# BUREAU OF FORESTRY FOREST HEALTH PROGRAM ANNUAL REPORT, FISCAL YEAR 2003 CHARLES M. BURNHAM, PROGRAM SUPERVISOR

The ANNUAL AERIAL SSURVEY was conducted as required by our cooperative agreement with the USDA Forest Service. A detailed breakdown of this survey can be found elsewhere in this report.

#### SUMMARY OF INSECT ACTIVITY

WINTER MOTH: There was a concern that the cankerworm defoliation in coastal Massachusetts was not collapsing as previous infestations had. This concern led to a cooperative effort by the DEM, USDA Forest Service, the University of Massachusetts, and the University of Massachusetts Cooperative Extension Service to determine if in fact there a different species present. This cooperative effort led to the identification of Winter Moth, a species never before found in Massachusetts.

HEMLOCK WOOLLY ADELGID continues to spread within the Commonwealth but at a much slower rate. This year only 7 communities were found to be infested. These communities are: Hanover, Gill, Norfolk, Westwood, Marshfield, Auburn, and Brockton. We continue to release the predatory lady bird beetle *Pseudoscymnus tsugae*. This year's releases were made in Monson and two locations in Sheffield. Spraying with horticultural oil at Purgatory Chasm continued, additionally 10 trees which could not be reached with normal spray equipment were injected with the Mauget injection system using Imidacloprid. We also continued to monitor the seedlings planted in Amherst for mortality caused by this insect.

**ANTHRACNOSE** appears to be more prevalent this year. Especially hard hit are oaks, maples, and sycamores. It is believed that the increase of this disease is the result of cool damp weather in the spring and early summer making ideal conditions for this disease to infect new foliage

WOOD BORERS/BARK BEETLES damage seems to be increasing in white and red pine stands. Stands stressed by previous years of drought and those growing on sites with poor soils are the most severely impacted.

**DROUGHT** caused decline in woody plants take a number of years to become evident. This decline is most noticeable in tree growing on lawns and as street trees where there is limited area for the plant roots to absorb moisture.

RED SPRUCE BROWING/DIEBACK was caused by winter conditions that changed the cold hardiness of the species growing where certain soil chemistry characteristics exist. A large area of higher elevation stands showed moderate to severe browning and tip dieback. Many of these stands were slow to recover; some never produced new growth this season.

BEECH BARK /NECTRIA CANKER continues to be a major problem in beech stands growing in higher elevations. Many of the stands are showing moderate to severe mortality.

### MISCELLANEOUS INSECTS

Eastern Tent Caterpillar populations appear to be declining.

Fall Webworm populations appear to be declining.

Forest Tent Caterpillar populations appear to be increasing.

#### SPECIAL PROJECTS

Due to the high amount of oak mortality being experienced at Wompatuck State Park a joint project between Region 1 and 2 was initiated to remove the hazard trees. All trees with trunks that could be marketed for lumber were cut to marketable lengths and the tops were piled separately for firewood. The management forester for the area sold the wood according to department protocols.

Greenfield street tree survey: The city of Greenfield requested assistance in conducting a survey of their street trees. Following protocols previously developed for this purpose a portable data recorder program was developed and tested in Greenfield. Upon completion of this survey Supv. Alan Snow worked with the MIS staff to design a program that would crunch the numbers, produce totals, and charts needed for reports. The final report was presented to the Greenfield Tree Warden.

Tree maintenance at Pilgrim Memorial Park continued this year. Additional trees were pruned and when possible fertilized using a liquid fertilizer. Those trees with limited surface area for a soil fertilizer application were fertilized using the Mauget systemic fertilizer.

Cooperative research with UMASS continued in their effort to determine the effects of decay and the required force to cause tree failure. This research was conducted at the same site used in previous years.

We continued to assist the USDA APHIS Methods Development Lab with their research on the Asian Longhorned Beetle. This assistance was limited to supplying weekly striped maple branches for use in feeding the research colony.

Invasive Plant Surveys were conducted in Williamsburg and Conway in cooperation with the New England Wildflower Society.

The Forest Health Program and the University of Vermont received a grant from the USDA Forest Service to determine the cold hardiness of hemlock woolly adelgid. This research was conducted at Mt. Tom State Reservation. Our agencies involvement was limited to providing an aerial lift truck and operator to collect branches infested with hemlock woolly adelgid which were then transported to UVM where the insects were subjected to various cold temperatures for different amounts of time.

We continued to work on data collection for our grant on Urban Forest Health Monitoring.

Working jointly with the University of Massachusetts, Cooperative Extension Service a 108 page publication titled "Cultural Practice Problems of Trees and Shrubs in the Landscape and Nursery" was developed and printed. The cost of printing this publication was received in a special grant from the USDA Forest Service.

#### STATISTICAL SUMMARY OF ACTIVITIES

## District Supervisor

Training Workshops Attended	18
Training Workshops Conducted	19
Number of Attendees	1,391
Municipal Contacts	73
Grant Inspections	50
Landowner Assistance	73
Requests for Information Answered	366

#### Tree Crew Activities

Out of State Fire Control	14 Man Days
Poison Ivy Control and Hemlock Woolly Adels	gid
Control	41 Man Days
Assistance to Other DEM Programs	58 Man Days
Recreation Areas Assisted with Tree Work	55
Number of Trees Removed	1,029
Number of Trees Pruned	1,443

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	Oak Leaf Skeletonizer	4,859 Acres	
	Hemlock Looper	529 Acres	
	Forest Tent Caterpillar	20,502 Acres	
	White Pine Sawfly	1,002 Acres	D.
	Locust Leafminer	365 Acres	
•	Winter Moth	33,332 Acres	
	Hemlock Woolly Adelgid	595 Acres	
	Red Pine Scale	100 Acres	
	Nantucket Pine Tip Moth	238 Acres	
	Armillaria Root Disease	473 Acres	
	Beech Bark Disease	6,957 Acres	
v	Ash Decline	372 Acres	
	Leaf Spot	1,584 Acres	
	Anthracnose	2,644 Acres	
	Diplodia Blight	227 Acres	
	Oak Leaf Blister	1,269 Acres	
	Beavers	203 Acres	
	Drought	1,408 Acres	
	Flooding	268 Acres	
••	Unknown Mortality	6 Acres	
	Winter Injury	680 Acres	
	Unknown Cause	134 Acres	

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