BUREAU OF FORESTRY FOREST HEALTH PROGRAM ANNUAL REPORT, FISCAL YEAR 2006 CHARLES M. BURNHAM, PROGRAM SUPERVISOR

SUMMARY OF INSECT/ DISEASE ACTIVITY

AERIAL SURVEY: As a requirement of this agency cooperative agreement with the USDA Forest Service an aerial survey was conducted to identify and document forest disturbances. In past years this documentation was accomplished by mapping the disturbances on 7.5 minute USGS topographical maps. This year the Forest Service provided a computer tablet that has revolving topographic maps and a geographic positioning input so the aircrafts position is displayed on the tablet. Another advantage of this system is that the areas that are mapped can be attributed, that is identified as to the type of disturbance, whether the disturbance is spotty or widespread, and if known the cause of the disturbance. The final advantage is that all data is immediately available to field personnel for verification and the data can be immediately imported to a geographic information system. For our aerial observers to use this system several forest health staff was required to attend a two day training program at the Forest Service's Durham, New Hampshire office. A complete list of the disturbances that were documented during this survey can be found elsewhere in this report.

WINTER MOTH continues to be a major defoliator in the coastal communities. This defoliation extends from an area starting along Interstate 90 northward along Rt. 128 to the Manchester area. There is also a small pocket of winter moth defoliation in the Natick area near Lake Cochituate.

HEMLOCK WOOLLY ADELGID populations vary from location to location across the state but appear to be building up because of the mild winter just experienced. No new communities were found to be infested. Working with the US Forest Service a new predator of hemlock woolly adelgid *Laricobius nigrinus* was released in Douglas State Forest. Efforts to recover the predatory lady bird beetle *Sasaji scymnus* have been unsuccessful.

FOREST TENT CATERPILLAR has caused major defoliation in northeastern Hampshire, Franklin and Berkshire Counties. Some sugar producers conducted aerial suppression operations on a total of 450 acres to protect their sugarbushes from further defoliation. The material applied was *Bacillus thuringiensis* (BT). Site visits to some of the heavily defoliated areas found the presence of the fungal pathogen believed to be an *Entomophaga sp*. Samples were collected and sent to the US Forest Service Lab in Hamden Connecticut for positive identification. Also observed were a large number of a parasitic fly commonly know as "friendly fly" in the insect population. These two factors lead us to believe the forest tent caterpillar population is beginning to subside.

MISCELLANEOUS INSECTS/DISEASES

EASTERN TENT CATERPILLAR populations continue to decline in eastern Massachusetts however black cherry stands in the Connecticut Valley and Berkshire County were completely defoliated.

GYPSY MOTH appears to have been decimated by the fungal pathogen *Entomophaga* maimaiga in eastern Massachusetts; however in southern Berkshire County an increase in the number of egg masses was observed.

FALL WEBWORM continues to decline in severity.

EASTERN WHITE PINE DECLINE remains obvious throughout Worcester County. Most severely affected are the trees growing along major highways were large amounts salt are used for deicing.

LUCANIUM SCALE has caused a five acre stand of sugar maple at Wachusett Reservoir to be stressed.

ELONGATE HEMLOCK SCALE continues to spread and cause defoliation in the Connecticut Valley and southern Berkshire County. This defoliation is more severe when this scale is accompanied by hemlock woolly adelgid.

SYCAMORE ANTHRACNOSE defoliation has become an annual event. In most cases the trees completely refoliate with little lasting damage.

BEECH BARK/NECTRIA CANKER continues to spread and kill a large number of beech trees. Previous weather conditions (drought) have played a large part in this mortality.

SPECIAL PROJECTS

COCHITUATE STORM CLEANUP: On August 5 in late afternoon a severe thunderstorm affected Cochituate State Park. This agencies tree crews were immediately dispatched for cleanup. This cleanup continued through the night and by the next day the park was deemed safe for use by the public. Over the next two weeks all debris was chipped or moved to the rear parking lot for later disposal.

