

2008 Annual Stakeholder Report:

*Promoting Stewardship of Our Forests
for a Safe and Healthy
Environment, Economy, and Society*



**Massachusetts
Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry**





Massachusetts Department of Conservation and Recreation

Deval Patrick	Governor
Tim Murray	Lt. Governor
Ian Bowles	Secretary of Environmental Affairs
Rick Sullivan	Commissioner
James DiMaio	Chief Forester



2008 Annual Stakeholder Report: Promoting the Stewardship of Massachusetts' Forests for a Safe and Healthy Environment, Economy and Society

Edited by David Goodwin with sections written by James DiMaio, Jennifer Fish, David Celino, Charlie Burnham, Eric Seaborn, Gordon Boyce and Michael Fleming.

Thanks to all the staff of the Bureau of Forest Fire Control and Forestry for their dedication and contributions to our mission, without which this report would not be possible.

Photography credits:

<i>Front cover</i>	Mike Geryk
<i>Page 22</i>	Jim Rassman

**Bureau of Forest Fire Control and Forestry
251 Causeway Street, Suite 600
Boston, MA 02114**



Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
2008 Annual Forestry Stakeholder Report

Message from Chief Forester Jim DiMaio

Welcome to your 2008 Annual Stakeholder Report for the Massachusetts Department of Conservation and Recreation's (DCR) Bureau of Forest Fire Control and Forestry: ***Promoting the Stewardship of Our Forests for a Safe and Healthy Environment, Economy, and Society.*** This report contains highlights of our program accomplishments over the past year.

I am proud of the Bureau's employees and their performance in delivering our 2008 program. A tremendous amount of both individual and team effort went into achieving this year's accomplishments. I also want to recognize the countless partners, cooperators, and interested citizens who have taken some of their precious time to assist the Bureau throughout the year. Without their support, personal contributions, encouragement and constructive criticism, we would not have made as much progress as we did. It is clear that the public is very concerned about the fate and future of Massachusetts' private, public and community forests and associated natural resources.

I want to start by highlighting a few particular accomplishments that occurred in 2008:

- In August, the Asian Longhorned Beetle (ALB) was discovered in Worcester, Massachusetts. In cooperation with the USDA Animal and Plant Health Inspection Service and the US Forest Service, the Bureau immediately began implementing the Massachusetts Highly Destructive Invasive Species Emergency Response Plan including surveying for ALB.
- The Forest Resource Management Plans for the Southern and Northern Berkshire and Western Connecticut Valley Districts were unanimously approved by the DCR Stewardship Council.
- The final draft of the proposed revised Massachusetts Forest Cutting Practices Act was submitted and approved by the Executive Office of Energy and Environmental Affairs and the Department of Environmental Protection.
- Approximately 110 acres of dead red pine within Manuel Correllus State Forest was removed to reduce fuel loading and to restore pitch pine – scrub oak sand plains through USDA Forest Service funding.

- The Bureau organized and hosted the 2008 National Association of State Forester's Annual Meeting held in Hyannis.
- The Bureau responded throughout the December 2008 ice storm as part of the Massachusetts Emergency Management Agency response, opening up roads, removing debris from the ALB impact area, and responding to emergencies.
- The Bureau continued to provide customer service, respond to wildland fire calls, repair and maintain fire towers, survey and maintain communication lines, inventory and survey roads and trails, survey for forest insects, disease and invasive species, repair and maintain park roads in our forests, and professionally respond when called upon.

Now, with considerable progress made and much work left to be done, I would like to share with you my high priority goals and objectives for 2009:

Statewide Priorities:

- Continue to communicate and foster relationships among landowners, foresters, wood producers, harvesters, environmental and conservation groups, and Bureau employees through the DCR Forest Vision effort.
- Strengthen our forest practices by implementing the approved Forest Resource Management Plans that have prioritized aesthetics, biodiversity, complex forest structure and vegetation and designate over 20% of DCR Division of State Parks and Recreation land in reserves.
- Continue to make progress in fuel reduction and ecological restoration in Southeast Massachusetts.
- Assist more communities, with special emphasis on the largest and most densely populated ones, in developing actively managed urban and community forestry programs.

Private Forests Priorities:

- Increase the amount of private forests protected from development and managed for long-term multiple objectives.
- Improve compliance with the Forest Cutting Practices Act and associated laws and regulations.

State Forest Management Priorities:

- Continue our efforts to manage for biodiversity, locate and maintain property boundaries, control and mitigate erosion, inventory and maintain roads and trails, and reduce unauthorized and unsustainable recreation.

I invite you to participate with us in recognizing our 2008 accomplishments and working with us to achieve our 2009 program of work, goals, and priorities.

Sincerely,

Jim DiMaio
Chief Forester

Table of Contents

- Who Are We? 1**
- Why Invest in our Forests and Forestry?3**
- Success Stories from the Past Year4**
 - Certified Green4**
 - Forest Fire Control Protects Wildlands.....5**
 - Forest Health Aerial Survey.....6**
 - Supporting Excellent Urban Forestry Programs8**
 - Biomass for the Bay State..... 10**
 - Forest Legacy Program Protects another 1,104 Acres..... 12**
- Detailed Accomplishments of the Bureau of Forest Fire Control and Forestry 13**
 - Service Forestry Program 13**
 - State Forest Lands Management 19**
 - Forest Fire Control..... 22**
 - Forest Health Program..... 22**
 - Urban and Community Forestry 26**
 - Marketing and Utilization 32**
 - Forest Legacy Program 35**
- Appendix..... 38**
 - Citations..... 38**
 - For More Information on Bureau of Forestry Programs and Initiatives:39**

Who Are We?

The Massachusetts Department for Conservation and Recreation's (DCR) Bureau of Forest Fire Control and Forestry serves land-owners, forestry businesses, forest workers, communities, and the general public. We promote safe and sustainable conservation, stewardship, and management of our vital public, private, and community forest resources.

We accomplish our mission through the work of seven programs:

- Service Forestry
- State Forest Lands Management
- Forest Fire Control
- Forest Health
- Urban and Community Forestry
- Forest Marketing and Utilization
- Forest Legacy

After being 80% deforested in the early 1800s, Massachusetts' forests have made a remarkable recovery. Did you know that although Massachusetts is the third most densely populated state in the country, it is also the eighth most forested?

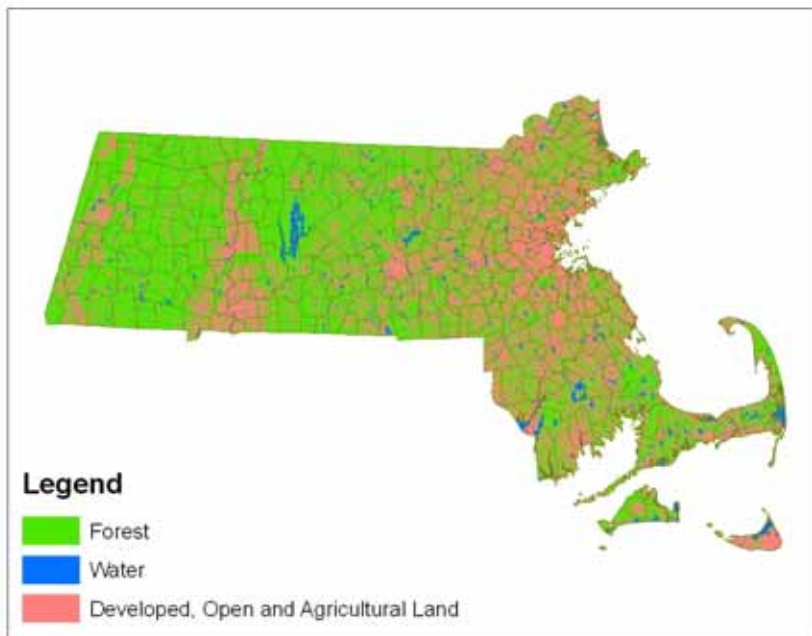


Figure 1: Massachusetts Land Cover (2005)

Currently, 59% of Massachusetts (3.06 million acres) is forested. 95% of this (2.9 million acres) is classified as timberland, capable of growing timber. The vast majority of forest land (76%) is privately owned by an estimated 212,600 individuals and enterprises (Forest Resources of Massachusetts, 2000). A growing number of these private land-owners are engaging in long-term management planning. Massachusetts also has a population of 6.4 million people, most of whom live in urban communities. Our urban areas have an estimated 86.8 million trees forming an average urban tree cover of 25.3% with an estimated total value of \$55 billion (State Urban Forest Data).

Table 1: Ownership of MA Forest Land

Total Forest Land 3.06 million acres	Acres	Percent	
State owned	500,000	16 %	Green Certified
Municipally owned	245,000	8 %	
Privately owned	2,315,000	76 %	

Table 2: Management Plans on Private Forest Land

Private Forest Lands 2.315 million acres	Acres	Percent
Ch. 61/61A and Forest Stewardship Management Plans	331,776	14%

Why Invest in our Forests and Forestry?

