BUREAU OF FORESTRY FOREST HEALTH PROGRAM ANNUAL REPORT, FISCAL YEAR 1999 CHARLES M. BURNHAM, PROGRAM SUPERVISOR

INSECT SURVEYS

The annual aerial survey was conducted in early July when most of the damage caused by defoliating insects is completed. This survey is flown on a North/South six mile grid pattern. All areas of concern are documented on USGS 7.5 minute topographical maps. These maps are reproduced and each Forest Health Supervisor is provided copies for their respective district. Follow-up inspections are made to each area identified to verify the cause of concern. The information from this survey is shared with the municipal tree officials for use in planning possible suppression programs. The information is also supplied to the USDA Forest Service whose funding is used for the rental of the aircraft and pilot. A complete list of all damage and the respective acreage can be found elsewhere in this report.

We continue to conduct special surveys to monitor the population of gypsy moths through the 160 plots established in 1982 and pear thrips at selected sites using sticky traps.

All insect plot and forest health monitoring plots have their locations documented by the use of satellite positioning systems (GPS).

WATERSHED INITIATIVES

Forest Heath Supervisor Guy LaChance was assigned by the Regional Director to be the D.E.M. representative to the Ten Mile River and Narragansett/Mt. Hope Bays Watershed teams. Serving on these teams required the attendance at various team meetings and coordinating projects for erosion control and stabilization of banks. Trail construction/relocation at selected locations was also completed. Involvement with the watershed teams required approximately 20 man days of the supervisors time.

ARBORICULTURE

There were several special projects relating to the care of trees within the State Park System. The first was the monitoring and maintenance to ensure the survival of the 100 trees planted as part of the DEM's 100th anniversary in fy98. This maintenance included guying, mulching, some correctional pruning and making sure that the park personnel were watering and being mindful of keeping mechanical equipment away from the trees. The second project involved the landscape planting around the new visitor's center at Purgatory Chasm State Reservation. Due to budget shortfalls there were not enough funds available to both purchase plant material and have it planted. Therefore, landscape architect Ruth Helfeld purchased the plant material and the Region 3 Shade Tree Crew in conjunction with the Blackstone Heritage Park crew completed the landscape planting.

The third and final project involved a single tree planted at the Cognon School in Boston in memory of James Cognon, a DEM employee who passed away at a young age.

ASSISTANCE TO OTHER AGENCIES

United States Department of Agriculture

Provided materials of various tree species to determine the host range of the Asian Longhorned Beetle. Also provided one person to the Asian Longhorned Beetle survey in Chicago, Illinois.

Environmental Police Office in Northampton

Provided the aerial lift and operator to assist in building repairs and the removal of trees which were causing damage to the office building.

Massachusetts Department of Public Works

Assisted with the removal of numerous hazard trees from DEM property adjacent to Rt. 116 in Amherst.

Berkshire Community College

Provided aerial lift truck and operator to remove hazardous trees on the campus.

University of Massachusetts

Presented a demonstration on the operation of an aerial lift truck to the urban forestry students.

INSECT AND DISEASE CONDITIONS

Gypsy Moth continues to cause defoliation in the southeast and central parts of the state. Currently approximately 9,800 acres of defoliation and mortality have been observed. Follow-up ground surveys have indicated a very limited amount of insect mortality caused by Wilt Disease or the insect fungal disease *entomothiga miamiaga*. The town of Blackstone appropriated \$35,000 for the suppression of this insect. After extensive ground surveys by Forest Health Supervisor Larson and the local tree warden, it was determined that the expected defoliation would be below that of previous years and therefore no suppression program was warranted.

Hemlock Woolly Adelgid continues to spread with 25 communities added to the list of known infestations. Two suppression projects were conducted by the Forest Health Staff. One was the application of horticultural oil and a soil injection of Imidacloprid to heavily infested trees at Purgatory Chasm State Reservation. The second project experimental in nature was sponsored by the USDA Forest Service. This project involved the release of 10,000 ladybird beetles, *Pseudoscymnus tsugae* on private lands in the town of Wilbraham. Working in conjunction with the ecology class at Minnechaug Regional High School, a site that met the release criteria was located, landowner permission was obtained and the release was conducted with assistance of the high school students. This

site will be monitored for the following three years to determine if the beetles become established and what if any impact they are having on the adelgid population.