NICKERSON STATE PARK STORM CLEANUP: On December 9th a severe winter storm caused major tree damage on Cape Cod. The Nickerson State Park was severely damaged. The initial response was from the agencies tree crews and equipment from all regions. These crews opened the roads to make access for park and emergency vehicles. We soon became aware that this problem was beyond the capability of our own tree crews and Chief Forester James DiMaio approached the Commissioner for funding to hire outside contractors. This funding was approved and two commercial tree companies

were awarded separate contracts and a third contract was awarded for the chipping and disposal of the woody debris. All things considered this cleanup went very smoothly and the park was able to open in the spring as usual. All personnel involved in this project were recognized for their efforts by the Governors Pride in Performance Program.

USDA APHIS ASSISTANCE: We continue to assist this federal agency by weekly supplying them with striped maple to be used for food in their research colony of Asian Longhorned Beetle. We also supply other species of wood or branches for use in their studies of other invasive insects such as the emerald ash borer. A tree climber was supplied to Detroit to assist in survey and sample collection of research on the emerald ash borer.

SUDDEN OAK DEATH: There is a know presence of this pathogen in California. When plant material from this state was shipped to Massachusetts the USDA notifies us as to the location of the shipments. We do follow-up surveys around these receiving sites for the presence of this pathogen. No infections have been discovered.

SURVEY FOR EXOTIC BARK BEETLES: We continue to participate in the US Forest Service's <u>Early Detection/Rapid Response</u> program for exotic bark beetles. Two members of the forest health staff attended the required training at Cornell University. Traps were placed following the workplan criteria; all trap catches were taken to the Forest Health Office in Amherst for screening and then forwarded to Cornell for confirmation of our identification. We again trapped Pine Shoot Beetle at several new locations and the exotic bark beetle *Xylerobus seriatus* was also trapped at several different locations.

SIREX WOOD WASP SURVEY: As a result of trapping for exotic bark beetles in New York State a new wood wasp was collected. The US Forest Service initiated a survey to determine if this insect had spread beyond New York. This survey required the placement of funnel traps in 15 locations in western Massachusetts. None of these insects were captured. It is expected that surveys for this insect will intensify in future years.

RESEARCH ASSISTANCE WITH UMASS: We continue to assist the University of Massachusetts with research on structural tree failure. This assistance involves the use of one of our aerial lift trucks to place cables and recording instruments in the trees which will then have vering amount of force applied until structural failure occurs.

PERSONNEL

Michael Geryk was promoted to fill the vacant Forester 1 position in the Connecticut Valley

STATISTICAL SUMMARY OF ACTIVITIES

District Supervisor

| Training Workshops Attended | 5 |
|-----------------------------------|---------------|
| Training Workshops Conducted | 1 |
| Number of Attendees | 250 |
| Municipal Contacts | 97 |
| Grant Inspections | 20 |
| Landowner Assistance | 94 |
| Requests for Information Answered | 290 |
| Assistance to other Agencies | $\frac{1}{1}$ |
| Time Required | 16 Man Days |

Tree Crew Activities

Poison Ivy Control and Hemlock Woolly Adelgid

| Control | 40 Man Days |
|--|-------------|
| Assistance to Other State Agencies | 14 Man Days |
| Assistance to Other DEM Programs | 40 Man Days |
| Recreation Areas Assisted with Tree Work | 46 |
| Number of Trees Removed | 1,207 |
| Number of Trees Pruned | 254 |

AERIAL SURVEY RESULTS

| Fall Cankerworm | 900 Acres |
|----------------------------|--------------|
| Browntail Moth | 103 Acres |
| Pine Needleminer | 4,069 Acres |
| Gypsy Moth | 11,893 Acres |
| Eastern Tent Caterpillar | 218 Acres |
| Forest Tent Caterpillar | 43,814 Acres |
| Leafcutting Bees | 2,409 Acres |
| Winter Moth | 6,209 Acres |
| Nantucket Pine Tip Moth | 30,024 Acres |
| Armillaria Root Disease | 96 Acres |
| Beech Bark/Nectria Complex | 513 Acres |
| Drought Mortality | 41 Acres |
| Flooding | 950 Acres |
| Unknown | 32 Acres |