Imagine the fall without the foliage. Imagine Boston without trees. Imagine building a house without lumber. Imagine pancakes without maple syrup. And imagine Massachusetts without forests or forestry. Without our forests and forestry, our landscapes would be barren. Our water would be undrinkable and unswimmable. Our economy would be weak, our air would be polluted, our cities would be stifling, and our quality of life would be dismal.

Our private, public, urban, and community forests provide more dollars to the State's economy than most people realize.

- Wood products harvested from private forests generate \$580 to \$845 million each year (Campbell, 2000). When we include the value added by industries such as furniture making, paper, and construction, this jumps to \$4 billion (American Forest and Paper Association).
- DCR's state forest lands produced approximately \$621,000 in revenue last year alone.
- Hunting, fishing, and wildlife viewing, all forest dependent activities, generate an estimated \$1.25 billion in Massachusetts (US Fish and Wildlife).
- Tourism generates an estimated \$13 billion annually (Office of Travel and Tourism). One-third of this, or \$4.3 billion, can be directly attributed to our forests and open spaces.
- Our forests provide ecosystem services including a freshwater supply, stormwater mitigation, climate control, nutrient regulation, biodiversity, soil retention, and aesthetics valued at a minimum of \$2.9 billion (Mass Audubon, 2003).
- Massachusetts' 86.8 million urban trees also provide significant energy savings, stormwater management, air and water filtration, wildlife habitat, temperature reduction, and social and psychological benefits.
- Maple syrup production and Christmas tree sales are worth \$9.6 million in retail revenues to our rural communities.

Add it all up and Massachusetts forestry contributes at least \$12 billion to the Commonwealth's economy each year.

Success Stories from the Past Year

Certified Green

In 2004, Massachusetts became the first state to have all its state-owned forest lands (over 500,000 acres) receive a comprehensive Green Certification from the Forest Stewardship Council (FSC). The Bureau of Forest Fire Control and Forestry *State Forest Lands Management Program* manages most of this land, over 285,000 acres. **In 2008**, State Forest Lands Management continued to meet its green certification requirements, moving forward in its efforts to sustainably manage our state forest resources for multiple benefits.

This year, the State Forest Lands Management Program also embarked on various efforts to manage more biologically diverse forest ecosystems.

- **Reserves:** With the help of the public, we identified potential large scale forest reserves. These reserves will be set aside from harvesting and will provide critical baseline information for forest health monitoring, late successional wildlife habitats, and large areas which will be managed by natural disturbance processes and will provide diverse recreational opportunities.
- **Long-Term Ecological Monitoring:** In coordination with the University of Massachusetts Department of Natural Resource Conservation, the Division of Fisheries and Wildlife Forestry Program, and the Division of Water Supply Protection, we initiated a long-term ecological monitoring program on state lands. Our goal is to monitor key forest indicators, in both our forest reserves and our more actively managed areas, at three scales: landscape, ecological land type association, and selected key species. We are establishing a scientific advisory board to guide this program and seek additional funding opportunities.
- **Conservation Management Practices:** We also began developing rare species conservation management practices in partnership with the Natural Heritage and Endangered Species Program, the Division of Fisheries and Wildlife Forestry Program, the University of Massachusetts, and the Division of Water Supply Protection. The rare species selected for this initiative included the wood turtle, spotted turtle, box turtle, marbled salamander, Jefferson salamander, blue-spotted salamander, and common loon. This initiative will also provide information to land-owners and licensed foresters concerning rare species conservation prior to the development of the cutting plan.
- **Balancing Active Forestry, Conservation and Recreation:** Finally, in all our initiatives, we recognize the importance of balancing the needs and benefits of actively managing working forests and conserving biological diversity and public recreation.

Forest Fire Control Protects Wildlands

Forest Fire Control district wardens, in cooperation with DCR regional offices, prepared Fire Management Plans for each fire district. These plans included information on the fire risks, staffing, wildland fire prevention, readiness, detection, suppression, and fuels reduction, as well as duties and responsibility during period of low fire danger. These plans were helpful in allocating resources and in prioritizing Forest Fire Control’s efforts.

The Forest Fire Control Program focused on providing fire detection assistance in 2008. Fifty three seasonal Forest Fire Control staff were hired in early April to prepare for the season and to staff fire towers. April was the period of highest fire danger and ended with a “red flag” fire danger due to the extremely dry fuels, relative humidity, and high winds. Forest Fire Control responded to the rare fire weather conditions by temporarily suspending open burning and issuing news releases on the extreme fire danger.

The following are the 2008 Wildland Forest Fire statistics:

Table 3: Summary of Wildland Forest Fire Data

Summary Statistics	Number of Wildland Fires	Total Acres
2008	2,740 fires	1,900 acres

Forest Health Aerial Survey

The annual aerial survey by the Bureau of Forestry's Forest Health Program is conducted as part of a cooperative agreement with the USDA Forest Service. This year the survey required 33.1 hours of flight time and identified damage caused by insects, disease, and environmental factors. A total of 59,728 acres of forest disturbance was identified.

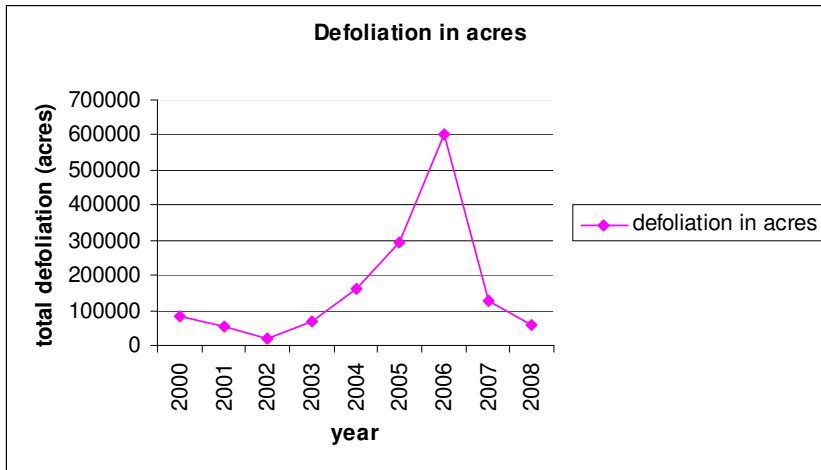


Figure 2: Insect Defoliation over the Past Eight Years

Information gathered from this survey is reported to the USDA Forest Service and municipal officials, and provided to landowners who may want to conduct suppression activities when appropriate. Three insects caused the majority of this year's defoliation: Gypsy Moth (15,324 acres), Winter Moth (27,875 acres), and Periodical Cicada (8,551 acres).

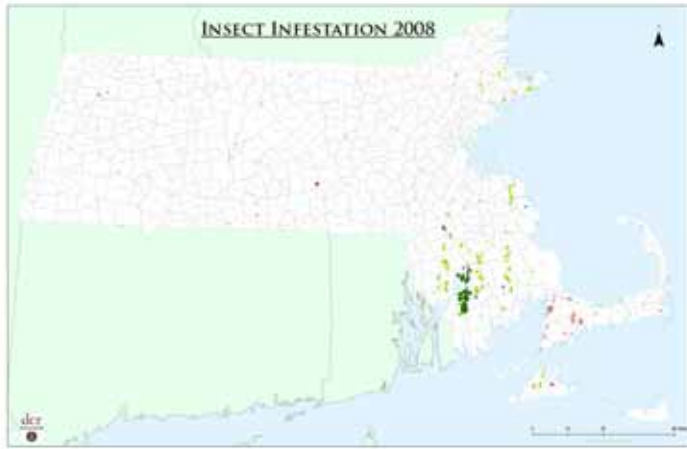


Figure 3: 2008 Map of Insect Infestation

Supporting Excellent Urban Forestry Programs

In 2005, the *Urban and Community Forestry Program* and the USDA Forest Service finalized standards for what makes a strong urban and community forestry (UCF) program. The USDA Forest Service established the first four criteria listed below, while Massachusetts added the final two. Massachusetts will receive a greater percentage of federal dollars as more communities achieve these standards.

A community will have a strong program when it meets each of the following standards:

1. **Management Plan:** Communities should have an urban natural resource management plan that guides the strategic management of one or more urban natural resources (which include community trees and forests) at the community or watershed level. The plan must be based on some professional assessment of the resource(s). Plans that focus on or significantly include the “urban forest” (including trees on public streets, parks, and forested lands) are preferred.
2. **Professional Staffing:** For the planting, protection, and maintenance of urban and community trees and forests, communities should rely on the services of an individual or individuals who have one or more of the following credentials:
 - Degree in a natural resource management field
 - ISA, MCA or other equivalent professional arborist certification;
 - Completed a full course of MTWFA Professional Development Series or equivalent training.
3. **Ordinances / Policies / Regulations:** A strong program follows and enforces local or statewide ordinances or written policies that focus on planting, protecting, and maintaining urban and community trees and forests. This includes following and enforcing Massachusetts General Law Chapter 87.
4. **Advocacy/Advisory Organizations:** A strong program will partner with one or more citizen-based or non-profit organization such as a tree board, tree commission, or non-profit organization that is chartered to advocate for the planting, protection, and maintenance of urban and community trees, forests or other community-wide urban natural resources.
5. **Inter-Agency Coordination:** In a community with a strong program, there should be regular communication and coordination between multiple agencies on issues of planting, protecting, and maintaining community trees and forests. Other agencies might include planning boards, highway departments, conservation commissions, utilities, etc.
6. **Tree City USA:** Finally, a community with a strong program will achieve and maintain Tree City USA status.

