construction of a tailwater recovery system;
3. 20,000 square feet for the construction of a by-pass canal/channel; and
4. 10,000 square feet for the reconstruction of an existing dike.

(f) There shall not be any filling or dredging of a Salt Marsh.

(g) The provisions of 310 CMR 10.53(5) shall expire three years from its effective date.

C. Memorandum of Understanding

Memorandum of Understanding
between the
DEPARTMENT OF ENVIRONMENTAL PROTECTION
COMMONWEALTH OF MASSACHUSETTS
and the
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

1. Parties and Statement of Agreement

This Memorandum of Understanding is entered into this 20th day of January, 1993, by and between the Commonwealth of Massachusetts, Department of Environmental Protection, hereinafter known as DEP, and the United States Department of Agriculture, hereinafter known as the Service, in cooperation with Massachusetts Conservation Districts and acting under the authority of the Soil Conservation and Domestic Allotment Act, as amended (U.S.C. 590 a through f).

DEP and the Service deem it mutually advantageous to cooperate in the undertaking describe in Paragraph 2 of this MOU and hereby agree as follows:

2. Purpose

DEP has promulgated regulations under the Massachusetts Wetlands Protection Act (General Laws Chapter 131, §40) ("the Act") that concern agricultural practices. Under these regulations, certain farming activities in wetlands may be exempt from the permitting provisions of the Act if those activities have been designed to meet the standards of the Service. These are referred to as "exempt activities." Certain other activities in wetlands may be eligible for a special type of permit known as a "limited project" under the Wetlands regulations at 310 CMR 10.00 et seq. if they have been designed to meet the standards of the Service.

The purpose of this MOU is to establish a basis for cooperation between the Service and DEP by which the Service will work with Massachusetts farmers to plan resource management systems and

design practices involving wetlands that give appropriate protection for wetlands. In turn, based on these environmental safeguards, DEP will be able to maintain regulations that meet the goals of the Act while minimizing the regulatory burden on farmers.

3. Scope

This MOU applies to the planning, design, construction, reconstruction, and/or expansion of the following water management projects undertaken for the support of existing agricultural production within a Bordering Vegetated Wetland (“BVW”) as defined at 310 CMR 10.55(2):

- a. existing dikes;
- b. new or existing ponds and reservoirs;
- c. tailwater recovery systems; and
- d. by-pass canals/channels.

The projects described in this Paragraph will be referred to in this MOU as “covered projects.”

4. DEP’s Agreements

DEP agrees to:

- a. furnish to the Service, as they become available to DEP, DEP wetlands maps and the most recent Massachusetts Natural Heritage and Endangered Species Program (NHESP) Estimated Habitat Maps;
- b. furnish training to the Service’s field staff on wetland delineation according to the Wetlands Regulations;
- c. furnish DEP regional Wetlands staff to the Service for consultation with the Service’s staff on project planning;
- d. encourage local Conservation Commissions to participate early in the planning process; and
- e. encourage NHESP staff to provide input within ten working days of receiving requests for input from the Service about projects that fall within estimated rare species habitat.

5. The Service’s Agreements

The Service agrees to:

- a. coordinate an analysis of each covered project and assure the following:
 - i. the project is needed to support existing agricultural activities (the definition of “land in agricultural use” found at 310 CMR 10.04(5) will govern this determination);
 - ii. no reasonably available or feasible alternative site is available for the proposed activity that will avoid alterations to a BVW;
 - iii. any resulting alterations of BVW will be the minimum amount required for the proposed work; and
 - iv. any limits for alterations of BVW, as established in the Wetlands Regulations, are adhered to for any covered project that is intended to qualify under the Wetlands Regulations either as an “exempt activity” or as a “limited project”.
- b. work with farmers to plan resource management systems and design covered projects according to the Considerations for Water Quantity and Quality contained in its SCS Field Office Technical Guide Standards and Specifications (as amended and updated from time to time). The design for any covered project will be incorporated into the farm Conservation Plan (CP) for that property. The Service will incorporate into a CP only projects that meet the requirements of Paragraph 5(a) (I through iv, inclusive), above and of paragraph 5(c) (i through iii, inclusive), below;
- c. include in Conservation Plans;
 - i. a delineation on a map of the boundaries of all wetlands which fall within the jurisdiction of the Act;
 - ii. a description on all proposed activities affecting wetland resource areas, including an estimate of the amount of the wetland resource areas affected; and
 - iii. a description of measures that will be taken to minimize impacts to BVW, such as erosion control measures, construction techniques, and sequencing;
- d. review, when preparing CPs, the most recent Estimated Habitat Map (the “Habitat Maps”), if any, supplied to it by DEP or NHESP of state-listed vertebrate and invertebrate

animal species occurrences in wetlands which are subject to the jurisdiction of the Act. If a covered project will alter wetlands within any area delineated on the Habitat Maps, then the Service will consult with NHESP on ways to design the covered project so as to avoid any short or long term adverse effects on the actual habitat of the local population of any state-listed species. The recommendations made by NHESP shall be incorporated into the CP;

e. obtain input from the Conservation Commissions regarding wetland delineations. The Wetlands Regulations require the farmer to submit the CP to the local Conservation Commission for review. Based on its review, the Commission may make comments on the CP. The Service agrees to revise its wetland boundary delineations to conform to any written comments of the Commission, except insofar as those comments are modified by an applicable final wetlands boundary delineation pursuant to the Act, in which case the Service shall conform with that boundary delineation. The Service may consider, but need not adopt, any comments by the Commission on matters other than wetland boundary delineations; and

f. compile and maintain a comprehensive list of all CPs that are developed where BVW is proposed to be altered. This list shall contain the project location (city or town), project type, and amount of BVW that is proposed to be altered. Upon request, the Service will provide DEP with a copy of the most recent CP information.

6. Mutual Agreements

It is mutually agreed that:

a. it is the intent of each party to this MOU to fulfill its obligations under this MOU.

However, commitments cannot be made beyond the period for which funds have been appropriated. In the event funds from which each party may fulfill its obligations are not appropriated, this MOU will automatically terminate;

b. this MOU may be amended as agreed in writing by the parties hereto with the advice and consultation of the Farmland Advisory Committee established pursuant to the Commonwealth of Massachusetts, Acts of 1991, Chapter 141;

c. this MOU may be terminated by either party hereto by written notice to the other party at least thirty (30) days in advance of the effective date of the termination;

d. the initial date of this MOU shall be effective on the date appearing in the first paragraph and shall continue in effect through September 30, 1993. It may be renewed for subsequent federal fiscal years by exchange of correspondence between the parties;

e. no Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this MOU, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this MOU if made with a corporation for its general benefit;

f. activities conducted under this MOU will be in compliance with the nondiscrimination provisions as contained in Titles VI and VII of the Civil Rights Act of 1964, as amended, the Civil Rights Restoration Act of 1987 (Public Law 100-259), and other nondiscrimination statutes, namely Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendment of 1972, and the Age Discrimination Act of 1975. Activities conducted under this MOU also shall be in accordance with regulations of the Secretary of Agriculture (7 CFR-15, Subparts A and B) which provide that no person in the United States shall, on the grounds of race, color, national origin, age, sex, religion, marital status, or handicap be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance from the Department of Agriculture or any agency thereof.

IN WITNESS thereof, the agreed-to-parties have executed this agreement.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: 

Title: Commissioner

Date: 1/20/93

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

By: 

Title: State Conservationist

Date: 1/20/93

D. Chapter 141 of the Acts of 1991 (Establishing the Farmland Advisory Committee)

AN ACT TO ESTABLISH A UNIFORM DEFINITION OF NORMAL MAINTENANCE OR IMPROVEMENT OF LAND IN AGRICULTURAL USE

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1.

Whereas: There are nearly 700,000 acres of land in Massachusetts which is owned and managed by farmers. The continued urbanization of this state is making this land more and more important as open space, wildlife habitat, groundwater recharge zones and as a buffer to the environmental impacts associated with increases in population density, and;

Whereas: Farmers across the state are faced with a growing morass of regulation and restriction which is increasing the cost of farming and jeopardizing the future economic viability of our farms. This, in turn, jeopardizes the open space which is supported by the agricultural operation; and;

Whereas: Although the Wetlands Protection Act exempts “work performed for normal maintenance or improvement of land in agricultural use” many routine and long standing farm operations are being challenged by local and state agencies, creating confusion, frustration and in some cases, costly delays. The intent of this Act is to establish a uniform definition to assist the agricultural community in complying with the Wetlands Protection Act and reducing the current uncertainty that exists;

SECTION 2. Section 40 of Chapter 131 of the General Laws is hereby amended by inserting, after the eighteenth (18) paragraph, the following paragraph:

Within one hundred and twenty days of the effective date of this act, the department, upon the advice and consent of the Commissioner of the Department of Food and Agriculture, shall promulgate rules and regulations pursuant to this section which shall establish definitions for the term “normal maintenance or improvement of land in agricultural, or in aquacultural use” for each agricultural commodity or, where appropriate because of similarities in cultural practices, groups of commodities in the Commonwealth. The department shall create a farmland advisory board to be appointed by the commissioner consisting of five persons one a member of the cooperative extension service, one a member of the USDA soil conservation service, one a member of a municipal conservation commission who has demonstrated expertise in agricultural issues, and two commercial farmers with expertise in different agricultural commodities to assist the department in the drafting of rules and regulations pursuant to this paragraph.

SECTION 3. Chapter 131 of the General Laws is hereby further amended by inserting after Section 40A, the following section:

Section 40B. The farmland advisory committee established in paragraph nineteen of section 40 of this chapter shall meet quarterly and at the call of the commissioner or upon written request of any two members. The committee is charged with advising the commissioner relative to the definitions of “normal maintenance or improvement of land in agricultural or aquacultural use” and other issues relating to agriculture including but not limited to, consistency in federal and state statutes, rules, and regulations pursuant to agricultural activities governed by Chapter 131, Section 40 of the General Laws and issues affecting agriculture pursuant to Chapter 21G of the General Laws. The farmland advisory committee, in conjunction with the department, shall make an annual report to the committee on natural resources and agriculture as to their activities under this section.

SECTION 4. The department of environmental quality engineering shall submit any rules and regulations promulgated under the provisions of this act to the committee on natural resources and agriculture for its review within thirty days prior to the effective date of said regulations.

