



## Ontario's Forest Health Program

The annual forest health monitoring program conducted by the Canadian Forest Service (CFS) and the Ministry of Natural Resources (MNR) is well underway for 2009, with a few changes to personnel. This program conducts ground and aerial surveys for forest insects, diseases, and abiotic events such as extreme weather.

The surveys are integrated with a research program led by Dr. Krista Ryall of the CFS that includes pest impacts, biology and ecology, and detection, survey and control methods. This year's program continues the transition of MNR field staff conducting more of the field monitoring, while the CFS staff are focussing more on the research and methods development portions of the partnership.

This program which began in the 1930s with federal staff conducting the surveys, has continued to evolve in recent years. For 2009, most of the field staff conducting the surveys will be MNR forest health technicians. Disease identification will be done by the Ontario Forest Research Institute. The CFS will continue to provide insect identification and lead research projects.

Those of you who have been associated with the program in the past are probably aware that many of the long time CFS field staff have retired in recent years. Hugh Evans and Al Keizer however are still involved as consultants and mentors to the MNR technicians. They are also a key part of the CFS research program. Barry Smith, also of the CFS, has returned to the Sioux Lookout area as part of the monitoring and training program.

The forest health technicians are stationed across the province and cover specific areas, usually about two districts in size. The field program is

## Forest Health Update – July, 2009

The following is a Forest Health Update describing conditions affecting Southern Ontario's forests in the Aurora, Midhurst and Parry Sound Districts. This update has been prepared by Patrick Hodge of the Ontario Ministry of Natural Resources. Any questions or concerns can be directed via the email or phone contact provided at the top of each page.

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Forward by Taylor Scarr, Provincial Forest Health Entomologist

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coordinated by Dan Rowlinson  
[dan.rowlinson@ontario.ca](mailto:dan.rowlinson@ontario.ca) (705) 945-5737.  
 Additional field staff are expected to join the program shortly. MNR districts and the Natural Resource Information Centre (NRIC) are usually the first place for public queries related to forest insects and diseases. Where questions or concerns require some additional expertise, the district or NRIC can contact the local forest health technician. MNR districts and partners can assist the local technician by alerting them to what they or others are seeing in a particular area. A second option is to contact Richard Wilson, Forest Program Pathologist, [richard.wilson@ontario.ca](mailto:richard.wilson@ontario.ca) (705) 541-5106 for disease questions or concerns, and Taylor Scarr, Provincial Forest Entomologist, [taylor.scarr@ontario.ca](mailto:taylor.scarr@ontario.ca) (705) 945-5723 for insect questions or concerns.

~Taylor Scarr~



Figure 1: Map showing Ontario's Forest Health Technical Specialists assigned work areas

## Snow Damage – November 2008

The weather reports for the month of November, 2008 in southern Ontario were very abnormal. Within days of one another, record-breaking highs and long lasting sunny periods were followed by heavy snowfalls and light rains. The heavy snowfall we experienced from November 16<sup>th</sup> onward was a result of lake-effect snow as cold arctic air moved southward from the northwest, hitting the warm, open-waters of the Great Lakes creating massive amounts of snow to accumulated and fall, particularly in the well known snow belt off of Georgian Bay.



Figure 2: Severe snow damaged red pine in Simcoe County, November, 2008.

This snowfall, combined with light rain began the week of November 16th and continued on until the 22<sup>nd</sup> causing some of the most severe damage to coniferous plantations ever recorded in the County of Simcoe. A total of 740 hectares of severe damage was recorded by aerial reconnaissance from approximately Barrie to Midland area affecting mainly red pine, *Pinus resinosa* and Scotts pine, *P. sylvestris*, and to a much lesser affect eastern white

cedar, *Thuja occidentalis*, eastern white pine, *P. strobus* and numerous hardwood species.

Red pine plantations were the main host affected as snow easily accumulated on the sturdy branches eventually forcing trees to bend over onto neighboring trees creating an almost domino-like affect (Figure 3). Trees were recorded as snapped-off, bent-over, or up-rooted and in all cases resulted in severe damage.

The County of Simcoe and the OMNR Midhurst District staff were very quick to move on this event, as salvage operations needed to occur and safety issues needed to be addressed. The County of Simcoe was able to salvage upwards of 80% of county owned property while Midhurst District staff cleared numerous trails and pathways preventing any unforeseen accidents from occurring.