Through our technical assistance, training, awards and grants programs, the Urban Forestry Program assists communities in achieving these criteria. In 2008, Massachusetts had 34 communities that met all of the first four criteria. These communities are home to 1.77 million people or 28% of the state's total population.

Biomass for the Bay State

In Massachusetts, we have an abundant supply of biomass (wood chips, sawdust, and wood waste) produced by the forestry, lumber, wood working, arboriculture, construction, and landscaping industries. This biomass is currently underutilized but can be an inexpensive, renewable, and local source of thermal and electrical energy. The Bureau of Forest Fire Control and Forestry *Marketing and Utilization Program* has been working to assist communities and businesses in bioenergy development projects to take advantage of this opportunity. Projects recently built or in the permitting process are listed below:

- Russell Biomass is developing a 50 megawatt electric generating facility in Russell.
- Pioneer Renewable Energy is developing a 47 megawatt electric generating facility in Greenfield
- Cooley Dickinson Hospital in Northampton has added a second biomass boiler with an electric generating steam turbine in conjunction with a hospital expansion project.
- Seaman Paper Company in Otter River has installed a new boiler and electric generating steam turbine in their paper production facility.
- DCR has installed a small wood chip boiler at the Quabbin Reservoir Administration Complex which will displace 25,000 gallons of fuel oil with 400 tons of wood chips.

DCR along with the Department of Energy Resources (DOER) has identified biomass as a renewable energy resource with tremendous potential in Massachusetts due to the state's 3 million acres of forestland and other large sources of wood. Under the "Sustainable Forest Bioenergy Initiative" we have produced many technical reports which are available at: <http://www.mass.gov/dcr/stewardship/forestry/utimark/index.htm> This broad initiative will facilitate the development of biomass energy projects and fuel supply infrastructure in the Commonwealth.

Not only is bioenergy a local and renewable energy source, but it will help us reduce our reliance on foreign fossil fuels and enhance the market for under-used forest products.

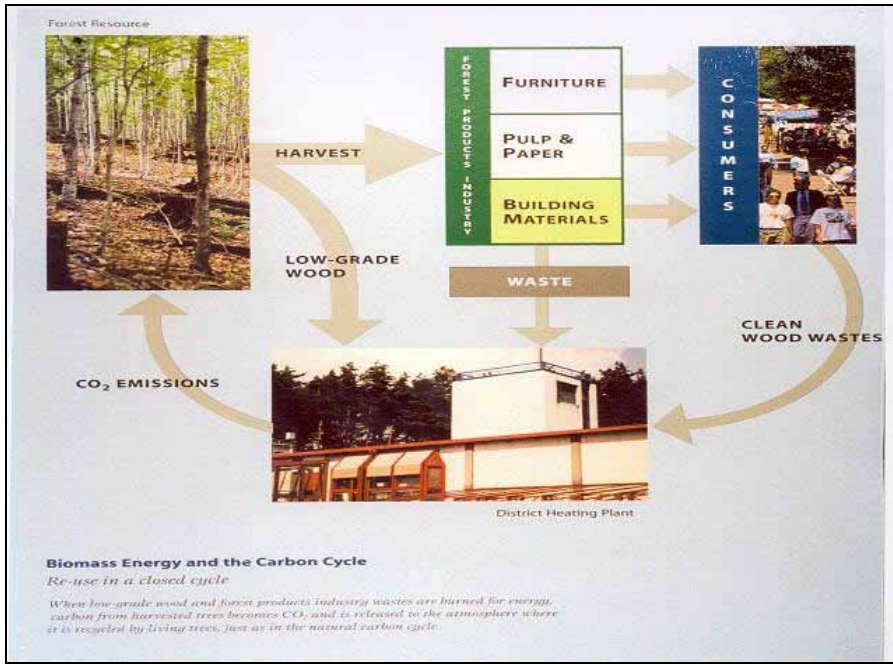


Figure 4: Diagram of the Carbon Cycle

Forest Legacy Program Protects another 1,104 Acres



The Massachusetts *Forest Legacy Program* protected an additional 1,104 acres of forest on five tracts of forested land this year. The Massachusetts Department of Conservation and Recreation (DCR) now holds a Conservation Restriction (CR) on the Eagleville Pines tract (283 acres), located in the North Quabbin Corridor Forest Legacy Area. The CR is on a portion of the property owned by the Morgan Memorial Goodwill Industries' (MM) 100-year old Fresh Air Camp in the Towns of Athol and New Salem. The area and is host to hundreds of urban disadvantaged youth campers every summer. The project was funded by the U.S. Forest Service, Forest Legacy Program (FLP). Morgan Memorial provided a "bargain sale" that was applied to the "cost-share" required by the Forest Legacy Program. The tract was one of the largest unprotected properties in the North Quabbin Region of north central Massachusetts.

The Town of Barre (through the Conservation Commission) acquired two Conservation Restrictions from the Massachusetts Audubon Society's (Mass Audubon) in the Nashua River Greenway Forest Legacy Area. The acquisition of the two CRs helped the 1,500-acre Rutland Brook Wildlife Sanctuary grow by 133 acres. The properties are mostly located within the DCR / Division of Water Supply Protections' watershed boundary, and will be open year-round for hiking and nature study. Their acquisition was a culmination of a four-year collaboration between Mass Audubon, Mount Grace Land Conservation Trust (MGLCT), the Town of Barre, Massachusetts Department of Conservation and Recreation (DCR), and the U.S. Forest Service. Mass Audubon provided "bargain sales" and other acquisition expenses that were applied to the required cost-share for the greater "Quabbin Corridor Connection Forest Legacy Project", comprised of 19 tracts of land. Both CRs were acquired with funds from the U.S. Forest Service, Forest Legacy Program.

Two additional tracts of forested land, located in the Town of Petersham, were donated and applied to the required cost-share for the greater "Quabbin Corridor Connection Forest Legacy Project". The Davis Family donated a 658 acre CR and the Day Family donated a 30 acre CR, both within the Nashua River Greenway Forest Legacy Area. The CR on the Davis Family property is held by the Mount Grace Land Conservation Trust and the CR on the Day Family is held by the Department of Conservation and Recreation.

All properties acquired using funds from the Forest Legacy Program are required to have a Forest Stewardship Plan approved by the State Forester under the terms of the Conservation Restrictions.

Detailed Accomplishments of the Bureau of Forest Fire Control and Forestry

Service Forestry Program

Program Overview:

The Bureau's Service Forestry Program's duties include the following:

- Oversee timber harvesting under the Forest Cutting Practices Act (MGL c. 132).
- Administer the state's current use tax laws (MGL c. 61, 61A & 61B) for privately owned forest land through certification of forest management plans, compliance monitoring, and oversight of management practices. These laws reduce property taxes on forest land when an owner commits to long-term forest management.
- Evaluate and approve forest management plans and practices implemented through the USDA's Wildlife Habitat Improvement Program (WHIP) and Environmental Quality Incentive Program (EQIP), as well as the Commonwealth's Forest Stewardship Program.
- Provide technical assistance, education, and outreach to landowners, foresters, timber harvesters, municipal officials, and environmental organizations.
- Cooperate with federal and state agencies, educational institutions, environmental organizations, and local government on forestry-related initiatives and programs.
- Develop and manage databases for MGL c. 61, 61A & 61B, Forest Stewardship, MGL c. 132, and Timber Harvesters Licenses.

2008 Accomplishments

Chapter 132, Forest Cutting Practices Act

- Designed to regulate and ensure timber harvesters are licensed in order to insure that the following values of interest are not jeopardized: (a) continuation and increase of the supply of forest products; (b) conservation of water; (c) maintenance of air and water quality; (d) prevention of floods; (e) prevention of soil erosion; (f) improvement of condition for wildlife; and (g) improvement of conditions for outdoor recreation. MGL c. 132, § 40-46 requires a cutting plan on all harvests over 25 thousand board feet (MBF) or 50 cords. Service Foresters review, revise, approve, issue stop orders, and conduct final inspections of cutting plans. This year we reviewed:

Table 4: Forest Cutting Plans

	Plans	Acres	Volume MBF	Volume Cds.	Volume Tons
FY 08	546	24,667	51,458	69,832	45,055
5-year Avg.*	641	28,414	63,995	59,673	28,257
*FY 2003-2007					

- The UMass Department of Natural Resources Conservation, Harvard Forest, and the Service Forestry Program continue to collaborate on digitizing all forest cutting plans into a GIS data layer. This information will allow us to analyze the extent and degree of forest harvesting in the state.
- The *Massachusetts Forestry Best Management Practices Manual* has seen updating in 2008 and is currently under review.