E. SCS Technical Guide Standards: A Sample

The SCS conservation practice (BMP) standard for irrigation tailwater recovery system is included as a sample in this section.

This standard is part of the SCS Field Office Technical Guide (FOTG) Section IV. Section IV also includes many other conservation practice standards that often are used in planning resource management systems with farmers and other land users.

The conservation practice standards periodically are reviewed and brought up to date as described in the section “The Field Office Technical Guide, see page 3-4 of this Guide.” The FOTG is located in each SCS field office in Massachusetts. The office locations are listed in Appendix A of this Guide.

Appendix E
SCS Technical Guide Standards: A Sample

USDA-SCS
Amherst, MA
Field Office Technical Guide
Section IV

Irrigation System,
Tailwater Recovery -- 447

STANDARD
IRRIGATION SYSTEM, TAILWATER RECOVERY (No.)

Definition

A facility to collect, store, and transport irrigation tailwater for reuse in a farm irrigation distributable system.

Scope

This standard applies to the planning and functional design of irrigation tailwater recovery systems, including pickup ditches, sumps, pits, and pipelines. It does not apply to detailed design criteria or construction specifications for individual structures or components of the recovery system.

Purpose

To conserve farm irrigation water supplies and water quality by collecting the water that runs off the field surface for reuse on the farm.

Conditions Where Practice Applies

Tailwater recovery systems are suitable for use on sloping lands that are served by a properly designed and installed surface irrigation system to facilitate the conservation use of soil and water resources. They are also suitable for use in areas where recoverable irrigation runoff flows or can be anticipated under the management practices used or expected to be used.

Planning Considerations for Water Quantity and Quality

QUANTITY

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, and deep percolation, and groundwater recharge.
2. Effects on downstream flows or aquifers that would affect other water uses or users.
3. Effects on the volume of downstream flow that could cause undesirable environmental, social, or economic effects.
4. Potential use for irrigation water management.

QUALITY

1. Effects on the movement of sediment and soluble and sediment-attached substances on downstream water carried by runoff.
2. Effects of nutrients and pesticides on surface and groundwater quality.
3. Effects on the movement of dissolved substances to groundwater.
4. Effects on wetlands or water-related wildlife habitats.
5. Effects on the visual quality of water resources.

Design Criteria

COLLECTION FACILITIES. Facilities for the collection of irrigation tailwater are an integral part of irrigation systems, surface and subsurface (443).

SUMP OR PIT. A sump or pit is needed to store the collected tailwater until it is redistributed in the farm irrigation system. The desired control of water at the point where the tailwater is returned to the irrigation system shall be considered in determining the size of the sump.

Small sumps with frequently cycling pumping plants may be used where the tailwater discharges into an irrigation regulation reservoir or into a pipeline with the flow controlled by a float valve. However, if the irrigation distribution system does not include facilities for regulating fluctuating flows, tailwater sumps shall be made large enough to provide the regulation needed to permit efficient use of the water.

Sumps must be equipped with inlets designed to protect the side slopes and the collection facilities from erosion. A dike or ditch shall be provided if necessary to limit the entrance of surface water to the designed inlet. Sediment traps shall be installed if needed.

Sumps or pits shall be designed and constructed according to applicable SCS standards and specifications.

RETURN FACILITIES. All tailwater recovery systems require facilities of some kind to convey the tailwater from the storage sump to the point of reentry into the farm irrigation system. These facilities may consist of a pump and pipeline to return the water to the upper end of the field, or they may consist of a gravity outlet having a ditch or pipeline to convey the water to a lower section of the farm irrigation system.

The capacity of return facilities shall be determined by an analysis of expected runoff rates, the proposed sump storage capacity, and the anticipated use to be made of the tailwater.

If the return flow is used as an independent irrigation stream rather than as a supplement to the primary irrigation water supply, the rate of flow must be adequate for the methods of water application employed.

Pipelines, lined or unlined ditches, and pumping plants used in return facilities shall be designed and constructed according to applicable SCS standards and specifications.

Plans and Specifications

Plans and specifications for irrigation tailwater recovery systems shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

F. SCS Farm Conservation Plan: A Sample

SCS-CPA-261
4-82

CONSERVATION PLAN

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

cooperating with
MASSACHUSETTS
Conservation District

Owner WETLANDS PROTECTION ACT-EXAMPLE

Operator _____

Country MA State MA Assessed By R. RIGHT

Location MASSACHUSETTS

Plan No. WPA-1

Scale 1" = 450' APPROX. Acres Approximate

Date 6/93

Photo No. _____



This plan was prepared to serve as a requirement under the “Conservation Plan Limited Project” permit category of the Massachusetts Wetlands Protection Act. The plan guides the establishment of a new Irrigation Pond within an area of Bordering Vegetated Wetland (BVW). The Pond will support Cropland Field No. 3 Irrigated Vegetables, 5 acres.

The pond construction will affect approximately 6500 S.F. of BVW. The pond is a dugout-type pond and all spoil material from the project will be removed and disposed of within upland.

The landowner’s objective is to raise high value vegetables and small fruits and to provide adequate water for irrigation and frost protection needs of the crops.

RECORD OF COOPERATORS DECISIONS

(Example Conservation Plan)

FIELD NO.	PLANNED AMT. YR.	LAND USE AND TREATMENT
3	5 AC.	CROPLAND (Irrigated Vegetables)
3	5 AC.	Conservation Cropping Sequence ... This field will be used to raise a variety of vegetables and some small fruits in rotation with a summer green manure crop (one-fifth of area each year).
3	5 ac.	Cover and Green Manure Crop ... A fall cover crop of 112 pounds per acre of rye grain will be planted by September 30 th and the cover will be maintained through the spring until preparation of the soil for the next crop. A summer green manure crop of buckwheat will be planted at a rate of 75 pounds per acre by June 15 th . The cover crops will control erosion, improve soil tilth, take up residual nutrients, add organic matter and improve wildlife habitat.
3	1 system 5 ac.	Irrigation System, Sprinkler ... A Sprinkler Irrigation System will be installed to efficiently and uniformly apply irrigation water to maintain adequate soil moisture for optimum plant growth without causing excessive water loss, erosion or reduced water quality. The system will be installed according to SCS design standards.
3	600 ft.	Irrigation Water Conveyance, Pipeline ... Irrigation water will be conveyed by means of a buried underground plastic mainline to the area to be irrigated. The pipeline installation will be done according to SCS design standards.
3	5 AC.	Irrigation Water Management ... The rate, amount of timing of irrigation water will be done in accordance with SCS standards and specifications. See Irrigation Water Management Plan.
3	5 AC.	Nutrient Management ... Crop nutrient inputs will be applied in accordance with annual soil tests, expected crop yields and current Cooperative Extension recommendations. Stored manure and other organic waste will be tested for nutrient content and applied according to nutrient management strategy.
3	5 AC.	Pest Management ... Pests will be managed in accordance with Integrated Pest Management specifications. A pest management strategy will be developed based upon the crop and target pests, in cooperation with Cooperative Extension.

6 OTHERLAND (Wetland areas adjacent to Lampson Brook)

6 1 No. Irrigation Pond ... An excavated pond will be constructed in the area shown on the plan map, according to design standards and specification provided by the Soil Conservation Service. See SCS design for specifics.

6 0.1 ac. Critical Area Planting ... Bare pond side slopes and other disturbed areas will be stabilized by seeding according to specification on pond design.

5 HAYLAND

5 0.5 ac Critical Area Planting ... Spoil material resulting from the pond excavation, will be spread within upland hayland areas (as shown on the plan map and as staked in the field) and stabilized with a planting of domestic grass hay mix. Specific seed mix, lime and fertilizer recommendations will be based on test of the spoil material.

ENVIRONMENTAL EVALUATION DATA SHEET

Project/Landowner Name EXAMPLE
 Decisionmaker Proposed Action TO RAISE HIGH VALUE VEGETABLES AND SMALL FRUITS
 IN A FIELD FORMERLY USED TO PRODUCE CORN SILAGE. TO ESTABLISH AN IRRIGATION
 POND WITHIN A BORDERING VEGETATED WETLAND AREA ... FIELD 6.
 Alternative Being Considered CONSERVATION CROPPING SEQUENCE, IRRIGATION SYSTEM,
 IRRIGATION WATER MANAGEMENT, NUTRIENT MANAGEMENT, PEST MANAGEMENT

Evaluator R. RIGHT Field Office MASSACHUSETTS Date 6/93

Environmental Factors	Effect (1)		Notes
	short	long	
Soil Resources			
Important Farmland		+	Soils are Prime
Erosion and Sedimentation		+	Conservation Mgt. Syst. planned
Effect on Soil		+	CCS includes Cover/Green Manure
Water Resources			Irrig. Res. option in wetland will affect 6,500 sq. ft. of type
Wetlands	-	0	
Water Quality		+	Nutrient/Pest Mgt. Planned
Water Quantity		0	Irrig. Water Mgt. Planned
Air Resources			
Air Quality		0	
Plant Resources			
Threatened/Rare or Endangered Species		0	No known TR or E species in area
Plant Health and Vigor		+	Irrig. Water Mgt. Nutr./Pest Mgt.
Animal Resources			
Threatened/Rare or Endangered Species		0	No known TR or E present in area
Fish and Wildlife Habitat		0	
Other			
Flood Plain Management		0	No fill planned. All spoil removed
Archeological/Historical Site		0	No known A/H
Visual Resources		+	Cropfield can be seen from Valley
Changed Land Use		0	From silage corn/hay to vegs., fruit
Wild and Scenic Rivers		0	Not in designated W&S River
ACEC's		0	Not in designated ACEC

(1) Code the following items
 + (beneficial), 0 (no apparent effect), -- (detrimental)
 Short term effects are for the installation period.

Minimal Effect Determination NA
Alternatives to the Proposed Action 1. Selection of crops that may not require irrigation
2. Irrigation water source from well or municipal w/drip irrig.
3. Establish irrig. reservoir in upland area.
Degree of Public Interest Project has support of local conservation commission.
No individual or organization has expressed concerns.
Potential Controversy None known.
Economic Impact Farmer has established a market for the type of high value vegetables and fruits to
be grown. Proposal is in farmers best economic interest.
Social Impact Proposal will conform to local, state and federal regulations.

