



Forest Health Update - November, 2010

The following is a Forest Health Update describing conditions affecting southern Ontario's forests in Peterborough and Bancroft 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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Program Update

The beginning of the 2010 field season was full of adjustments for the Forest Health Unit with an additional staffing announcement occurring in late July. Aspen Zeppa, formally the Forest Health Technical Specialist in Timmins, Hearst and Cochrane Districts was awarded the Kemptville and Pembroke District work area. This transition has left two work areas vacant for the time being.



Figure 1: Map showing Forest Health Technical Specialist staff and their work areas

Larch casebearer - *Coleophora laricella*

This exotic pest of tamarack, *Larix laricina* and European larch, *Larix decidua* is found throughout Peterborough and Bancroft districts and across Ontario to the 49°. In 2010, low populations undetectable from the air were recorded in Peterborough and Bancroft districts causing moderate-to-severe defoliation in many satellite

pockets; most notably along hwy. 7 between the towns of Norwood and Havlock,

Dourro-Dummer Township and east of the Town of Lindsay, Victoria Township.



Figure 2: European larch affected by larch case bearer.
Photo by Hugh Evans.

Larva of this insect will overwinter in a 'case' created from hollowed out foliage. In spring larvae begin to feed by mining newly developing needles from within the case causing them to wilt and die off. As both tree species affected have the ability to re-foliate mortality will normally not occur unless secondary pests are involved.

Oak defoliator complex

- Hickory leafroller - *Pseudexentera cressoniana*
- Obliquebanded leafroller - *Choristoneura rosaceana*
- Micro moth - *Chionodes thoraceochrella*
- Elm leaffolder - *Ancylis fuscociliana*
- Flat leaftier, *Psilocorsis reflexella*
- Oak skeletonizer, *Bucculatrix ainliella*

Oak, *Quercus* spp. are often defoliated by a variety of forest pests. In both Peterborough and Bancroft districts hickory leafroller and obliquebanded leafroller caused low levels of defoliation to red oak along Anstruther Lake Road in Kawartha Highlands Signature Site Park, North Kawartha Township, Bancroft District with micro moth and elm leaffolder contributing to a lesser extent. Satellite pockets were also found throughout northern portions of the park and just outside Gooderham, Municipality of Highlands East.

In all cases defoliation to oak was minimal with hickory leafroller causing the majority of defoliation.

Similar feeding took place along County rd 16, Victoria County where small populations of flat leaftier and oak skeletonizer were detected causing low levels of defoliation to approximately 5-10 ha of a red oak, *Q. rubra* stand.



Figure 3: Flat leaftier discovered between two red oak leaves in Victoria County, Peterborough District

Red pine cone beetle - *Conophthorus resinosae*

This native insect feeds primarily on jack pine, *Pinus banksiana* shoots and red pine, *P. resinosa* cones however in North Kawartha Twp., Bancroft District red pine cone beetle was discovered feeding in eastern white, *P. strobus* and red pine shoots. The adult beetle will feed in pine shoots until early June, at which point shoots will wilt, die and drop to the forest floor where the insect over-winters. At each location adult insects were found in fallen shoots, damage to host trees was not very significant and was reported at trace levels. Rarely does this insect call for any management or control however the initial stress may cause more harmful pests to become attracted to damaged trees.

Balsam fir sawfly - *Neodiprion abietis*

Defoliation to upper crowns of balsam fir, *Abies balsamea* was detected along Hwy. 28 for a 5 km stretch, at the 41/28 junction, Denbigh Twp.



Figure 4: Feeding damage and cast skin of balsam fir sawfly. Note only the epidermal layer of the needle is defoliated.

This insect over-winters as an egg and emerges during bud-break the following spring. Current year growth is unaffected as larva feed on one year old foliage or older. Often during the winter months, crowns of affected balsam fir will be bare with green current year growth on shoot tips.

It is of importance to note that a spring frost, parasites or a viral disease may have killed the population as no live insects were detected in early-to-mid June.

Nectria canker of hardwoods - *Nectria galligena* **Botryosphaeria obtuse canker - *B. obtusa***

These cankers of hardwood spp. were detected on bitternut hickory, *Carya cordiformis* in approximately 1 hectare of Ganaraska Forest Conservation, Peterborough District.



Figure 5: Cankers caused by fungal diseases on bitternut hickory. Note the callused bark as the tree attempts to overtake the infection.

Trees seem to be walling off the fungal infections and surviving. Further investigations will be conducted to

fully understand the affects these cankers have on bitternut hickory in Ontario.

Redhumped oakworm – *Symmerista canicosta*

Outbreaks of this native pest rarely occur but high populations are known to exist on a ten to fifteen year interval. A small population was detected 2km north of Buckhorn, Galway-Cavandish & Harvey Township, Bancroft District along CR. 36 causing 15 - 20% defoliation to approximately 1 acre of white, *Q. alba* and red oak.



Figure 6: Larvae of redhumped oakworm feeding on white oak foliage, mid-September, Bancroft District.

Eggs of this insect are laid in groups of 200-300 on the underside of host foliage. Host trees include all oak species however white oak is favored. Redhumped oakworm will over-winter as a pupa and emerge as an adult moth in June through to August. Caterpillars are often found feeding in September as was the case this year in Bancroft District.

Special Projects in Peterborough and Bancroft Districts

Beech bark disease (BBD), *Neonectria faginata*

The BBD survey to distinguish the northern and western extent of this disease in Ontario is well underway with a newly discovered infected site located within the Kawartha Highlands Signature Site Park (KHSSP), Bancroft District. This site represents the first detection of BBD in KHSSP and is located south of the known northern extent of the disease. Long-term survey plots have been put in place and will continue to be monitored over the coming years.

Emerald ash borer (EAB), *Agrilus planipennis*

The new branch sampling survey methodology created by Canadian Forest Service will be implemented by OMNR on behalf of the Canadian Food Inspection Agency in early November in high risk areas across the province including Peterborough and Bancroft districts. In addition to this, ad hoc surveys are performed by the Forest Health Unit staff throughout their field season.



Figure 7: Galleries of emerald ash borer detected on a tree in Norfolk County, Aylmer District.

To date, there are no known infested sites in Peterborough and Bancroft Districts. For a detailed summary of the branch sampling technique see the Frontline – Forestry Research Application, *Detection of Emerald Ash Borer in Urban Environments Using Branch Sampling* attached.

European oak borer (EOB), *Agrilus sulcicollis*

Sticky band traps were placed on host trees in areas where stress related dieback was evident in efforts to further delimit an existing population in Southern Region. Three *Agrilus* spp. have been collected and are awaiting further identification to species in North Kawartha Twp., Bancroft District. To date, European oak borer has not been collected in Peterborough or Bancroft Districts.



Figure 8: Acting coordinator of the Ontario Terrestrial Assessment Program getting to know what its like to be a "Bug Ranger" as he assess' an EOB sticky band trap.

Forest tent caterpillar – *Malacosoma disstria*

Forest tent caterpillar caused approximately 38 000 ha of moderate-to-severe defoliation in Peterborough and Bancroft districts to mainly sugar maple, trembling

aspen, red oak, American beech, white birch and ash species in the summer months of 2010.



Figure 9: Aerial view of moderate-to-severe defoliation caused by forest tent caterpillar, Peterborough District.

Egg band surveys will take place in early November throughout Bancroft and Peterborough districts to identify a potential defoliation forecast for 2011.

All photos taken by Patrick Hodge – MNR unless otherwise stated.

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, Patrick Hodge