MGL Chapters 61, 61A & 61B, Current Use Taxation Law

- As of June 24, 2009, there were 10,468 10-year MGL c. 61, 61A & 61B Forest Management/Forest Stewardship plans covering 389,093.86 acres, or 15 % of the total private forest land in Massachusetts.

Table 5: Chapter 61/61A/61B Plans

Calendar 2008 Summary	Plans	Acres
c. 61 New	105	6,012
c. 61 Recertification	254	19,550
c. 61 Amendments	1	401
c. 61A New	59	3,355
c. 61A Recertification	46	3,066
c. 61A Amendments	0	0
c. 61B (all)	8	1,145
Stewardship (all)	164	10,919
Total	637	44,448

DCR-Natural Heritage and Endangered Species Program Forestry Liaison Program

Service Forestry and NHESP continued refining and nurturing the DCR-NHESP Forestry Liaison Program. The purpose of this program is to provide landowners and private consulting foresters with information about the presence of Protected Species and their Habitats on private lands where forest management is proposed.

This program provides that four (4) DCR Service Foresters are contact persons for acquisition of Protected Species information for forest-management purposes, and work as consultants between the Service Foresters and the NHESP on matters relating to forest management and conservation of Protected Species on private lands.

The Liaison Program has accomplished numerous site visits along with reviewing seven (7) Protected Species Information Requests in 2008.

Asian Long-Horned Beetle—Survey and Eradication

August 2008 brought forth a collaborative effort on the eradication of Asian Long-Horned Beetles in Worcester (and surrounding towns). Service Foresters, along with other Bureau staff, in cooperation with USDA and the city of Worcester began a program of survey (Phase 1) and eradication (Phase 2) procedures/protocols. Service Forestry staff provided a dedicated effort to:

- Delineate the exact range of this infestation
- Educate the public
- Supervise the removal of all infested trees
- Supervise the removal of susceptible tree species in close proximity to infested trees
- Prevent the further spread of the insect

MA Private Lands Forest Stewardship Council (FSC) Group Certification Overview

Woodland owners have two options for obtaining forest certification. They may have their property individually certified or enroll in a group certification scheme. Priced only by Wisconsin, in July 2009 Massachusetts anticipates becoming the 2nd state in the country to make group certification available to its private forestland owners. As of June 24, 2009, there are seven (7) enrollees, three (3) from Western MA and four (4) from Central MA. An additional twenty one (21) landowners from throughout the state are in the process of joining the group. Group certification:

- Is a process by which multiple landowners or forest managers are certified under one FSC certificate.
- Allows a group entity to be the certificate holder for a group of landowners who voluntarily agree to participate in the group.
- Requires the group entity to meet all FSC policy and procedural requirements and all landowners to meet the FSC P&C.
- Is structured so the group entity assumes no legal title or use right to the forest resources.

Benefits of the MA Private Lands Group Certification to MA landowners:

- Recognition for implementing high standards of sustainable forestry locally

- Recognition for participation in a successful and expanding movement to improve forestry globally
- Cost sharing for management planning expenses
- Ability to enroll in forest certification at no cost
- Access to green certified wood products markets
- Access to ecosystem services markets

Technical Assistance, Education, and Outreach

- The Service Forestry Program provides a wide range of assistance to private and municipal forest landowners, including demonstrations of forestry practices, state and federal program information, and referrals to Massachusetts licensed foresters.
- The “Got Woods? Get Advice—Call Before You Cut” campaign was launched in 2002 to increase outreach to landowners. The first phase established a toll-free 800 number that serves as a clearinghouse for forestry-related questions. Service Foresters use these contacts to promote programs (e.g., Stewardship and c. 61), recommend the use of licensed foresters, refer landowners to licensed foresters, and provide advice on forest management topics if requested.
- Forester Training: In 2008, the service forestry program conducted two workshops for Massachusetts Licensed Foresters. The program consisted of a listening session to hear issues from the private foresters regarding programs, a review of DCR procedures regarding the review of management plans and cutting plans, NHESP Liaison Process, and the BMP Monitoring Protocol.
- The Bureau also plays an important educational role in two major events for young people. Service Foresters have a leadership role in the state’s annual Envirothon, and conduct workshops at the annual Conservation Camp sponsored by the commonwealth’s Division of Fish and Wildlife.
- Forestry Exhibits: Service Forestry staff led the Bureau effort in developing forestry exhibits at the Topsfield Fair.
- May 2008—Service Foresters assisted in packing and distributing “seedlings” for landowners in cooperation with many of the Conservation Districts located in the commonwealth.
- Service Foresters in collaboration with DEP Circuit Riders presented “*Forest harvesting under c. 131 and Forest Cutting Practices Act c. 132*” to local conservation commissions and others.
- Service Forestry staff provided leadership, logistical support and event planning for the NASF Annual Meeting in Hyannis.
- Service Forestry performed the monitoring and related reporting on properties enrolled in the Forest Legacy Program.
- Service Forestry presented at a workshop for the national program “Becoming An Outdoors Woman (BOW)”. This workshop introduced 20 women to the principles of forest stewardship as seen through the eyes of a forester and a wildlife biologist.
- Service Forestry assisted disseminating information to a variety of organizations (e.g. garden clubs, Lions Club) regarding the Asian Long-horned Beetle.
- Service Forestry continues to be active with the American Tree Farm System.

Service Forestry was involved in Tree Farm Field Days and Tree Farm Tours during 2008.

- Service Forestry, along with other Bureau staff responded to the “call for help” during the December 2008 Ice Storm.
- “*Complementary Roles of Forestry and Conservation*” presentation was given to the MA Land Trust Coalition.
- Two (2) outreach workshops were given to landowners and foresters regarding management options for ice storm damaged forests.
- Service Forestry addressed the issue of Timber Trespass in a meeting with town representatives from Huntington in September 2008.
- Newsletter targeting c.61/61A/61B landowners as well as six (6) presentations on the 2007 changes to the “current use” programs in MA.
- A marketing grant was utilized to update two (2) publications—“*Forester and the Care of Your Land*” and “*Your Land Your Choices*”.

Best Management Practices Monitoring

- In order to monitor compliance of Best Management Practices (BMPs) at harvesting operations conducted under c. 132, the Bureau has developed a BMP Implementation Monitoring Protocol with the USDA Forest Service and DEP.
- Service Forestry has conducted BMP workshops for loggers and foresters, moreover the results from the BMP Monitoring Program were presented in a meeting at the Massachusetts Association of Licensed Foresters.

Forest Stewardship Program Overview

Recognizing the benefits of good stewardship on private forest land, the Massachusetts Forest Stewardship Program supports private landowners in their efforts to manage their woodlands in ways which protect inherent ecosystem values. Specifically, the program encourages landowners to:

- Consider a balanced range of management options within a local landscape context.
- Develop and follow a 10-year management plan.
- Seek technical assistance and professional advice.
- Make use of available resources and services.

Formatted: Bullets and Numbering

In following their Stewardship Plans, landowners improve wildlife habitat and forest aesthetics, protect soil and water resources, and ensure a renewable supply of high quality wood products. Through the Stewardship Program, landowners can gain access to cost share incentives from programs set forth in 2008 Farm Bill. These funds can defray the cost of implementing management practices recommended in a forest management plan.

Stewardship Program activities also include workshops for landowners, trainings for natural resource professionals, bulletins and pamphlets on stewardship topics, partnership efforts, and cost-share grants when funding allows. Since the inception of the program in

1990, the enrollment has grown to 2,932 landowners and 205,298 acres, or 8 % of the state's private forest land.

In 2008, 164 plans were completed and approved, representing 10,919 new acres in the Stewardship Program. A majority of these landowners may also enroll in the c. 61, 61A or 61B programs.