RECOMMENDATIONS

- _X_ 1. Proposal does not have significant adverse environmental effects. (No Significant Impact) ... SCS may provide assistance.
- ___ 2. Proposal may have significant impacts. Initiate an environmental assessment. (The planner should request State Headquarters assistance before proceeding further) ... SCS will evaluate proposal further or consider other alternatives.
- ___ 3. Proposal has significant adverse environmental effects, and will not be considered as a reasonable alternative ... SCS will evaluate other alternatives or discontinue assistance.

REMARKS

Water Resource Establishment of a 6,500 sq. ft. dug-out irrigation reservoir in a type wetland does not conflict with FSA/FACTA, Massachusetts Wetlands Protection Act, or Section 401 and 404 of Clean Water Act. (provided no fill is placed in floodplain or wetland.)

Alternatives Farmer desires to utilize overhead sprinkler irrigation delivery system for 3 reasons: 1. frost protection option; 2. can use some equipment that is on-hand; 3. has previous experience in system use.

ALTERNATIVES ANALYSIS DATA SHEET

Project/Landowner Name EXAMPLE

(1)

Objective TO PROVIDE ADEQUATE SOURCE OF WATER FOR PRODUCTION NEEDS (irrigation and freeze protection) FOR HIGH VALUE VEGETABLES AND SMALL FRUITS

Evaluator R. Right

Field Office MASSACHUSETTS

Date 6/93

(2) Alternative	(3) Completeness	(4) Efficiency	(5) Acceptability
1. Developed well with overhead sprinkler delivery system	Groundwater yields not favorable	Not feasible to develop well that will deliver required 150 GPM	Not acceptable
2. Driven well with drip irrigation delivery system	Will not provide freeze protection	Costs of dripline materials will be excessive due to required coverage	Not acceptable to farmer
3. Reservoir with overhead delivery system	Will meet required need	Will allow use of some irrigation equipment on-hand	Preferred by farmer
3a. Reconstruct silted-in pond on un-named brook	Stream hydrology suspect during dry periods	Difficult access thru wetlands pose threat and cost increase	High cost and high O&M
3b. Drug-out pond in wetland adjacent Lampson Brook	Will supply needs even in dry periods	Will convert 6,500sf of BVW to open water. Est. cost is \$4-5,000	OK with state and fed. regs. Preferred by farmer
3c. Stream by-pass enhanced dug-out pond with low dike adjacent Lampson Brk.	Will supply needs	Same as 3b but with fill for low dike	Not acceptable to state and federal wetland reg due to fill in wetland
3d. Embankment pond in upland area with stream by-laww	Will supply needs	Diverts stream flow from Lampson Brook thru pond to re-enter stream 750'D/S Est. cost is \$10,000	Stream by-pass a concern to local CC Costs not acceptable to farmer

(1) Clearly state the identified objective.

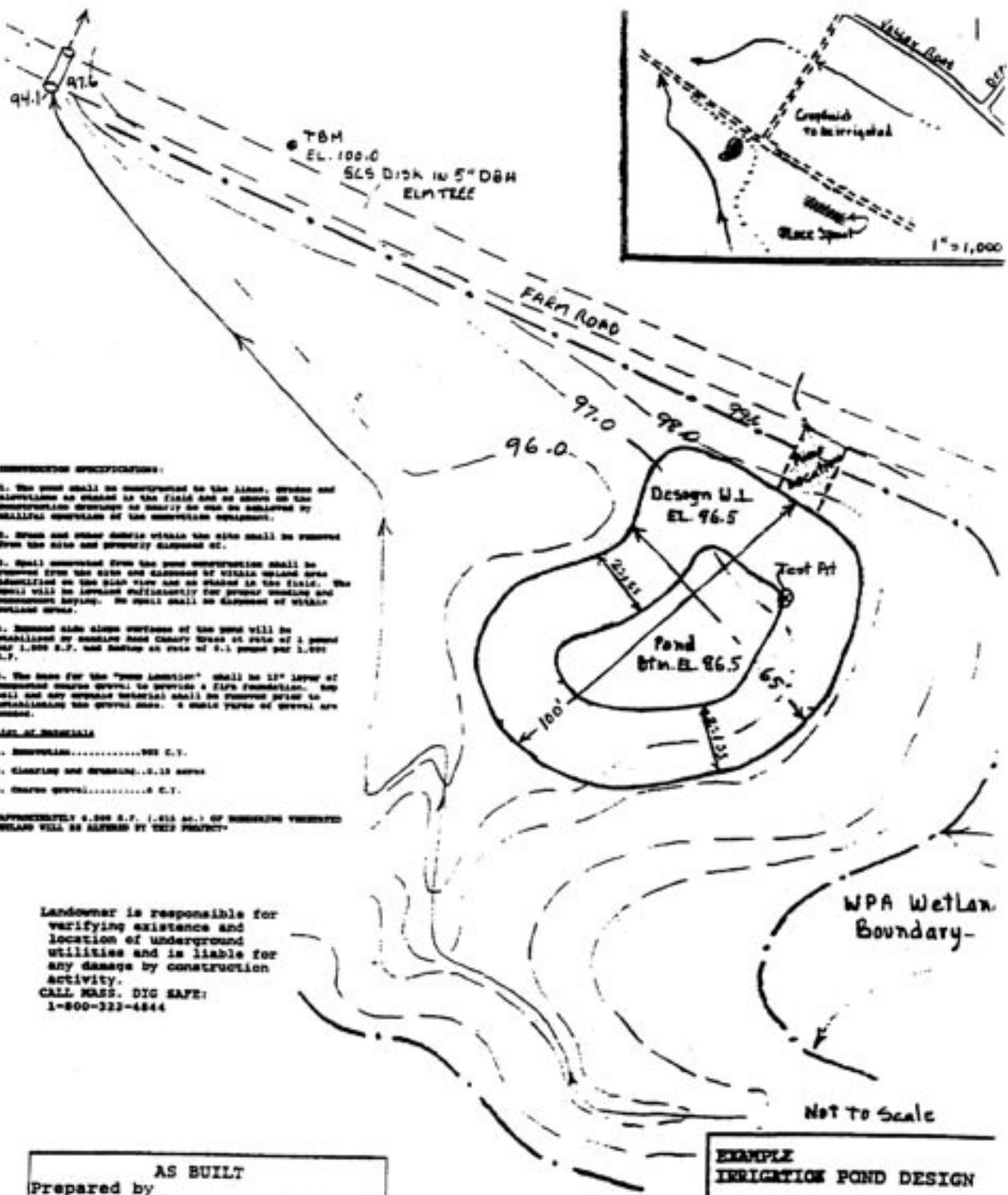
(2) Clearly list the alternatives being analyzed.

(3) To what degree does the alternative include everything that is needed to address the objective?

(4) Is the alternative a cost-effective means of meeting the objective?

This refers primarily to dollar costs, however the environmental effects must be considered here. Cost computation should include all engineering, construction and O&M costs.

(5) Is the alternative viable with respect to the landowner, local public, state and federal agencies and state and federal laws?



CONSTRUCTION SPECIFICATIONS:

1. The pond shall be constructed to the lines, grades and elevations as shown in the field and as shown on the construction drawings so as to be in accordance with ALLIANT SPECIFICATIONS of the construction equipment.
2. Stones and other debris within the site shall be removed from the site and properly disposed of.
3. Soil removed from the pond construction shall be removed from the site and disposed of within a field area designated on the plan view and as shown in the field. The soil will be applied sufficiently for proper seeding and maintenance beyond. No soil shall be disposed of within wetland areas.
4. Proposed side slope surfaces of the pond will be stabilized by concrete mesh County Stone at rate of 1 pound per 1,000 S.F. and seeding at rate of 2.1 pound per 1,000 S.F.
5. The base for the "pond location" shall be 12" layer of crushed coarse gravel to provide a firm foundation. Top soil and any organic material shall be removed prior to stabilizing the gravel base. A single layer of gravel are shown.

LIST OF MATERIALS

1. Excavation.....800 C.Y.
2. Clearing and Grading.....0.15 acres
3. Coarse gravel.....8 C.Y.

APPROXIMATELY 2,000 S.F. (0.46 ac.) OF WETLAND VEGETATED WETLAND WILL BE AFFECTED BY THIS PROJECT.

Landowner is responsible for verifying existence and location of underground utilities and is liable for any damage by construction activity.
 CALL MASS. DIG SAFE:
 1-800-322-4644

AS BUILT	
Prepared by	_____
Checked by	_____
Approved by	_____
Contractor	_____
Date completed	_____

EXAMPLE IRRIGATION POND DESIGN	
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	
<i>J. L. L.</i>	4/22
<i>J. L. L.</i>	4/22
<i>J. L. L.</i>	4/22

G. Monitoring Committee Information Collection Form

Agriculture Regulations Monitoring Form

Use this form to keep track of your encounters with the 1993 amendments to the Massachusetts Wetlands Protection Act Regulations regarding agriculture. Feel free to make copies and share them with others. Submit this form to:

Commonwealth of Massachusetts
Department of Environmental Protection
Division of Wetlands and Waterways
One Winter Street
Boston, MA 02108
Attention: Agriculture Regulations Monitoring Committee

The Department of Food and Agriculture and the Department of Environmental Protection thank you for your efforts.

1. Your Name, Address, and Telephone Number (optional)

Giving us this information will allow us to contact you for more information if we have questions.

Name _____
Address _____
Title (if applicable) _____
Telephone: home = () - ; work = () - _____

2. Location of the Activity

Please indicate the city or town where the work took place or whose Conservation Commission acted or failed to act, and the address or location of the property in question.

City/Town _____
Address/Location _____

3. Regulation Section Involved (optional)

If you believe that you know the section of the Wetlands Protection Regulations that affects this case, please note it here.