Figure 3: Snow damage on red pine, and eastern white cedar stands from November, 2008 snowfall. (Note white spruce and eastern white pine not damaged)

After salvage operations occur, the remaining forests are still under a great deal of stress as damaged trees and unsalvageable material is left behind. This material will emit high

amounts of volatiles increasing the odds of insect infestations. As severe damage occurs, trees become stressed and their defense systems break down. Diseases like armillaria and fomes root rot can be expected to build up along with insects like pine shoot beetle, *Tomicus piniperda* and pine engravers, *Ips* spp. It is important to be aware of possible insects/disease infestations and to understand how to manage for them. Using best management practices is a key component to healthy woodlands.

Visit [www.lrconline.com](http://www.lrconline.com) for more information on how to maintain healthy woodlands.

### Hail damage – May 2009

Continuing with the theme of weather events, 140 hectares of moderate-to-severe hail damage was recorded on a large number of deciduous trees which included, Oak, *Quercus* spp., Maple, *Acer* spp., American Beech, *Fagus grandifolia* (Figure 4), and Basswood, *Taiga* spp., among others.

The event occurred on May 9<sup>th</sup> as a thunderstorm passed through the Halton Hills area, before moving eastward through portions of Brampton and Georgetown. All species mentioned above have the ability to refoliate and live on. When a coniferous species is thrown into the mix its ability to refoliate is much less and quite often, if the damage is severe enough, mortality will occur.



Figure 4: American beech leaves damaged by hail storm, May, 2009. (Note refoliation in June, 2009)

## Gypsy Moth, *Lymantria dispar*

This mid-season defoliator has seen its population increase over the past 5 years since a major collapse in 2004. Last year moderate-to-severe defoliation was recorded at 39 476 hectares despite a decrease in population due to *Entomophaga maimaiga* fungus in Aurora and Aylmer districts.

As the population decreased in the south-west of the province a developing population increased throughout Midhurst Aurora and Guelph districts causing the provincial total to rise.

This year's spring and summer has created perfect conditions for the *Entomophaga maimaiga* fungus to grow and infiltrate the gypsy moth population. In the Aurora and Midhurst District a mere 212 hectares of moderate-to-severe defoliation was recorded compared to last years numbers at 9 146 hectares.

The CFS in 2008 performed a research-based aerial spray program to register a product known as Gypcheck in Canada. GypChek is derived from a naturally occurring, narrow spectrum nuclear polyhedrosis virus (NPV). This year CFS researchers implemented a second trial spray program in hopes to mimic good efficacy data gathered in the previous year's trial. The spray program occurred from May 22<sup>nd</sup> to May 25<sup>th</sup> in the Main Tract of Dufferin County and to the north in adjacent land in Simcoe County.

Currently data collection is well underway and should be complete by the end of August. Gypsy moth forecasting will occur in late October in these locations and an update will be available at this time.

To read more about gypsy moth and GypChek visit:

<http://cfs.nrcan.gc.ca/factsheets/gypsy-moth>  
<http://www.fs.fed.us/ne/morgantown/4557/gmoth>

## Oak Leafshredder – *Croesia semipurpurana*

Oak leafshredder has been recorded causing moderate-to-severe defoliation to Oak, *Quercus* spp. in both Parry Sound and Midhurst districts. This insect affects foliage at budbreak where young larvae can be found feeding creating small holes in the leaves as they mature. The larvae will continue to feed before tying leaves together with a silk webbing. Once mature, the larvae drop to the leaf litter where it pupates and emerges as an adult, yellow coloured, moth.

An aerial reconnaissance was performed in early July resulting in 3 565 hectares of moderate-to-severe defoliation. The majority of defoliation was located west of MacTier north of Corson and Gooley Lake and just north of Lake Muskoka near Falconburg Station. Scattered pockets of defoliation were also recorded from Parry Sound East to Lake Vernon and northward towards Mckellar.



Figure 5: Oak trees 75-100% defoliated by oak leafshredder just east of Parry Sound

## Jack Pine Budworm, *Choristoneura p. pinus*

Jack pine, *Pinus banksiana* defoliation has been on the rise in the Parry Sound District for three consecutive years. Approximately 41 000 hectares of forested land was recorded this year, nearly doubling that of last year's defoliation.

Jack pine was the only host species affected in the Parry Sound District as this insect continues to cause severe damage on both sides of Hwy. 69 from Naiscoot to the Key River and beyond. Satalite pockets that developed in 2007 have increased along the North Bay/Parry Sound District border in the Island Lake Forest and

Barrens Provincial Conservation Reserve. This population has moved slightly southward from 2007 records.



Figure 6: Jack pine budworm defoliation from above. Island Lake Forest and Barrens Provincial Conservation Reserve

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### All photos taken by Patrick Hodge – MNR

Any questions, concerns, or comments can be directed via the email or phone contact provided at the top of this page. If you know of any insects or diseases that are affecting the forests in your area please do not hesitate to call.

Feel free to pass this information along.

Thanks,

Pat Hodge

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