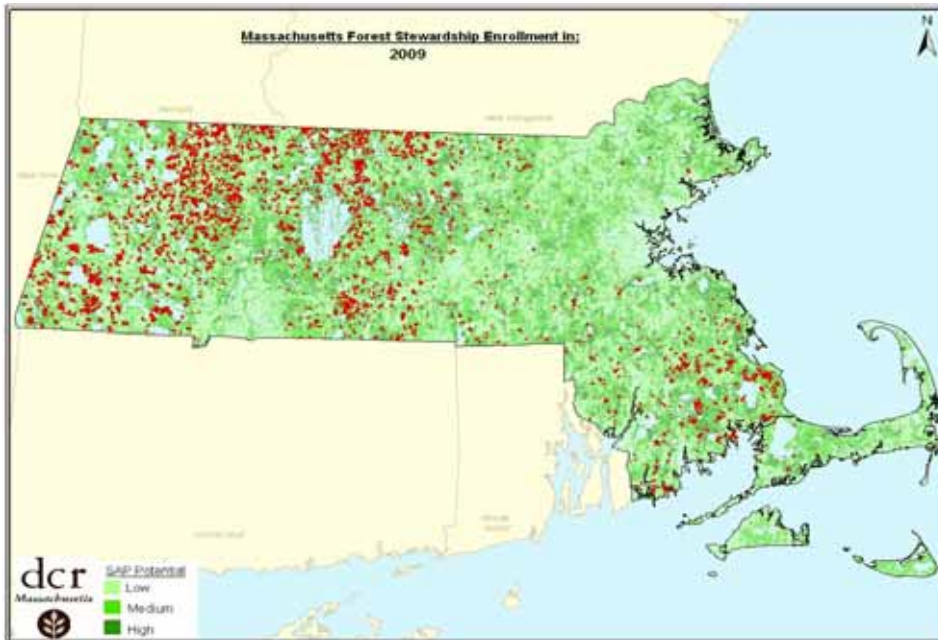


Figure 5: Massachusetts Forest Stewardship Enrollment in 2009

The Stewardship Program was actively involved with the development of a new initiative brought forth through the Environmental Bond Bill. In May 2009, the “*One-Stop Shopping-Working Forest Initiative*” began assisting landowners with the cost of preparing new forest stewardship plans as well as the cost to upgrade an existing plan to Forest Stewardship Council (FSC) green certification standards.

Forest Stewardship Monitoring Program

The Stewardship Program continues to monitor properties enrolled in the Forest Stewardship Program. Successful implementation of a Stewardship Plan provides the best indication that the program is achieving its primary purpose of encouraging the long-term stewardship of non-industrial private forestland. In 2008, 27 properties were visited and assessed by Service Forestry to verify the current forest conditions are consistent with landowner stewardship objectives. It was determined through this monitoring process that 100 % are being managed sustainably.

State Forest Lands Management

Program Overview

The State Forest Lands Management Program manages almost 290,000 acres of state land, representing 9% of the forest land in Massachusetts. Our enabling legislation reads, “state forests shall be in perpetuity income producing ... and managed to ‘improve’ these same forests.” MGL c. 132 further defines our mission to protect the public’s interest in the private and public forest lands of Massachusetts. These public interests include water and soil conservation, air and water quality protection, biodiversity, recreation, and a continued and increasing supply of forest products.

The Bureau fulfills this mission by designing silvicultural operations on state forest lands that produce high quality forest products, improve future forest conditions, and protect the forests’ ecological and social values.

FY2008 Accomplishments:

Forest Management

Table 6: Summary of forest management activities for the last 5 years

Fiscal Year	Foresters	Acres	Revenue	Improvements Value	Volume MBF	Volume Cords	Volume Tons
2008	13	1,370	\$620,685	\$159,882	4,867	2,995	3,153
2007	9	1,716	\$530,336	\$171,309	4,657	6,627	2,130
2006	9	1,702	\$715,015	\$143,808	4,939	5,198	2,205
2005	9	1,734	\$896,526	\$140,171	5,652	4,400	3,189
2004	10	1,874	\$1,112,050	\$131,380	7,498	5,717	5,118

Inventory

- The Bureau re-inventoried our Continuous Forest Inventory (CFI) plots in 2000 and is gearing up for the next ten-year inventory, starting in 2009. A lot of the background work was completed in 2008 in preparation for this big effort. The information will be made available to the public and posted on our web site when available. The following is a summary of initial CFI results:

Total Gross Volume	2,600,000 MBF
Growth	71,500 MBF per year
Mortality	21,000 MBF per year
Net Growth	51,500 MBF per year

Forest Management Planning

- We completed the draft and public review of the Landscape and Forest Management Framework for the Berkshire Ecoregion and began work on five of the six remaining ecoregions with an expected completion date of mid-2009. This assessment identified regional issues, resource conditions, and made recommendations. The management framework connects public and private lands across the region, and helps coordinate management across private, public, and agency boundaries.
- Four of the eight district Forest Resource Management Plans were written, reviewed by the public and other Commonwealth staff, and approved by the Commissioner and the DCR Stewardship Council in 2008. This covers over 144,000 acres and represents 50% of the lands that we manage. These comprehensive plans will set the management agenda for 70 state forests for the long term (100 years), with implementation guidance for the next 15 years. The four remaining forest management plans are in process and we hope to present them to the public for review and comment and get final approval in 2009.

Forest Certification

- In 2008 Massachusetts State Lands continued to be certified under the principles of the Forest Stewardship Council (FSC). In November, Scientific Certification Systems conducted the annual certification audit and state lands were found to be in conformance with FSC principles. State lands managed by the Bureau of Forestry continue to be “green certified” into April of 2009.

Boundary Maintenance

- Management Foresters and park staff maintained approximately 227.3 miles of boundary across the state in 2008. The Bureau is prioritizing boundary maintenance and landline location to identify past trespasses and protect the public’s interest. Through this work we have identified a number of trespasses and boundary surveying needs. In some instances, this has already resulted in voluntary corrective actions.
- Our goal is to maintain state forest boundaries on a 10 year cycle to protect our public natural resources.

Road Inventory and Condition Survey

- The State Lands Management Program continued its comprehensive road and trail GPS inventory started in 2006. The goal is to inventory all roads and trails within every state forest and conduct a condition survey of the roads, bridges, culverts, ditches, erosion, etc. By the end of 2008, we completed surveys for about 90% of the state forests statewide. This survey is expected to map around 3,000 miles of roads and trails. This information will be used to design appropriate transportation systems

for management and public use, and to appropriately close, construct, and maintain roads and trails as necessary.

- Our goal is to provide a transportation system that is adequate, safe, and affordable, and causes minimal degradation of water quality through erosion.

Field Restoration and Maintenance

- Over 25 acres of fields were restored or maintained through mowing to provide for early successional habitat. Work was accomplished through timber sale contracts and agricultural agreements with local communities.

Forest Fire Control

Program Overview:

Since 1911, the DCR Forest Fire Control program has been providing aid, assistance, and advice to the Commonwealth's 351 cities and towns on the prevention, detection, and suppression of forest fires. Our work helps protect the 3.5 million acres of state, public, and private woodlands, and over 100,000 acres of municipal drinking water reservoirs that lie within Massachusetts.

The Bureau is an active participant with all municipal fire departments in this endeavor. It also enjoys close cooperation with county and local forest warden committees, town and city foresters, state and local law enforcement agencies, and the Commonwealth's county and statewide civil defense and mutual assistance organizations.

2008 Accomplishments:

The Bureau of Forest Fire Control continued to provide critical wildland fire detection and suppression services to Massachusetts cities, towns and district fire departments during 2008. A total of 2,740 fires were reported across the state, accounting for a little over 1,900 acres. Most of these totals were produced during the spring fire season, where the state experienced an unusual run of low humidity days, very low fine fuel moistures and periods of high winds. This all resulted in a very active month of fire activity, which included a number of fires exceeding 30 acres and 3 large project fires over 100 acres.

The Massachusetts Wildfire hand crew assisted in national wildfire suppression efforts with one mobilization to the Klamath National Forest in Northern California. Bureau of Fire Control staff also assisted in a ice storm natural disaster, occurring in December of 2008. The Bureau, once again provided assistance to local city and town fire department by awarding over \$67,000 in Volunteer Fire Assistance Grants, a program funded through the Forest



Service and managed on the state level by the Bureau of Forest Fire Control. Additionally, over 3 million dollars worth of surplus equipment, including vehicles, generators, communications equipment, and heavy equipment was transferred by the Bureau's Federal Excess Property Program (FEPP) to cities and towns for use in their

individual fire suppression and emergency management programs. Training of municipal firefighters in wildland fire suppression tactics was increased over the course of the year, where the bureau delivered the basic wildfire training course to over 35 cities and town fire departments for a total of over 350 firefighters trained state wide. Finally, the prescribed fire and fuels mitigation program on Martha's Vineyard and in the southeast continued in its development stage. Burn plans have been completed for implementation and mowing of fuel breaks have been completed in preparation for prescribed fire treatments in 2009.

Forest Health Program

Program Overview:

The primary function of the Forest Health Program is to monitor, assess, report on and when warranted and appropriate, to suppress the various factors which are negatively impacting the Commonwealth's forest resource. The integrated management approach is strongly encouraged whenever suppression activities are undertaken. The program also provides assistance to the State Park system in the removal of hazardous trees and the control of noxious plants within the active recreation area.