310 CMR 10. _____

4. Description of the Situation

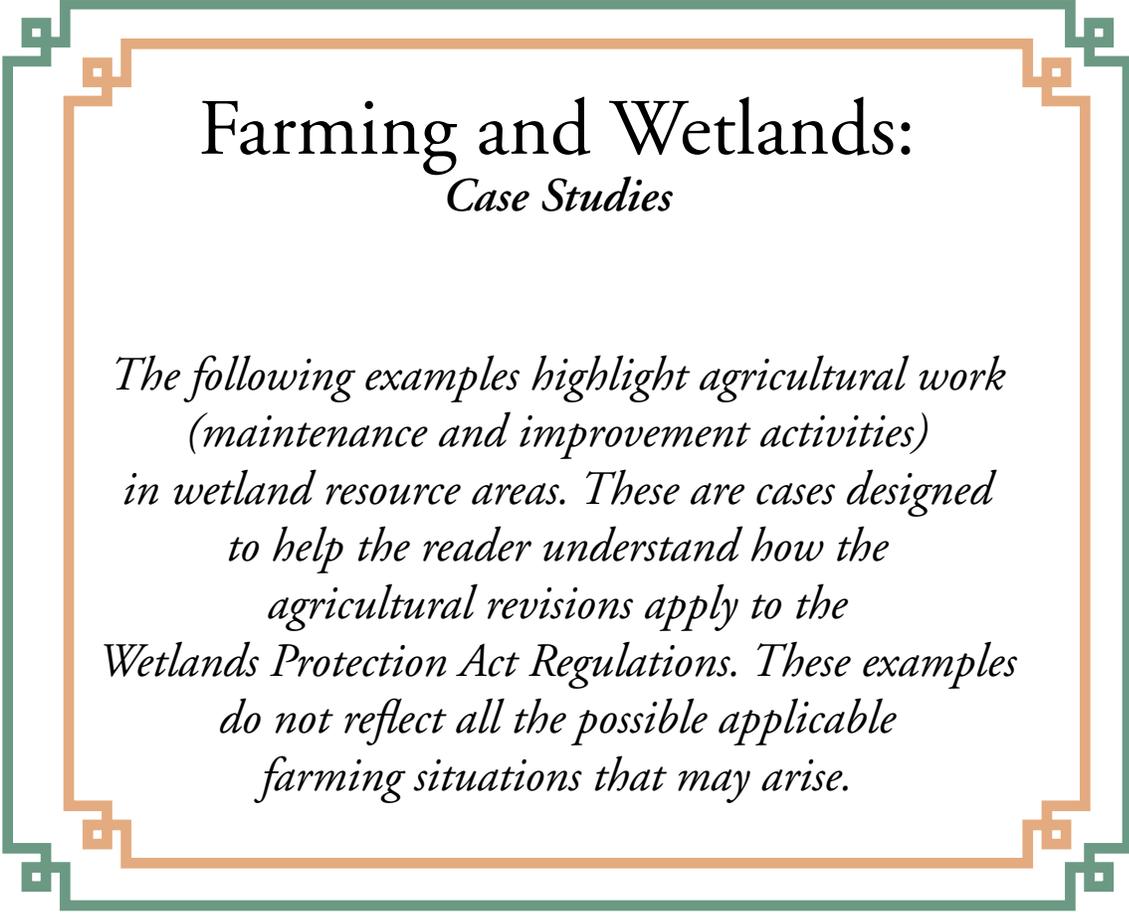
Please describe on the other side the situation that you wish to report. It could be a problem that the new Regulations fail to address or address unsuccessfully; it could be a case where the new Regulations are an improvement over the old Regulations; it could be a situation where the Regulations were not applied correctly; etc.

5. Other Comments

Please use this space to make any other comments about this situation in particular or the new Agriculture Regulations in general.

Thank you for your help!

H. Case Studies

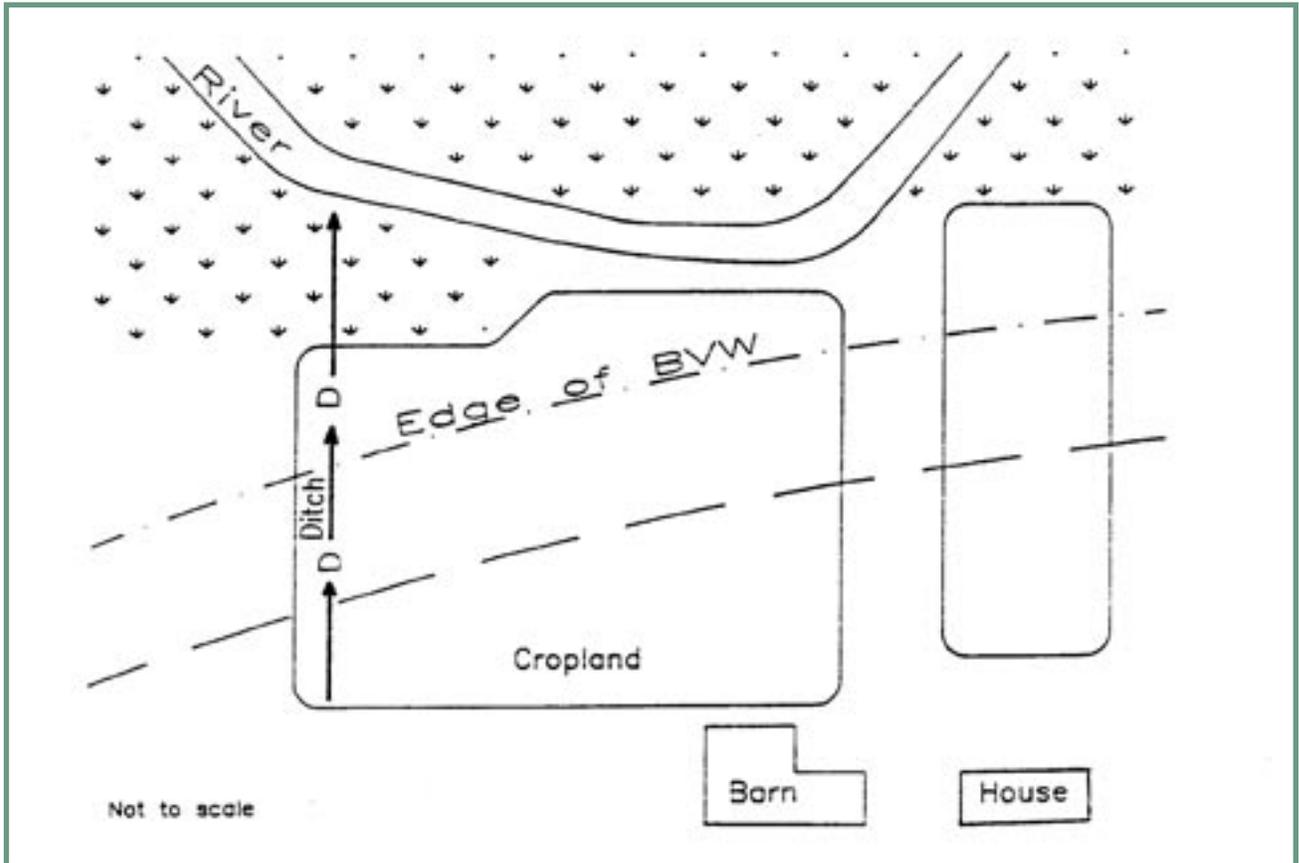


Farming and Wetlands: *Case Studies*

The following examples highlight agricultural work (maintenance and improvement activities) in wetland resource areas. These are cases designed to help the reader understand how the agricultural revisions apply to the Wetlands Protection Act Regulations. These examples do not reflect all the possible applicable farming situations that may arise.

(These case studies are from the original document and do not reflect more recent regulatory revisions.)

Case Study #1



Situation:

A functioning drainage ditch installed in the mid-1960s to drain a portion of a cropfield has filled in with sediment and vegetation. The field has never been abandoned. The farmer wishes to do work on the ditch to bring it back to its original shape, depth and grade. How does this situation relate to the Wetlands Protection Act?

Q: What is the activity?

A: The activity is maintaining an existing drainage ditch.

Q: Is the project proposed on land in agricultural use (LIAU)?

A: Yes, because maintaining an existing drainage ditch is necessary and related to production of the cropfield so it is therefore LIAU.

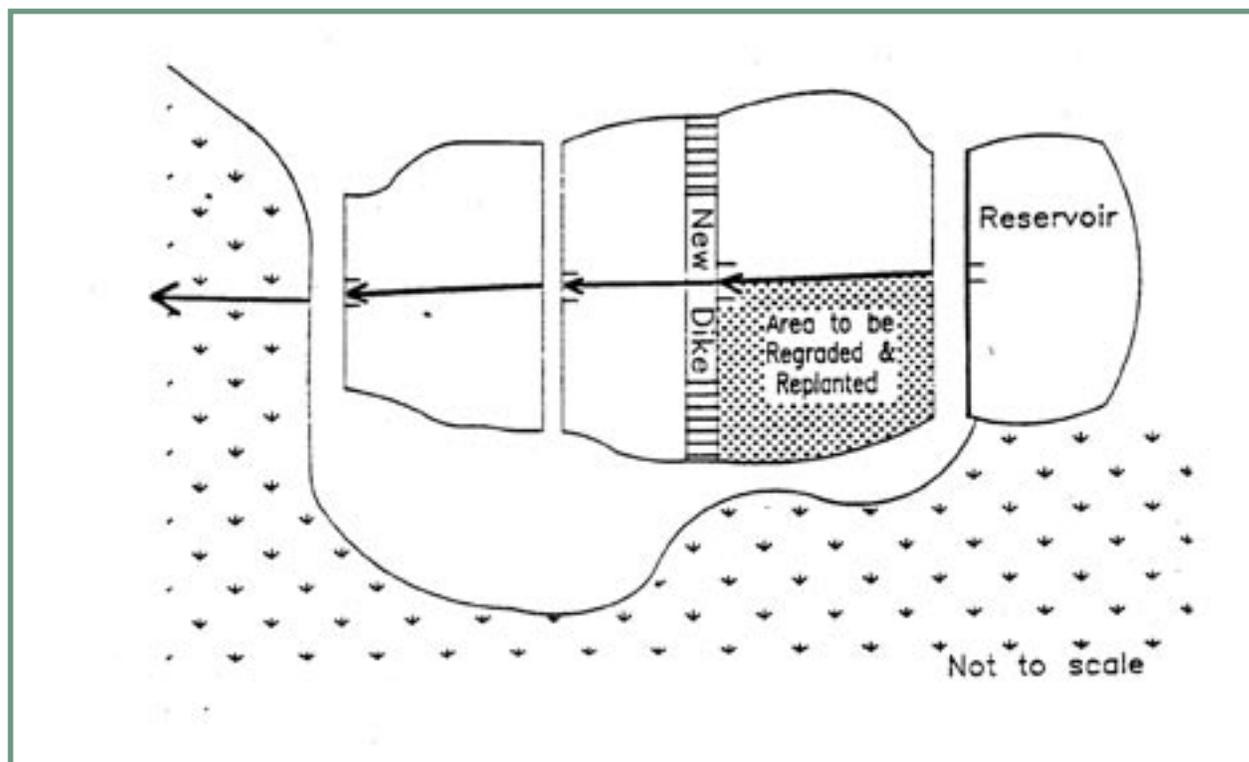
Q: What happens?