Spring and Fall Cankerworm populations continue to cause major defoliation in the coastal areas of Southeastern Massachusetts with approximately 2,400 acres of damage documented by the aerial survey. Sticky trap monitoring sites have been established and these trap catches indicate an increase in the insect population at every site.

Locust Leafminer defoliated approximately 180 acres, mostly along major highways in Eastern Massachusetts and in the Connecticut Valley. This very visible defoliation along the highways caused many calls from concerned citizens. One caller was very concerned that the damage could have been caused by a hazardous material spill.

Pear Thrips caused another year of moderate to heavy damage in northern Berkshire and Franklin Counties. This damage coupled with the past and present drought condition, and various leaf diseases created may problems for the sugar maples, especially those growing along roadsides.

Saddled Prominent This is the third year that defoliation from this late season defoliator that has been recorded in Northern Berkshire and Franklin Counties. This past fall there was some indications that this insects population may have succumbed to some type of insect pathogen.

Miscellaneous

Eastern Tent Caterpillar populations remain stable through the state.

Fall Webworm populations appear to be on the decline.

Beech Scale/nectria complex continue to cause mortality.

Deicing salt usage caused considerable damage to the foliage of eastern white pine and hemlock. Most of the damage was less visible once the new foliage emerged. The continued use of this chemical will cause tree dieback and mortality.

Sphaeropsis blight on red pine was observed in the West Springfield, Agawam, Chicopee and Westfield areas.

Woolly Alder Aphid caused limited concern in Northern Franklin County. The complex life cycle requiring both alder and silver maple within close proximity to each other seems to limit the occurrence of this insect.

Armillaria Root Rot caused some management concerns to forest managers where red and scotch pines are grown in plantations. Once this pathogen is established within the stand, it will become more prevalent if silvicultural operations are conducted. This disease will continue to spread unless stumps are treated with a registered pesticide.

Mimosa Webworm reported in Northampton is most common on honeylocust. This insect is more of an aesthetic problem than a tree health problem. The need for controls is seldom necessary.

Arborvitae Leafminer is another aesthetic problem requiring control only on high value trees

Maple Trumpet Skeletonizer/Maple Leaf Cutter damage occurred in Northern Berkshire County. These two insects are grouped here because they occur at the same time on the same trees throughout the area. These problems combined with the infestations of Pear Thrips and Saddled Prominent, the effects of drought, and the various leaf diseases are making a serious situation for the health of the sugar maple.

Oak Leaf Skeletonizer populations have shown a dramatic increase over the past two growing seasons. With most of the damage being caused late in the growing season, this insect is of little concern.

STATISTICAL SUMMARY OF ACTIVITIES

District Supervisors Activities	
Municipal Contacts	202
Grant Inspections	35
Landowner Assistance	61
Requests for Information Answered	478
Educational Programs Attended	16
Educational Programs Conducted	30
Number of Attendees	1,200

Tree Crew Activities

Poison Ivy Control	22 Man-Days
Out of State Fire Control	21 Man-Days
Number of Trees Removed	1,388
Number of Trees Pruned	1,349
Number of Stumps Removed	60

SUMMARY OF AERIAL SURVEY

Bark Beetle Damage	595.9 acres
Cankerworm	2,457.0 acres
Oak Leaf Skeletonizer	1,197.8 acres
Browntail Moth	.2 acres
Gypsy Moth Defoliation Gypsy Moth Caused Mortality	6,757.4 acres 3,066.1 acres
Locust Leafminer	186.0 acres
Hemlock Woolly Adelgid Mortality	276.8 acres
Pear Thrips	4,126.6 acres
Locust Borer Mortality	58.2 acres
Nantucket Pine Tip Moth	9.2 acres
Diplodia Blight	103.0 acres
Fire	422.7 acres
Flooding (Beavers)	444.3 acres
Drought	223.9 acres
Wind/Tornado	43.6 acres
Human Activities	624.0 acres
Unknown Cause	245.6 acres
Total Damage	20,838.2 acres