Accomplishments FY 08

- Continued the collection of data on a series of permanent plots to document the impacts that specific insects and disease are having on our forest resource. Specifically 6 plots are maintained to monitor the condition of sugar maple in both managed and natural stands, 15 plots to monitor the impacts of Hemlock Woolly Adelgid, 3 plots to monitor Beech Bark Disease, and 160 plots to monitor the gypsy moth population.
- Surveyed for Emerald Ash Borer at 20 sites using sticky traps and lure provided by the USDA. No Emerald Ash Borers were collected; however a small number of native metallic wood borers (*Buprestidae*) were collected.
- Surveyed for *Sirex noctilio* Wood Wasp at 15 sites. Ten of the sites were surveyed using Lundgren funnel traps baited with a pheromone and 5 sites where the trees were stressed using a herbicide. No target insects were collected.
- Participated in the USDA Forest Service Early Detection, Rapid Response survey for exotic bark beetles. This survey was conducted at 9 sites using 3 traps/lures per site. All trap catches were screened by DCR for common species and the remainder was sent to Cornell University for identification. Approximately 15,000 insects were captured and screened.
- Three sites were surveyed for *Phytophthora ramorum* (Sudden Oak Death) using stream baiting. No *P. ramorum* was detected.

Insect Surveys

Aerial surveys were conducted in May and June to document the location of various forest stress factors. This survey required 33.1 hours of flight time. Three major stress factors were documented, Periodic Cicada defoliated 6,500 acres in the Towns of Falmouth, Sandwich, Bourne, and Barnstable; Winter Moth caused approximately 15,000 acres of defoliation mostly within the Route 128 area with spotty defoliation noted in the Orleans, Brewster, Freetown and Fall River areas; finally Gypsy Moth

defoliated 100 acres in southeastern MA. This aerial survey continues to document severe oak mortality in Southeastern MA caused by repeated defoliation caused by Gypsy Moth, Forest Tent Caterpillar, and Winter Moth.

Ground surveys identified the presence of Red Pine Scale at the Quabbin Reservoir where severe Red Pine Mortality should be expected. One new community (Townsend) was confirmed with Hemlock Woolly Adelgid and Viburnum Leaf Beetle continues to spread and is now fairly common in western MA with spotty infestation in the remainder of the state.

Biological Controls

In cooperation with the USDA Forest Service and the University of Massachusetts the parasitic fly, *Cyzenis albicans* was released at 3 locations, Wellesley, Seekonk and Hyannis. Surveys at previous release sites indicate that this parasite has become established in Falmouth and Cohasset.

The release of the predatory beetle *Lericobius nigrinus* continued with releases being made in Sherborn, Chester and Blandford. We continue to monitor previous release sites but have been unable to confirm the establishment of the predator.

Arboricultural Services to State Park Facilities

Hazard tree removal continued on a limited basis in the State Park recreation areas. Two, two-person tree crews removed approximately 1200 hazardous trees and pruned another 865 trees. Additionally approximately 225 gallons of a 2% solution of Roundup was applied for the control of poison ivy within the state park system.

Public Outreach

We continued our efforts to provide the professional foresters, arborists, municipal tree officials and the public with the most current insect/disease information. During fiscal year 2008, presentations were made at 31 meetings reaching approximately 1,200 individuals. We also responded to approximately 500 requested for information or assistance with the diagnosing woody plant problems.

Urban and Community Forestry

Program Overview:

Massachusetts is one of the most populous and most heavily forested states in the nation. With both major cities and small towns, along with a tremendous resource of town forests, commons, conservation lands, and street trees, the people of Massachusetts have come to expect the steady comfort, beauty, and environmental and economic benefits of trees in their communities. Through technical assistance, education, awards and grant funding, the Urban and Community Forestry (UCF) Program provides assistance to Massachusetts communities in protecting, growing, and managing their urban and community trees and forest ecosystems, with the ultimate aim of improving the environment and enhancing the quality of life in all of Massachusetts' 351 municipalities.

The UCF Program is led by a full-time Program Coordinator with the assistance of a part-time Community Action Forester. The program also receives assistance from the staff of the DCR Forest Health Program and the DCR Division of Urban Parks Arborist.

2008 Accomplishments:

Monitoring Progress in Urban and Community Forestry

As detailed above, in 2005, the USDA Forest Service adopted a new “performance-based monitoring and allocation system” to measure each state’s progress in strengthening urban and community forestry across the nation. The Forest Service has defined four measures of a strong urban and community forestry program and the Massachusetts Urban and Community Forestry Program added two additional criteria.

Communities that meet one of the four Forest Service criteria are defined as “Developing Communities” and those that meet all four criteria are defined as “Actively Managing” communities. In 2008, Massachusetts reported 34 Actively Managing Communities representing 30% of the state’s population and 120 Developing Communities representing 68% of our population. Our goal for 2009 is to increase the number of “Actively Managing” communities such that those communities constitute 35% of the state’s population

Table 7: Urban and Community Forestry Capacity Monitoring

	Number	Percent of MA Population	Regional Average	National Average
Actively Managing Communities	34	30%	40%	39%
Developing Communities	120	39%	36%	38%
Non-Participating Communities	199	33%	24%	23%

**Providing Technical Assistance for Excellent Urban and Community Forestry
*Boston's Urban Forest Coalition (BUFC) and the Grow Boston Greener (GBG)
Campaign***

The goals of the Coalition are to:

- Develop a comprehensive management plan for Boston's urban forest,
- Improve education and outreach about the urban forest,
- Launch and coordinate a network of NGO's, education institutions and government agencies at all levels working to improve Boston's urban natural resources,
- Identify and support legal and policy reforms that support urban forestry improvements at the state and local level.

The Coalition has identified and begun four key projects that will allow us to accomplish these goals and has organized working groups around each project. These projects are:

- The implementation of a GIS-based urban forest inventory, including a volunteer-based street tree inventory and a remote sensing analysis of overall canopy cover,
- The development of a comprehensive strategic plan for Boston's urban forest based on the Forest Opportunity Spectrum, a new tool developed by the Forest Service for identifying and understanding tree stewardship opportunities in urban areas,
- Research and advocacy around policy issues that impact urban forestry,
- The development of a marketing campaign to increase public awareness of the relationship between public health, quality of life, and a healthy urban forest.

In 2004, the Urban and Community Forestry Program, working in partnership with the City of Boston, the Urban Ecology Institute, the USDA Forest Service and many local non-profit green groups established Boston's Urban Forest Coalition. The goals of the Coalition are to:

- Develop a comprehensive management plan for Boston's urban forest,
- Improve education and outreach about the urban forest,
- Launch and coordinate a network of NGO's, education institutions and government agencies at all levels working to improve Boston's urban natural resources,
- Identify and support legal and policy reforms that support urban forestry improvements at the state and local level.

The Coalition has identified and begun four key projects that will allow us to accomplish these goals and has organized working groups around each project. These projects are:

- The implementation of a GIS-based urban forest inventory, including a volunteer-based street tree inventory and a remote sensing analysis of overall canopy cover,

- The development of a comprehensive strategic plan for Boston’s urban forest based on the Forest Opportunity Spectrum, a new tool developed by the Forest Service for identifying and understanding tree stewardship opportunities in urban areas,
- Research and advocacy around policy issues that impact urban forestry,
- The development of a marketing campaign to increase public awareness of the relationship between public health, quality of life, and a healthy urban forest.

In partnership with the BUFC, on Arbor Day 2007, Mayor Thomas Menino announced a canopy goal for the City of Boston of 35% which represents a 20% increase from the present canopy cover of 29%. To achieve this ambitious goal, the BUFC has begun a public education campaign to teach the citizens of Boston about the benefits and values of a healthy urban forest and is working with City policy makers to revise tree, forest and open space protection strategies and ordinances. Further, the Mayor committed to planting 100,000 new trees in the City by the year 2020. This last initiative to plant the trees has become known as the “Grow Boston Greener” campaign. In 2008, DCR continued its committed to plantings on its own property within the city and to support the general effort with grant funds from the Urban and Community Forestry Program.

In addition to efforts in Boston, UCF staff attended municipal planning and natural resource commission meetings, worked with municipal authorities and citizen groups on tree plantings and tree management projects, provided guidance to grant recipients, and gave general advice and assistance to the public state wide. In total, the program provided direct technical and financial assistance to 257 of Massachusetts’ 351 communities.

Education and Training

The Citizen Forester

Tree Wardens and more than 3,000 friends of Urban Forestry throughout the Commonwealth are kept abreast of issues, new research, and events through our monthly *Citizen Forester* newsletter, a nationally recognized electronic urban forestry publication. This year, it highlighted topics such as the role of urban trees in combating air pollution and managing storm water, and establishing a municipal tree risk management program.



Tree Steward Training

Again we held our, two-day “Tree Steward Training” at the Harvard Forest in Petersham, Massachusetts. This course provides foundation training in urban forestry and was

attended by more than 30 people representing new tree committees, non-profit groups, and a variety of municipal agencies.

Urban Forestry Environmental Justice Grants

DCR Urban and Community Forestry Program continued its partnership with the Executive office of Energy and Environmental Affairs (EOEEA) to create a targeted grant program that focuses on state recognized environmental justice communities. The purpose of these grants is to advance environmental equity, improve environmental quality, and build local capacity for urban and community forestry in environmental justice communities.