A: The farmer can go ahead and clean the ditch provided that it does not exceed the scope of the original ditch and that the work is done in a manner that prevents sedimentation of adjacent wetland resource areas.

Discussion Points:

1. The farmer is encouraged to contact SCS for help to ensure that the ditch is not expanded and to avoid erosion and sedimentation, during the work. Notifying the conservation commission is not required, however it is recommended.

Case Study #1A (cranberries)



Situation:

A grower has an active cranberry bog that is out of level, and plans to install an additional dike and water control structure in an effort to help conserve water. The plans also include regrading and replanting the cranberry bed. How does this situation relate to the Wetlands Protection Act?

Q: What is the Activity?

A: The activities are the installation of a new dike and reshaping and replanting of cranberry bed.

Q: Are the projects proposed on land in agricultural use (LIAU)?

A: Yes.

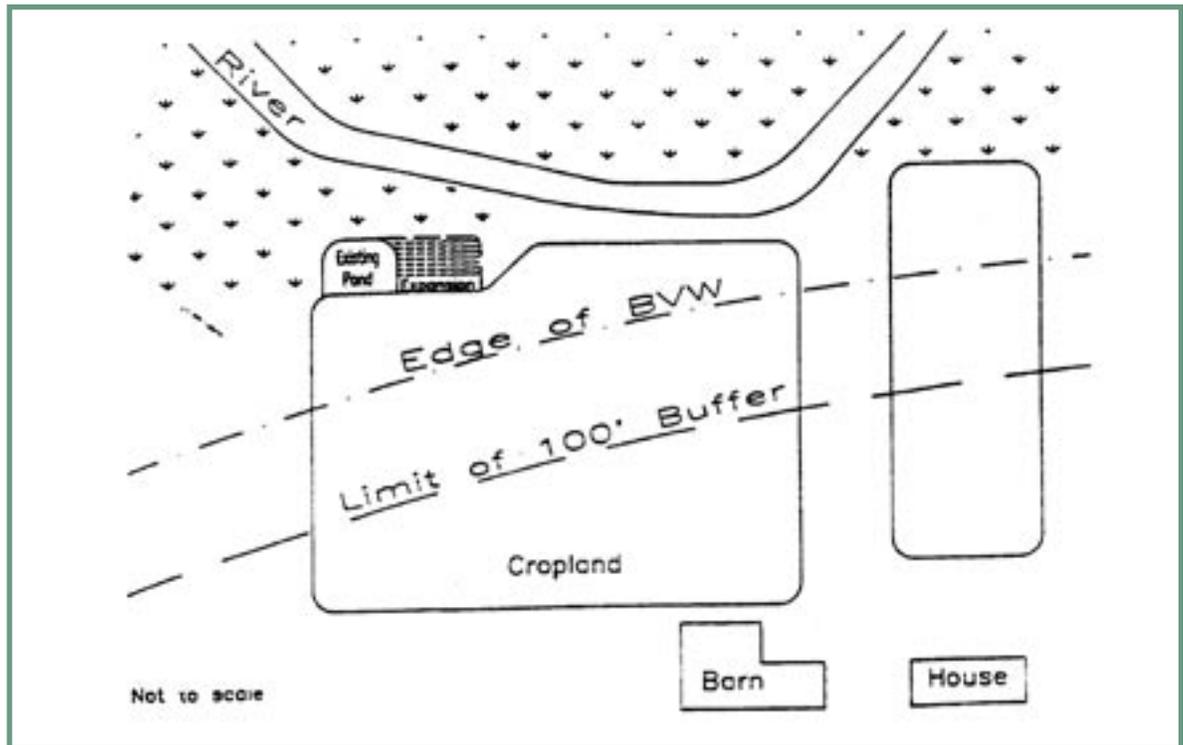
Q: Are the dike/water control structure, regrading and replanting exempt activities?

A: Yes, as long as they occur within active cranberry beds [10.04 (c)(1)(b)] and [10.04 (b)(13)(d)].

Q: What happens?

A: The grower can go ahead and perform these improvements as long as they are done in a manner that prevent erosion and sedimentation of adjacent wetlands.

Case Study #2



Situation:

A farmer currently irrigates from a pond which has been determined to be inadequate to meet the irrigation needs of the crops during extended dry periods. The farmer wishes to enlarge the pond by 8,000 sq. ft. within an area of bordering vegetated wetland (BVW).

Q: What is the activity?

A: The activity is the expansion of a pond.

Q: Is the project proposed on land in agricultural use (LIAU)?

A: No. It is outside any currently productive or related land.

Q: Is the proposed activity exempt?

A: Yes. This is one of the few activities which is necessary to support existing production and is exempt with an approved Soil Conservation Service (SCS) Conservation Plan. Enlarging an existing pond into BVW is exempt with a Conservation Plan if the BVW alteration is less than 10,000 sq. ft. [10.04 (c)(2)(f)].

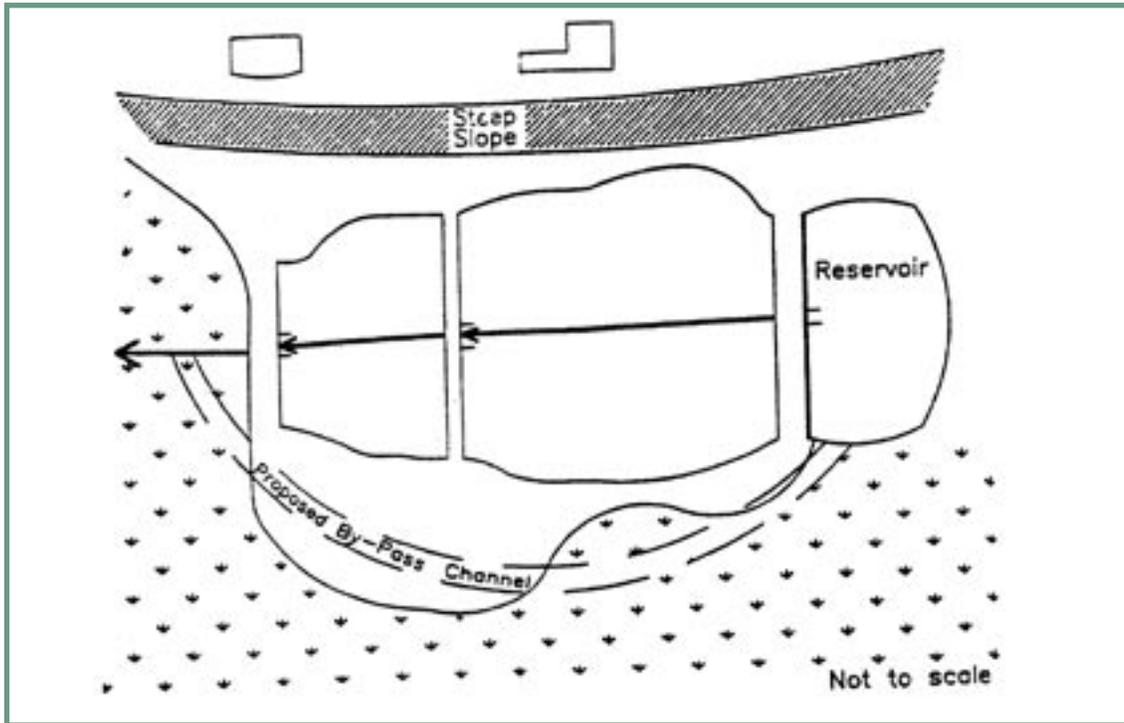
Q: What happens?

A: The farmer contacts SCS to secure technical assistance in planning and implementing the activity. The farmer also sets up an on-site meeting with SCS and the conservation commission as the first step in the planning process.

Discussion Points:

1. The decision to expand into a BVW assumes that the planning process has evaluated the alternatives.
2. Early communication with the conservation commission and SCS is beneficial to the planning process and an on-site scoping meeting is strongly urged [10.04 Agriculture (c)(2)].

Case Study #2A (cranberries)



Situation:

A grower is proposing to construct a by-pass channel to one side of an active cranberry bog. Approximately 5,000 sq. ft. of bordering vegetated wetland (BVW) will be altered in the process. The geography on the other side of the bog consists of a steeply sloping upland bank with houses at the top. How does this situation relate to the Wetlands Protection Act (WPA)?

Q: What is the activity?

A: The activity is the construction of a by-pass channel adjacent to an active cranberry bog.

Q: Is the proposed activity on land in agricultural use (LIAU)?

A: Yes and No. The portion of the channel that is within land related to the production is LIAU. However, the portion that would be constructed within the BVW is not.

Q: Is the construction of the by-pass channel an exempt activity?

A: Yes. This is one of several activities that are necessary and related to production, and is exempt if the work is planned and carried out in concert with a Soil Conservation Service (SCS) approved Conservation Plan, and if the alteration of the BVW is less than 5,000 sq. ft. [10.04(c)(2)(f)(4)].

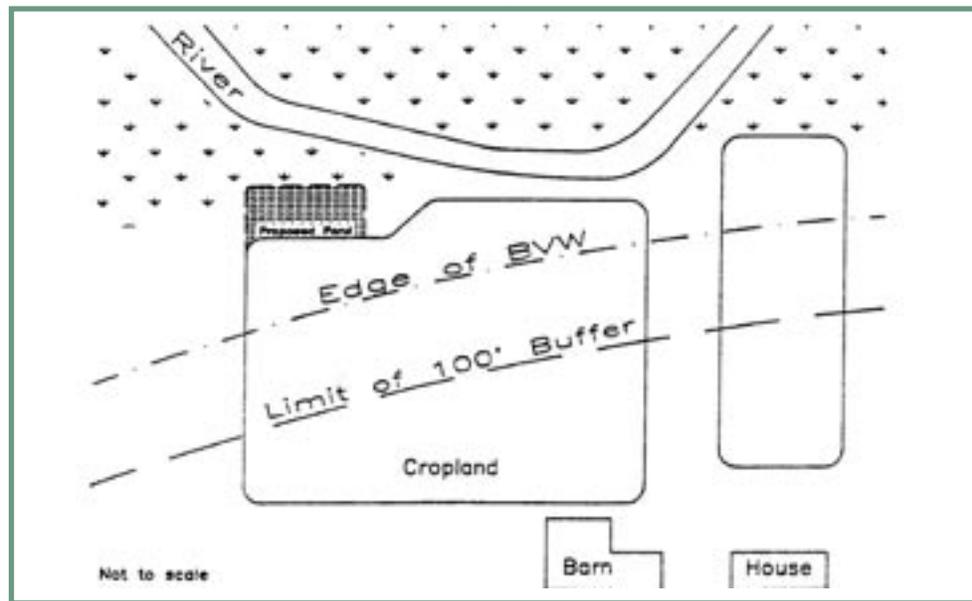
Q: What happens?

A: The grower contacts SCS to secure technical assistance for planning and implementing the activity. As part of the planning, the grower arranges an on-site meeting with the conservation commission and SCS and submits a copy of the Conservation Plan to the Conservation Commission and DEP regional office.

Discussion Point:

1. A by-pass channel is considered a water quality improvement practice.

Case Study #3



Situation:

A farmer has raised silage corn/hay in rotation on a field for the past 25 years but has sold the dairy herd and is now raising vegetables and small fruits that require irrigation water. The farmer proposes to excavate an irrigation pond of 15,000 sq. ft. in bordering vegetated wetlands (BVW) adjacent to the cropland. How does this situation relate to the Wetlands Protection Act?

Q: What is the activity?

A: The activity is the construction of an irrigation pond adjacent to a field in production.

Q: Is the project proposed on land in agricultural use (LIAU)?

A: No. It is outside any currently productive or related land.

Q: Is the proposed activity exempt?

A: No. Constructing a new pond in BVW is not an exempt activity; it is allowed under a new "Conservation Plan Limited Project" provided that (a) the BVW alteration is less than 20,000 sq. ft. and (b) the project is part of an SCS approved Conservation Plan [10.53 (5)(c)(1)].

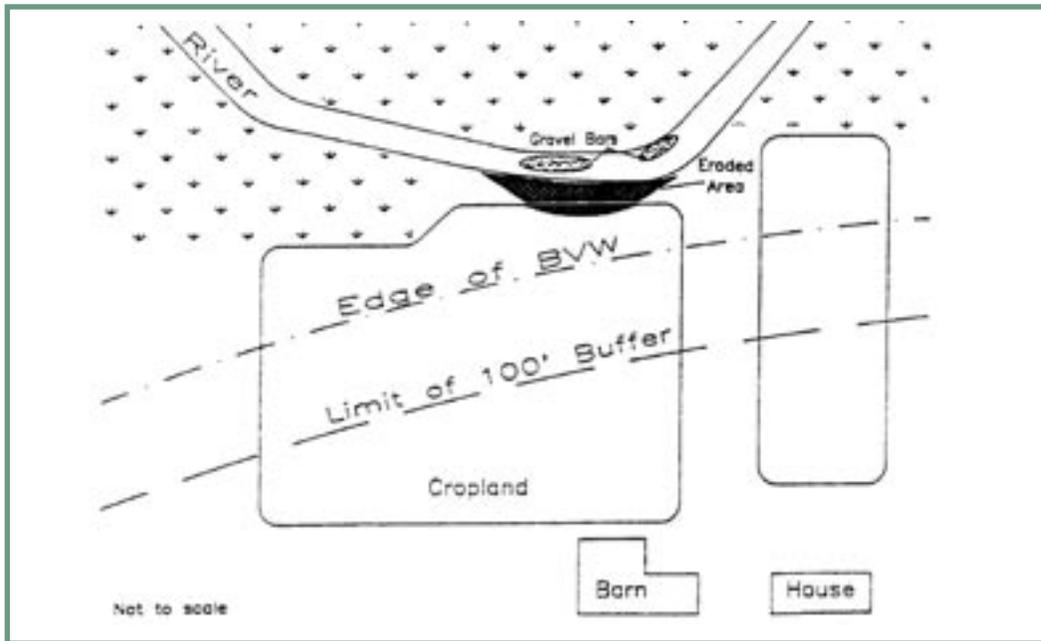
Q: What happens?

A: The farmer files a Notice of Intent (NOI). For this project, the filing fee is \$55. The farmer must include the relevant components of an SCS approved Conservation Plan with the NOI. The Conservation Commission shall issue the permit, but may adjust the BVW delineation.

Discussion Points:

1. The change in commodity from corn silage/hay to vegetable/fruits is exempt as a normal improvement activity [10.04 (c)(1)(f)].
2. If the new pond were to alter more than 20,000 sq. ft., then a filing as a normal Limited Project would apply [10.53 (3)(g)].
3. If the new pond were to be constructed within existing LIAU, it would be an exempt activity [10.04(c)(1)(g)].
4. As part of the Conservation Planning process, all alternatives for the location of the pond are evaluated to determine the alternative that is the most feasible and of the least impact on the BVW.
5. An on-site scoping meeting early on in the planning process is strongly encouraged, bringing the farmer, conservation commissioner(s) and SCS together.

Case Study #5



Situation:

A cropland, which lies adjacent to a river, experienced damage from a storm. The streambank has eroded and the stream channel has collected two gravel bars which deflect flow against the bank. The farmer wishes to repair the damage to the field, repair the streambank and clear the stream channel. How does this situation relate to the Wetlands Protection Act?

Q: What is the activity?

A: The activities are repairing a cropland, stabilizing a streambank and clearing a stream channel.

Q: Is the project proposed on land in agricultural use (LIAU)?

A: Yes and No. The repairs on the cropland are in LIAU, but the streambank and the stream channel work are not.

Q: Is the proposed activity exempt?

A: Yes and No. The repair of the cropland damage is exempt. The stabilization of the streambank and the clearing of the channel are not, however, they can be allowed under the "Agricultural Emergency" provision.

Q: What happens?

A: The farmer can go ahead and repair damage to the cropland. The farmer needs to contact the local conservation commission to notify them of the intent to repair the streambank and clear the channel. Under the new "Agricultural Emergency" provision, up to 100 linear feet of streambank may be allowed to be stabilized and debris within the stream channel cleared provided certain provisions relative to storm events and notification of activity to the local conservation commission are met and that SCS best management practices are adhered to [10.06 Emergencies (6)(g)(1)(2)].

Discussion Points:

1. It is very important that farmers communicate with the conservation commission as soon as possible and within the time limits specified in the Wetlands Protection Act.
2. Farmers are encouraged to consider alternative streambank protection techniques.

I. Forestry Memorandum of Understanding



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston 02202

WILLIAM F. WELD
GOVERNOR
ARGELO PAUL CELLUCCI
LIEUTENANT GOVERNOR
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Memorandum Of Understanding
between the
Department of Environmental Protection
and the
Department of Environmental Management
relative to the
Forestry exemption of the Wetlands Protection Act
and the requirements of the Forest Cutting Practices Act

I. Parties and Statement of Agreement

This Memorandum of Understanding (MOU) is entered into this 20th day of September, 1995 by and between the Department of Environmental Protection (DEP) and the Department of Environmental Management (DEM). The MOU addresses procedures and responsibilities for each agency relating to forestry activities under the Wetlands Protection Act (WPA), M.G.L. Chapter 131 Section 40 and regulations at 310 CMR 10.00 et seq., and the Forest Cutting Practices Act (FCPA), M.G.L. Chapter 132, Sections 40-46, and regulations at 304 CMR 11.00 et seq. The following procedure and responsibilities are supported by both DEM and DEP based on the understanding that it is mutually advantageous to cooperate in the undertaking described in this agreement.

II. Purpose

This purpose of this MOU is to establish a basis for cooperation between the two agencies, to identify the roles that each will play in permitting and enforcement to coordinate the implementation of the wetland regulations and the forest cutting plan regulations and to advise conservation commissions and persons involved in forestry activities. This MOU does not address those sections of the wetland regulations pertaining to forestry where a forest cutting plan is not needed to meet the conditions of the exemption [cutting no more than 5,000 board feet or 10 cords by owners for their own use, normal maintenance activities under 10.04 (Agriculture)(b)(4), or normal improvement activities 10.04 (Agriculture)(c)(1)(a)] or projects requesting limited project status under 310 CMR 10.53(3)(c., r. or s.).

III. Procedures and Responsibilities

When forestry activities subject to and covered by the FCPA are to occur in wetland resource areas or the buffer zone as defined in the wetland regulations, the activity will be exempt from the provisions of the WPA if carried out in accordance with an affirmatively approved cutting plan and if conducted in accordance with the conditions in the wetland regulations 310 CMR 10.04 Agriculture relative to forestry. An affirmatively approved forest cutting plan is a forest cutting plan that has been reviewed and approved by a DEM Service Forester. A forest cutting plan that is granted approval solely due to a lapsed review period is not an affirmatively approved forest cutting plan.

DEM and DEP agree that:

1. It is DEM's responsibility to enforce the rules and regulations regarding forest cutting plans and to see that the requirements for a forest cutting plan have been fulfilled by the applicant. The Best Management Practices Section of the forest cutting plan is to be completed. This section shall describe wetland impacts and shall include a master or supplemental map identifying bordering vegetated wetlands (BVWs). All forest cutting plans must also be sent to the conservation commission so that it is received ten (10) business days before the work begins. Failure to do so may delay approval or may be cause for denial of the forest cutting plan.