Tree City USA Forum

The Town of Wellesley hosted our annual Tree City USA forum and awards ceremony. The event was sponsored by the Wellesley Natural Resources Commission and the Roche Brothers Supermarket Company. The event was held at the DCR Elm Bank Reservation in Wellesley. DCR Commissioner Rick Sullivan presided over the awarding of 89 Tree City USA Awards, including six Growth Awards and three Tree Line USA awards. These Tree City USA communities are home to 3.7 million people and make a combined annual investment of \$22.7 million in urban and community forestry. The forum also featured a key note address by Matt Arnn, Regional Landscape Architect with the USDA Forest Service who talked about innovative urban forestry methods and projects to protect urban watershed function and health. The event was attended by over 120 citizen activists, municipal leaders, state legislators and urban forestry professionals.

Massachusetts Tree Wardens' and Foresters' Association Annual Conference

The DCR UCF program supported this annual conference which draws over 200 Tree Wardens and other green professionals and provides training on insects, diseases, safety issues, new research and other contemporary topics in urban and community forestry.

UMass Community Tree Conference

The UCF program co-sponsored this one-day training conference for over 300 green professionals.

Urban and Community Forestry Challenge Grants

Our Urban Forestry Challenge grants support local efforts to develop sustained urban and community forestry programs in Massachusetts towns and cities. These grants are funded from the state's annual federal urban and community forestry allocation and through private funds donated to the Mass ReLeaf Trust Fund.

Grant Highlights 2006 - 2008

- In this period, the UCF program provided \$708,606 in grant funds that supported 71 projects state wide.
- Examples of exemplary grant projects:

Eagle Eye Institute: \$15,000

Project Description – Grant to implement and evaluate a series of arboricultural trainings and tree related activities in order to develop a how to manual for creating a green industries career pathway for minority populations. The grant will also seek to cultivate partnerships towards the development of career bridging programs for minority and underserved populations.

Urban Ecology Institute: \$16,000

Project Description – This is a grant to support the Stony Brook Land and Water Project, an innovative urban watershed project that builds on the model Watershed 263 project from Baltimore. This project will engage community youth in inventorying trees and vacant lands in the Stony Brook Watershed and then making presentations to community leaders and residents. Ideally it will lead to the implementation of vacant lands projects that improve stormwater management and quality of life in the watershed. This project also links to the ongoing Greater Boston Urban Forest Inventory Project which is establishing a tree inventory for all of Boston for strategic management of the Boston urban forest.

Haverhill Historical Society’s Worshipping Oak Project: \$2,074

Project Description: This project will provide expert care to what may be the oldest living tree in Massachusetts, the “Worshipping Oak” in Haverhill. This tree is recorded to have been used as a meeting place dating back to before the first meeting house was built in 1648. The project will remove deadwood from the tree with a special crane and provide fertilizer and nutrients to the tree.

City of Fall River - \$15,000: A grant to fund the hiring of an urban forestry consultant/certified arborist to implement the actions and practices articulated in the City’s new Urban Forest Management plan (the plan was developed with prior DCR funding). The consultant will also educate City personnel, volunteer Tree Stewards, and the public about urban forestry issues.

Groundwork Lawrence, Inc. - \$12,000 Grant/\$18,495 Local Match: An urban forestry Environmental Justice grant to develop and implement a “Green Streets” tree planting program in the City by planting trees within the set-back zone of private properties along public roads. The project will involve coordinating the project with several low cost housing development agencies and organizations to introduce trees on to their properties. Non-profit housing partners include Habitat for Humanity, Bread & Roses Housing, Inc. and Lawrence Community Works.

Partnerships

The DCR Urban and Community Forestry Program worked closely with the Forest Service and other federal agencies on innovative forestry and urban forestry initiatives such as Urban Connections, Boston's Urban Forest Coalition and the newly formed Urban Long Term Research Area (ULTRA) being developed by the Forest Service's Northern Research station. In addition, the DCR worked closely with the Urban Natural Resources Institute.

Concluding Remarks

In all of these endeavors, the Massachusetts Urban and Community Forestry program demonstrated its leadership locally, regionally and nationally, and successfully met the goals and objectives of our 2006 to 2008 work plans, our five-year plan and federal guidance.

Marketing and Utilization

Program Overview:

The Forest Products Marketing and Utilization Program (M&U) assists landowners, foresters, timber harvesters, sawmills and business entrepreneurs in the promotion and expansion of the forest products industry in Massachusetts and the Northeast.

Our assistance ranges from evaluating and developing business opportunities to general technical assistance in all phases of wood product use and manufacturing. Past projects include timber bridges, wood industry directories, concentration yards for low-grade logs and biomass energy project development.

Currently, the program has a staff of one working from the Holly Moore House office in South Amherst, Gordon Boyce, Marketing and Utilization Forester.

2008 Accomplishments:

Technical Assistance

Within the past year, the program has had well over a thousand requests for technical assistance from the general public and industry representatives. Those requests included businesses wishing to get on the state vendor list, sawmills struggling to survive in an intensely competitive industry, and facilities considering woody biomass as an alternative energy source.

Biomass Energy Project Development

The M&U program seeks to provide information and technical assistance to project developers and facility managers to promote the utilization of woody biomass for produce thermal and electrical energy. Massachusetts has an abundant supply of low value forest material which is currently underutilized. Forest thinning operations, wood chips from sawmills, urban forestry wood waste, unused wood from furniture and construction industries, and material from construction demolition and municipal solid waste are all local sources of biomass that can be converted to heat and energy.

Biomass energy projects currently under development in Massachusetts include:

- UMass Amherst is studying the feasibility of a bioenergy component for their new central heating and electric generating plant.
- Erving Paper Mills is looking at a biomass CHP plant to serve their thermal and electric energy needs.
- Mount Wachusett Community College has a prototype 50 kilowatt CHP gasification system to produce electricity and supplement the heat output from their existing wood chip heating system.

There are several dozen other large and small scale bioenergy projects in the feasibility study stage that have the potential to create markets for hundreds of thousands of tons of wood chips annually. These public and private sector projects have the potential to create large amounts of renewable energy and help lessen the Commonwealth's dependence on foreign produced fossil fuels.

Biomass Education Campaign

The M&U program has developed an educational program for businesses, entrepreneurs and institutions about the economic, social and environmental benefits of using wood for heat and electricity. We have published an informational brochure and will host several educational workshops for specific types of facilities this fall.

MA Sustainable Forest Bioenergy Initiative

The MA Sustainable Forest Bioenergy Initiative (SFBI) is a multiagency effort by DCR and the Department of Energy Resources to facilitate the development of biomass energy projects and supply infrastructure in Massachusetts. To date, SFBI has researched harvesting and processing methods, analyzed the economic impact of biomass development, conducted biomass supply resource assessments, and evaluated the silvicultural and ecological impacts of biomass harvesting on forest health. We are also producing public outreach information on bioenergy, creating biomass harvesting demonstration areas, developing forest industry training programs on best management practices and equipment procurement incentives, and developing a strategic plan for Bioenergy project development in Massachusetts.

Partners

The Marketing and Utilization program works cooperatively with many state and federal agencies and non-profits, including:

- Biomass Energy Resource Center
- Coop Power
- Massachusetts Department of Environmental Protection
- Massachusetts Division of Energy Resources: Bioenergy Working Group
- Massachusetts Executive Office of Environmental Affairs
- Massachusetts Farm Bureau
- Massachusetts Forest Landowners Association
- Massachusetts Water Resources Authority: Renewable Energy
- Massachusetts Wood Producers Association
- Northeast Lumber Manufacturers Institute: Advisory Board Member
- Northeast Regional Biomass Program: Advisory Board Member
- Northeast Utilization & Marketing Council: Advisory Board Member
- Pioneer Valley Planning Commission
- UMass Department of Natural Resources Conservation
- UMass Department of Resource Economics

- US Department of Energy
- USDA Forest Service: Economic Action Program, State and Private Forestry Program and Forest Products Laboratory

Recent M&U Publications

Massachusetts Directory of Sawmills and Dry Kilns, 2006 by Gordon Boyce, Curt Bellemer and David T. Damery. The directory contains names and locations of sawmills, portable band mills and dry kilns located in Massachusetts, and is available at <http://www.mass.gov/dcr/stewardship/forestry/utimark/SawmillDirectory2006.pdf>

MA Sustainable Forest Bioenergy Initiative

This effort has produced numerous reports on the economic and environmental effects of biomass energy development in Massachusetts. M&U staff edited and reviewed all of these documents, which are available online at <http://www.mass.gov/doer/programs/renew/bio-initiative.htm>

Forest Legacy Program

Program Overview:

The Forest Legacy Program is a partnership between participating states and the USDA Forest Service to identify and help protect environmentally important forests from conversion to non-forest uses. The main tool used for protecting these important forests is the conservation easement. The federal government may fund up to 75% of program costs, with at least 25% coming from private, state or local sources. Massachusetts is one of 38 states that participate in the federal Forest Legacy Program, and the DCR Bureau of Forestry directs this program in Massachusetts. Each participating state develops an "Assessment of Need" (AON), approved by the Forest Service. Massachusetts currently has six approved "Forest Legacy Areas" and has proposed two additional areas (see figure 7 below). To date, \$10,199,050 of funds provided by the Forest Legacy Program has protected 5,956 acres on 33 tracts in Massachusetts. Table 8 below summarizes funds appropriated for projects in Massachusetts over the last 8 federal fiscal years.