-
2. All decisions relative to the approval or disapproval of the submitted forest cutting plan will be made by the DEM Service Foresters who are agents of the Director of the Division of Forests and Parks.
 3. All forest cutting plans will be checked by the Director agent against the current edition of the Massachusetts Natural Heritage Atlas. Forest cutting plans falling within estimated habitat areas will be immediately forwarded to the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife for review and comment.
 4. DEM will mail an informational letter to each conservation commission on an annual basis. The letter will identify the forest cutting plan requirements, the ability of the conservation commission to comment on forest cutting plans and the DEM offices that can be contacted in the event of questions.
 5. As required by the FCPA regulations, the Director agent will make a site inspection prior to taking action on forest cutting plans involving work in wetland resource areas, endangered species habitat or Certified Vernal Pools. If requested by the conservation commission, the Director agent will meet with the conservation commission to review the wetland boundaries and cutting plan activities.
 6. If DEM has taken no action to approve or disapprove the forest cutting plan within ten (10) business days after submission of the forest cutting plan, harvesting can begin only on upland areas. Work in BVWs cannot occur until a forest cutting plan has been affirmatively approved and the Certificate has been issued by DEM.
 7. DEM will simultaneously send a copy of the approved forest cutting plan and certificate, or disapproved forest cutting plan to the applicant, local conservation commission and the DEP Regional Office.
 8. An activity occurring within or causing alteration of a wetland resource area that does not comply with an approved forest cutting plan vacates the exemption under the WPA as described in the first paragraph of Section III above. DEM agrees to coordinate with the conservation commission and DEP to bring the activity into compliance.
 9. DEM agrees to conduct a final inspection and issue a final report in accordance with the approved forest cutting plan. Forest cutting plans will require disturbed areas to be substantially restored to allow pre-existing vegetation to be reestablished, and access across BVWs and streams will be removed within one year of completion of work. DEP has the authority to ensure compliance of these conditions and agrees to coordinate with DEM to achieve compliance.
 10. DEM Service Foresters will attend at least one wetlands delineation workshop sponsored by DEP.
 11. It is DEP's responsibility to enforce the wetland regulations and to determine if the activity is in compliance with the conditions stated in 310 CMR 10.04 Agriculture. An activity occurring within or causing alteration of a wetland resource area that does not comply with the general conditions of 10.04(b) or the specific conditions of 310 CMR 10.04 Agriculture (b)(14)(a-f) vacates the exemption under the Wetlands Protection Act. DEP agrees to coordinate with DEM to bring the activity into compliance.
 12. DEP agrees to assist in the delineation of a BVW boundary when requested by DEM.
 13. DEM and DEP also agree to establish a review committee to evaluate the effectiveness of the revisions proposed for the forest cutting plan regulations and wetland regulations to be promulgated by the end of calendar year 1995. The committee will report its findings to the Farmland Advisory Committee on a yearly basis until such time that the review committee has fulfilled its purpose. The review committee will be comprised of one at-large member appointed by the Farmland Advisory Committee and one representative each from DEM, DEP, the Massachusetts Society of Municipal Conservation Professionals, the Massachusetts Association of Conservation Commissions and the State Forestry Committee.
 14. Recommended Procedures for Conservation Commissions

DEM and DEP agree to recommend and support the adoption of the following procedures by conservation commissions:

1. The conservation commission will have the opportunity to comment on forest cutting plans, including the Best Management Practices Section. Comments should be submitted to the DEM Service Forester during the cutting plan notification 10 day comment period. However, comments on the activity relative to wetland impacts may be submitted to DEM at any time.
2. It is suggested that at least one conservation commission member be designated the contact for forestry activity review. The designated member(s) should be responsible for review of the forest cutting plan and for contacting the DEM Service Forester.
3. Upon review of the forest cutting plan the conservation commission should contact the DEM Service Forester if any of the following occur:
 - a. wetland resource areas have been inaccurately identified;
 - b. the Best Management Practices Section of the forest cutting plan was not completed for those projects involving wetlands;
 - c. the conservation commission has any questions regarding the forest cutting plan.

-
4. The conservation commission should coordinate with DEM if any of the following occur after the forest cutting plan 10 day comment period has ended. (Conservation commissions should not initiate enforcement actions if these situations arise, as it is the responsibility of DEM to ensure compliance with the FCPA):
 - a. work has begun in wetland resource areas before an affirmatively approved forest cutting plan has been issued;
 - b. work is not in compliance with the approved forest cutting plan including working in wetland resource areas that were not described as being part of the forest cutting plan;
 5. If work is taking place in wetland resource areas without an approved forest cutting plan, for those activities where a forest cutting plan is needed for the exemption, the conservation commission may issue an enforcement order stopping work in wetland resource areas. Until a forest cutting plan is submitted to and approved by DEM, the requirements for an exemption have not been met.
 6. If there is a forestry activity that requires a forest cutting plan occurring in wetland resource areas or the buffer zone and a forest cutting plan has not been affirmatively approved, the conservation commission should notify the landowner that the activity may be in violation of the WPA and possibly the FCPA.

IV. Outreach and Training

DEM and DEP will develop an outreach and training program on the interrelationship between the FCPA regulations and the WPA regulations. The purpose of this outreach and training program will be to inform DEM District Service Foresters, DEP Regional Wetland staff, conservation commissions, and persons involved in forestry activities (consulting foresters, loggers, natural resource managers, etc.) of the pertinent regulations and this Memorandum of Understanding.

V. Cooperative Problem Resolution

Realizing that this memorandum cannot cover all possible circumstances and that protecting our natural resources is a common goal, the DEM and DEP will work together and cooperatively with local conservation commissions toward the resolution of problems.

VI. Duration

This MOU shall remain in effect until it is amended by the parties or, due to changes in the law or regulations or otherwise, the parties determine it is no longer advantageous or appropriate for the terms hereof to be followed.

_____ 9/22/95
Date

Peter C. Webber, Commissioner
Department of Environmental Management

_____ 9/13/95
Date

David B. Struhs, Commissioner
Department of Environmental Protection

INSTRUCTIONS FOR THE USE OF THE FOREST CUTTING PLAN
MASSACHUSETTS FOREST CUTTING PRACTICES ACT
(MGL Ch. 132 § 40-50)

The Cutting Practices Act requires any landowner planning a harvest subject to the Act to provide proper notice to the appropriate DEM Regional Office, the Town Conservation Commission, and any abutting landowner within 200 feet of the cutting area. These notices must be sent certified mail or hand delivered. The notice to abutting landowners must be made using the form "Notice of Intent to Abutters" and must be sent or delivered at least 10 business days prior to the start of cutting. The notice to DEM and the Conservation Commission consists of a properly completed Forest Cutting Plan form and all necessary maps and attachments. It must be received in both offices at least ten business days prior to the start of cutting.

The Forest Cutting Plan

Site Information: A complete mailing address must be provided for all parties listed in this section. Most of the information in this section is self-explanatory.

Location: list the Town(s) in which the cutting will occur and the road(s) abutting the lot or providing access to the lot.

Landowner: The owner of the land must be listed and must sign the plan even if the timber is owned by a separate individual. Answer yes next to "Chapter 61?" if the property is classified under the Forest Tax Law, and provide the management plan case number and the estimated stumpage value of the products to be cut.

Licensed Timber Harvesters: If unknown at the time of filing this section can be left blank, but the information must be provided to Dem prior to the start of cutting. The Harvester's Mass. Timber Harvester's License number must be provided.

Preparer of Plan: This section must be completed if someone other than the landowner prepares the plan.

Best Management Practices: This section must be completed to describe any activity impacting wetlands or waterbodies and to describe BMP's to be used in the creation, maintenance and stabilization of roads and landings. The codes at the bottom of the page should be used to complete the tables.

Stream crossing, wetland crossing, and harvesting in wetlands: use one column for each crossing or harvest location. The location should be shown on the map and labeled with the code at the top of the column (i.e. SC 1 etc.). If "Other" is listed under any column describe under the "Other BMP" or on a Narrative page.

Filter strips: refer to the regulations for the proper widths. Label each filter strip with the code from the top of the column.

Other BMPs: use this space to describe other BMPs needed to control erosion and sedimentation, such as road and landing location, waterbars, seeding, mulching, etc. The general location of these practices should also be shown on the map.

Silviculture: Using the codes from the bottom of the page, and using one column for each stand to be cut, provide the required information under "Stand Description" and "Silviculture" Label the appropriate stand on the map using the code from the top of the column. If "Other" is used in any row, describe on a Narrative page. If the designation of trees to be cut is not by the marking of trees describe the species, size, quality, and basal area to be cut, using a Narrative page if necessary.

Forest Products: For each species list the unit of measure and volume of products to be harvested.

Applicant: The Landowner must sign here, either under "landowner" or "Appointment of Agent" If an agent is appointed he or she may sign under "landowner".

Narrative Page

If there is insufficient space on the Cutting Plan form to complete any answer the Narrative Page provided by DEM must be used. The narrative description needed to explain any answer of "Other" or to provide a clearer explanation of BMPs, silviculture, or objectives should be placed within the appropriate section of this form. The Town and Landowner lines should be filled in, and the page should be attached to the Cutting Plan form.

Maps

At least two maps must be attached to the Cutting Plan, a locus map and a master map. All maps must be legible and on standard 8 ½ x 11 inch paper and to a scale adequate to clearly show the proposed operation. All maps must include the name of the landowner, the scale of the map, and a north arrow.

1. Locus Map - clearly outline the area where cutting will take place on a USGS topographic map or reasonable facsimile.

2. Master Map - A map of the area to be operated which shows the following:

1. Appropriate exterior boundaries of the ownership to be operated.
2. The location of forest stands to be cut, appropriately labeled.
3. The location of all public and private ways.
4. The present or planned location of all truck roads, landings and main skid road.
5. The location of all wetlands and waterbodies within or adjacent to the harvest area.
6. The appropriately labeled location of all stream crossing, wetland crossing and wetlands harvesting.
7. The location of all filter strips and buffer strips.
8. The approximate location of other BMP .

3. Other Maps - Separate maps for wetlands and critical areas should be provided if including this information on one map would make it difficult to read.

NOTE: Any required information left blank on the original plan, or any that has changed (i.e. starting date) must be provided to DEM prior to the start of cutting or at the time of the change.

Note: Box "For DEM Use Only" is completed upon approval.

Forest Cutting Plan

and Notice of Intent under Mass. General Laws, Chapter 132 - the Forest Cutting Practices Act.

For DEM Use Only:		
File Number:	<u>11-75-26</u>	Ch. 617 <u>Yes</u>
Date Rec'd:	<u>Dec 11, 1995</u>	Nat. Her. ? <u>N/A</u>
Earliest Start:	<u>12/27/95</u>	Pub. Dr. Wtr. ? <u>Attnl</u>
River Basin:	<u>Millers</u>	ACEC? <u>Attn</u>

Site Information

Location

Town: Royalston
 Road: Falls Rd.
 Acres: 5.9 Proposed start date: June 1, 1996
 Vol. MBF: 187 Vol. Cds: 0 Vol. Other: 0

Landowner

Landowner name: John One
 Mailing address: 229 Falls Rd.
 Town, State, Zip: Royalston MA 01368
 Phone: 508-249-0000
 Chapter 61 ? Yes Mgmt. Plan # 10246
 Est. stumpage value ? \$10,000.00

Preparer of Plan

Person other than landowner preparing plan

Firm name: _____
 Individual name: Matthew Smith
 Mailing address: 100 Main St.
 Town, State, Zip: Philliston MA 01331
 Phone: 508-249-9558

Licensed Timber Harvester*

Firm name: J. Jones Logging
 Individual name: _____
 Mailing address: 105 Jones Rd.
 Town, State, Zip: Westminster MA 01473
 Phone: 508-726-9229 License No. X-015

* This information may be supplied after plan approval.

Best Management Practices

Stream Crossings

Indicate location on map →

SC-1	SC-2	SC-3	SC-4
------	------	------	------

Type of crossing: GR

Existing structure? No

Type of bottom: GR

Bank height (ft.): 2

Stabilization: CO

Harvesting in Wetlands

Indicate location on map →

HW-1	HW-2	HW-3	HW-4
------	------	------	------

Forest type: (see page two) RM

Acres to be harvested: 2

Resid. Basal Area (>50% ?): Yes

Wetland Crossings

Indicate location on map →

WC-1	WC-2	WC-3	WC-4
------	------	------	------

Length of crossing (ft.): 10 50

Mitigation: DR DR

Stabilization: CO OT

Other BMPs

Steep slopes in ST-2. Skid roads will be located along contours and will be water-borne.
WC-2 will be used only if the ground is dry enough to avoid cutting.
Filter strips will be 80 feet wide (10% slope).
50ft+ buffers left along road.
some wetland soils adjacent to stream.

Filter Strips

Indicate location on map →

FS-1	FS-2	FS-3	FS-4
------	------	------	------

Width (50', 100' or Variable)* VA

* Refer to regulations for information regarding variable filter strips.

Codes

Type of crossing:	Stabilization:	Mitigation:	Type of bottom:
CU Curvert	SE Seed	FR Frozen	LE Ledge
BR Bridge	MU Mulch	DR Dry	ST Stony
FO Ford	CO Corduroy	OT Other	MU Mud
PO Piled	ST Stone		GR Gravel
OT Other	HB Hay Bales		
	OT Other		

Note:
 Applicant must provide DEM with all relevant information before plan may be approved and cutting may begin. Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits. Consult MA Forestry BMP Manual for further information.

Attach a Narrative Page if further explanation is needed or "other" is used for any category.

Stand treatment

(See codes at bottom of page)

Indicate location on map → ST-1 | ST-2 | ST-3 | ST-4

Forest Type	RM	BO	WP	WH
Acres	2	20	25	11
Primary objective	W/L	M/L	WP	WF
Designation of trees cut*	CT	OT	CT	CT
Type of regeneration cut	-	-	SH	SH
Source of regeneration	-	-	AD	ADISE

OR

Type of intermediate cut	TH	SA	-	-
--------------------------	----	----	---	---

*Not by making, describe spp., size, quality and b.b. to be cut below

**ST-2 - Dead or dying hemlock greater than 12" DBH will be cut. Approximately 10% of basal area will be removed.*

Products to be harvested

Species	Units	Vol.	Species	Units	VOL
White Pine	MBF	7.5	Red Maple	MBF	3
Red Pine			Sugar Maple	"	6
Rich Pine			Red Oak	"	13
Hemlock	"	25	Black Oak		
Spruce			White Oak		
Other Softwood			Other Oak		
White Ash			Other Hdw.	"	5
Beech			Hdw Fuelwd		
White Birch			Softwood Pulp		
B & Y Birch			Chips		
Black Cherry					
TOTAL					MBF 127

Species: Record sawtimber volumes by species.
 Units: MBF = 1,000s of Board Feet, CDS = Cords,
 TON = Tons, CCF = 100s of Cubic Feet.
 Volume: Record to the nearest whole unit (MBF, etc.)

Landowner

I (we) hereby certify that I (we) have the legal authority to carry out the afore-described operation. Failure to accurately update the material herein required and provide other relevant information can result in the voiding of this plan.

I (We) also certify that I (we) have notified the Conservation Commission in the municipality in which the operation is to take place and the abutters of record within two-hundred feet of the area to be harvested.

[Signature] 12/7/96
 Signature of landowner(s) or agent Date

Appointment of agent

As owner of the property to be harvested I hereby designate the following person to act as my agent for the purpose of conducting the harvest covered by this Forest Cutting Plan including executing all forms and documents required by law. I understand, however, that the statutes, including criminal fines, continue to apply to me as the owner of record.

Agent's Name Matthew Stanton
 Mailing Address 100 Main St.
 Town, State, Zip Phillipston MA 01331
 Phone 508-249-5353

[Signature] 12/
 Signature of landowner(s) Date

Forest Cutting Plan

Approved Disapproved Expires 12/11/97

Cutting Plan

[Signature] 12/22/95
 Signature of Service Forester/Director's Agent Date

Approved Disapproved Expires _____ Serv. For. Incs. _____

Extension

Amendment

Final Report

I hereby certify that the afore-described Forest Cutting Plan and all relevant statutes have been substantially complied with.

Signature of Service Forester/Director's Agent _____ Date _____

Service Forester's Comments:

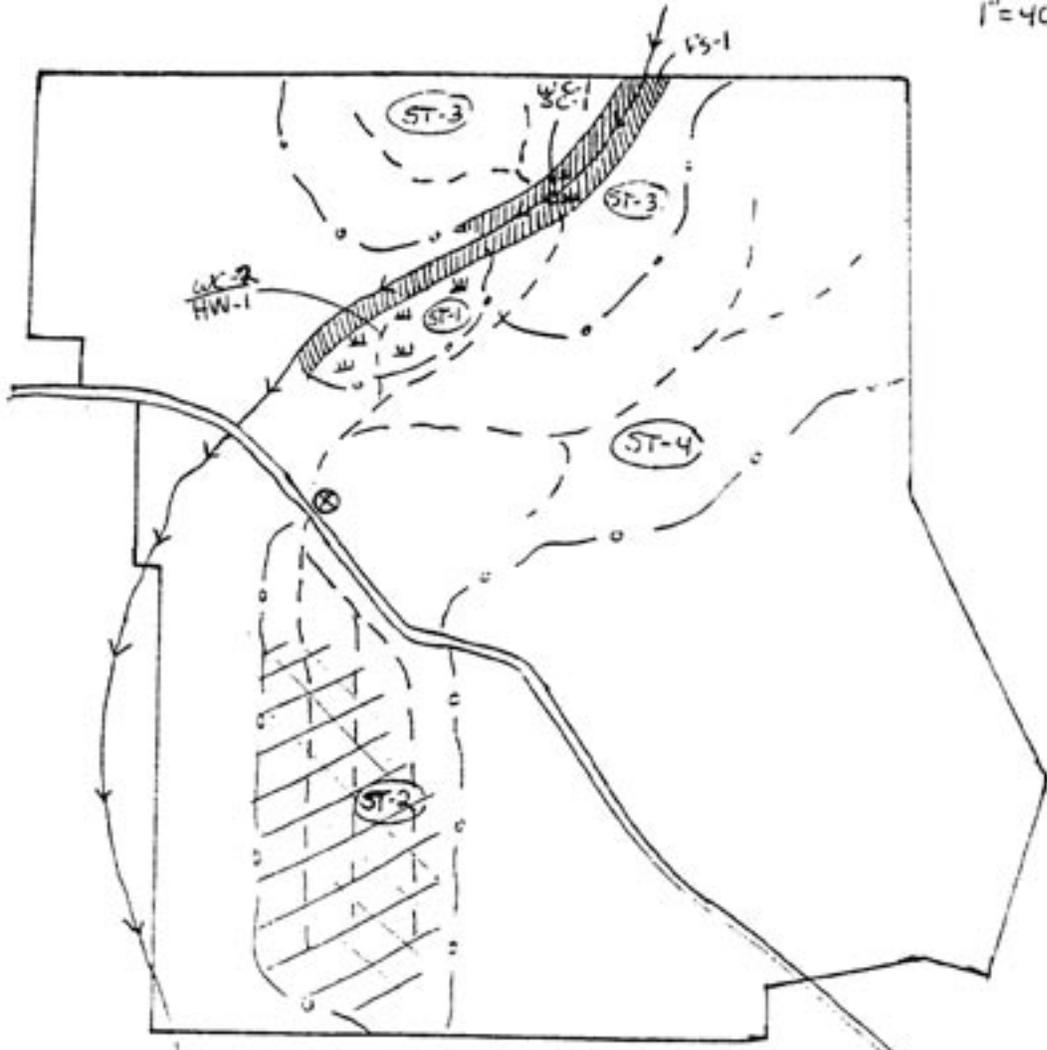
Forest Type	Designation	Type of Regen Cut	Source of Regen
WP White Pine	CT Cut Trees	SE Selection	AD Advance
WK WP/Hem	LT Leave trees	SH Shelterwood	SE Natural Seed
WH WP/Hdw	SB Striped Bark	ST Seed Tree	DS Direct Seed
WO WP/Oak	OT Other	CC Clearcut	PL Plant
RP Red Pine		EA Salvage	CO Coppice
SR Red Spruce		CO Coppice	OT Other
PP Rich Pine		CS Copp/Standards	
PO PP/Oak			
HK Hemlock	OM Mixed Oak		
HH Hem/Hdw	RM Red Maple		
TK Tamarack	BC Black Cherry		
CD Cedar	BB Beech/Maple		
CH Oak/Hdw	SM Sugar Maple		
BW White Birch	BM Birch/Maple		
SB Spruce/Fir	BE Beech		
NR Red Oak	OT Other		

Primary Objective:
 U - Wood Production
 W - Short term income
 C - Other (see 102)

Type of Intermediate Cut:
 TH Thinning
 SA Salvage

Property of : John Doe
 Falls Riv.
 Royalston, Ma

↑
 North
 1" = 400'



- Legend
- ⊗ = Landing
 - - = Skid Road
 - = Stream
 - ▨ = Filter Strip
 - * = Wetland
 - ◇◇ = Steep Slopes