Table 8: Forest Program Projects

2001	2002	2003	2004	2005	2006	2007	2008*
\$1,387,000	\$891,000	\$1,630,000	\$1,607,000	\$764,000	\$2,710,000	\$2,500,000	\$200,000

* Additional funds were requested in FY2008 and approved for use in the FY2007 Project

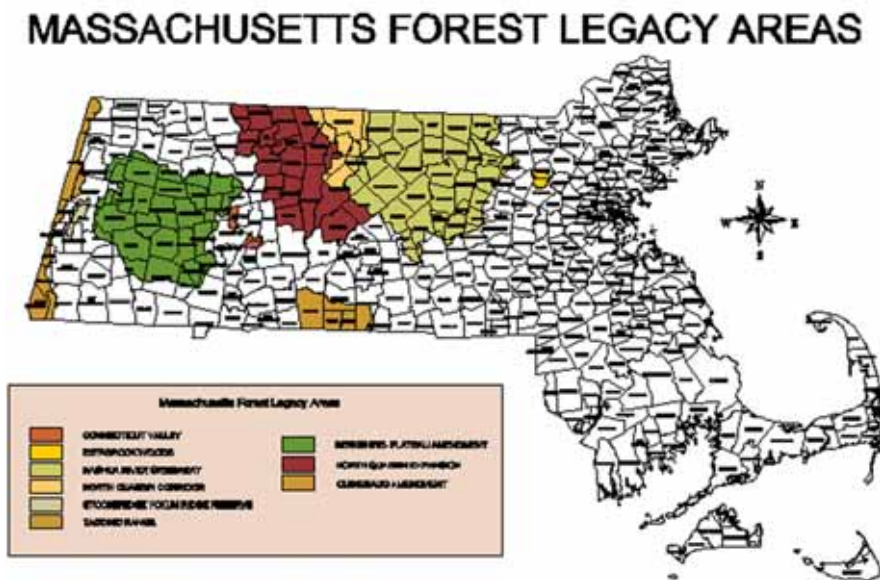


Figure 6: Map of Forest Legacy Acres

Additional Program Attributes

- State and local partners select priority tracts in cooperation with the Forest Service.
- The program is based on a “willing seller/willing buyer” model.
- The lands or interests in land are held in perpetuity by the federal government, a state agency, or a municipality. Conservation easements and restrictions allow the land to remain privately owned.
- Forest Stewardship Plans are prepared for all tracts. These plans meet the landowner’s objectives for natural resource management and are approved by the State Forester.
- Forest Legacy Program tracts can remain “working forests” that produce forest products to meet the needs of the local community, the state, and the nation.
- All projects must meet goals and objectives set by the states Assessment of Need (AON), describe the public benefits, and list the environmental values that will be protected.

Table 9: Completed Forest Legacy Projects in Massachusetts

Project / Tract Name	Forest Legacy Area	Federal FY	Acres	Interest Acquired	Interest Holder	Total Costs (Value)	Forest Legacy Funding
Alford Springs	Taconic Range	2001	632	CR	State	\$1,265,000	\$945,000
Anciporch	Connecticut River Valley	1995	106	CE	Federal	\$198,000	\$165,000
Audubon	Stockbridge Yokum Ridge	1995	75	CE	Federal	\$180,000	\$180,000
Ballard Hill	Nashua River Greenway	2002	33	CR	Town	\$277,125	\$89,500
Belmont Springs	Nashua River	2004	255	CR	State	\$2,600,000	\$1,383,000
Boudreau	Connecticut River Valley	1996	56	CE	Town	\$321,000	\$240,750
Bush Hill # 1	Nashua River Greenway	2004	128	CR	State	\$150,000	\$103,000
Bush Hill # 2	Nashua River Greenway	2004	116	CR	State	\$125,000	\$113,000
Bush Hill # 3*	Nashua River Greenway	2004	73	CR	State	\$146,000	\$0
Bush Hill # 4*	Nashua River Greenway	2004	22	CR	State	\$209,000	\$0
Eagleville Pines	North Quabbin Corridor	2003	283	CR	State	\$1,263,150	\$830,000
Hatfield WS # 1	Connecticut River Valley	2000	12	CE	Federal	\$90,932	\$69,600
Hatfield WS # 2	Connecticut River Valley	2001	133	CE	State/ Town	\$590,000	\$442,000
Holich	Connecticut River Valley	1995	113	CE	Town	\$220,000	\$220,000
Hutchinson	North Quabbin Corridor	1995	490	CE	Federal	\$616,000	\$450,000
Johnson	Connecticut River Valley	1997	47	CE	Federal	\$59,000	\$47,500
Karner Brook	Taconic Range	2003	213	FEE	Town	\$950,000	\$303,000
Kripalu (BNRC)	Stockbridge Yokum Ridge	1996	225	CE	Federal	\$280,000	\$280,000
Mt. Washington	Taconic Range	2002	665	CR	State	\$2,099,700	\$1,096,700
Muschopague Brook	Nashua River Greenway	2005	106	FEE	City	\$630,000	\$395,000
Pippin Tree	Estabrook Woods	1995	73	CE	Federal	\$7,000,000	\$1,500,000
Pumpkin Brook	Nashua River	2000	174	CE	Town	\$750,000	\$250,000
Prospect Hill # 1	Nashua River Greenway	2002	99	CR	State	\$330,000	\$272,500
Prospect Hill # 2	Nashua River Greenway	2002	68	CR	State	\$55,000	\$29,000
QCC # 4	Nashua River Greenway	2006	30	CR	Town	\$194,500	\$157,500
QCC # 8*	Nashua River Greenway	2006	75	FEE	State	\$389,660	\$0

QCC # 12*	Nashua River Greenway	2006	658	CR	Non-Profit	\$865,000	\$0
QCC # 17	Nashua River Greenway	2006	103	CR	Town	\$270,800	\$212,000
QCC # 19*	Nashua River Greenway	2006	30	CR	State	\$123,000	\$0
Richmond*	Taconic Range		110	CE	Non-profit	\$110,000	\$0
Stockbridge SC	Stockbridge Yokum Ridge	1998	67	CE	Federal	\$60,400	\$60,000
Two-mile Landbridge	North Quabbin Corridor	1999	467	CE	Federal	\$600,000	\$330,000
Williams	Stockbridge Yokum Ridge	1997	14	CE	Federal	\$38,000	\$35,000
Williamstown*	Taconic Range		205	CE	Nonprofit	\$210,000	\$0
TOTALS			5,956			\$23,266,267	\$10,199,050

*Donations applied to cost share

Additional 2008 Highlights

- In FY 2008, the Forest Legacy Program helped protect 1,104 acres on 5 tracts (see highlighted tracts in Table 9 above).
- Information is available on the [Massachusetts Forest Legacy Program](#) web site.
- Additional information is located on the [Northeastern Area USDA Forest Legacy Program](#) and on the [National USDA Forest Service Forest Legacy Program](#) web sites.

Appendix

Citations

Campbell, Susan M., editor. *Quantifying Public Benefits on Private Forestland in Massachusetts*. Massachusetts Forest Stewardship Program, 2000.

Forest Resources of Massachusetts, Massachusetts Department of Environmental Management, Bureau of Forestry, 2000.

Losing Ground: At What Cost? Massachusetts Audubon Society, 2003.

State Urban Forest Data, USDA Forest Service, Northeastern Research Station, http://www.fs.fed.us/ne/syracuse/Data/State/data_MA.htm

For More Information on Bureau of Forestry Programs and Initiatives Contact:

Massachusetts Chief Forester

James DiMaio
(617) 626-1430
James.DiMaio@state.ma.us

Service Forestry

James Soper, Program Supervisor
(413) 545-5746
Jim.Soper@state.ma.us

State Forest Lands Management

William Hill, State Land Program Manager (after 9-14-08), David Goodwin,
Acting State Land Manager (1-1-08 to 9-13-08)
(413) 545-3891
William.Hill@state.ma.us

Forest Fire Control

David Celino, Chief Fire Warden
(617) 626-4981
David.Celino@state.ma.us

Forest Health Program

Charlie Burnham, Program Supervisor
(413) 256-1601
Charlie.Burnham@state.ma.us

Urban and Community Forestry

Eric Seaborn, Urban Forestry Coordinator
(617) 626-1468
Eric.Seaborn@state.ma.us

Marketing and Utilization Program

Gordon Boyce, Program Supervisor
(413) 253-5634
Gordon.Boyce@state.ma.us

Forest Legacy Program

Michael Fleming, Program Supervisor
(978) 368-0126 x 114
Mike.Fleming@state.ma.us

Web Sites

www.mass.gov/dcr
www.mass.gov/dem/programs/forestry/index.htm