Insectary Notes

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From the Editor

“The time has come,” the Walrus said, “To talk of many things: Of shoes, and ships, and sealing-wax – Of cabbages and kings . . . .”

I’ll take a word from Lewis Carroll to let you know that this issue holds bits of information on many things: spruce budworm, gypsy moth, balsam fir sawfly, jack pine budworm and maps that show the results of our yearly surveys. Check the Project Updates section.

Also, see Tanya Borgal’s article on the highlights of the Forest Pest Management Forum in December.

’Til next time,
Jacqui
Editing . . . a Rewording Activity

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Say What? And Quotes Quips!

On cable TV they have a weather channel - 24 hours of weather. We had something like that where I grew up. We called it a window. ~ D. Spencer

A lot of people like snow. I find it to be an unnecessary freezing of water. ~ C. Reiner

The problem with winter sports is that - follow me closely here - they generally take place in winter. ~ D. Berry

To shorten winter, borrow some money due in spring. ~ W.J. Vogel

Winter is the season in which people try to keep the house as warm as it was in the summer, when they complained about the heat. ~ Author Unknown

What do you call an alligator wearing a vest? ~ An investigator!

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**Provincial Forest Entomologist’s Overview**

**What’s the Buzzz?**

Tanya Borgal

**Forest Pest Management Forum**

I had the opportunity to attend the 56th Annual Forest Pest Management Forum held in Ottawa, Dec. 3 - 5. The forum allows those in the field of forest pest management to discuss the latest research findings, environmental issues, newest technologies, and available control options. It is also a good place to share information on past, current, and future pest conditions for all provinces and territories. It was a jam-packed three days. Lots of information was shared. Two forest pests were a common theme: the mountain pine beetle (MPB) and the eastern spruce budworm (SBW).

In western Canada, the mountain pine beetle is very much on the radar for British Columbia, Alberta, and Saskatchewan. Yukon and Northwest Territories are also concerned about this pest because the beetle is heading north; three sites confirmed mountain pine beetle in the NWT just past the BC and AB borders. In 2010, BC mapped damage by this beetle approximately 150 kms from the Yukon border. In British Columbia, about 3.1 million hectares were infested with mountain pine beetle this year. That's down from the 5.2 million hectares infested last year - that's almost the size of Nova Scotia! Alberta measured 139,372 red trees in 2012 and spent approximately $21 million on ground surveys and control costs. With mountain pine beetle infesting multiple jurisdictions, there is collaboration between Saskatchewan and Alberta who are in their second year of a multi-year agreement that is focusing on the leading edge of the outbreak.

In eastern Canada, New Brunswick (NB) is predicting the potential for scattered patches of trace to light SBW defoliation in northern-central NB. The maximum trap catch there was 274 moths per trap. They also found spruce coneworm for the first time since 1993 which is linked to SBW populations. Seeing high numbers in New Brunswick is not surprising because there has been an outbreak in Quebec. A spray program for spruce budworm in Quebec covered approximately 98,000 ha. In 2012 QC had a spray program for SBW spraying approximately 98,000 ha. To date the total area damaged by the SBW in QC is approximately 2 million hectares. There were also 33,255 ha and 242,921 ha of defoliation seen in Labrador and Ontario, respectively. In NS, Forest Health, NSDNR, is monitoring the SBW populations with pheromone traps and an overwintering 2nd instar larvae survey. This year 70% of the traps were positive for SBW moths and the maximum trap catch was 89 moths per trap. No overwintering 2nd instar larvae were found. There has been no defoliation in Nova Scotia since the early 1990s and we are not predicting any for next year. Anticipating that SBW is heading our way, we are researching and preparing the latest technology to help better manage the next outbreak. The spruce budworm Decision Support System (DSS) will help Natural Resources to better manage the spruce budworm problem. It will use information such as the forest inventory and budworm monitoring data to determine outbreak scenarios.

**Project Updates**

*Balsam Fir Sawfly*

Justin Smith

In the 2012 fall survey, branches were collected from 149 sites in Central and Eastern Nova Scotia and brought back to the lab for analysis. Egg niches were found at 46% of these sites, down from last year’s 59%. Only 6 sites landed in the high population category, 8 in the moderate category, 55 in low and 80 at zero. The few high and moderate population categories were found in Victoria and Inverness Counties leading to low defoliation predictions throughout the province, especially on mainland Nova Scotia this year.

![Fig. 2 Balsam fir sawfly egg niche survey results.](image)

![Fig. 3 Looking for balsam fir sawfly egg niches. Inset: egg niches on balsam fir.](image)
**Jack Pine Budworm Pheromone Traps**
Mike LeBlanc

**Pheromone Trap Results**

Forty-nine Multi-Pher® pheromone traps/lures were placed in mature or over-mature white pine stands during June and were picked up in September. Thirty-two traps contained 0 moths; seven traps contained 1 moth; two traps contained 2 moths; two traps contained 4 moths; one trap contained 5 moths; and 1 trap contained 18 moths. Four traps were missing.

*Fig. 4* Jack Pine Budworm pheromone trap survey results, 2012.

*Fig. 5* Pheromone trap used for jack pine budworm survey.
Overwintering L-2 population

Very light defoliation was observed while placing the pheromone traps in July while flying at approximately 300 foot altitude. Based on that observation it was decided to collect three L-2 samples around the perimeter of the area where the pheromone traps were picked up in September. The results from the locations assessed for overwintering L-2 larvae (Fig. 6) are: JPBWpt1, 84 larvae per sq. metre of bark surface were found; JPBWpt2, 0 larvae were found; and at pt. JPBW144, 50 larvae per sq. metre of bark surface were found.
Gypsy Moth Pheromone Traps
Jacqui Gordon

The gypsy moth pheromone trap survey is done in two parts. The permanent (Multi-Pher®) traps are placed across the province to provide a snapshot of the current year’s population (see map, Fig. 8.) Cardboard Delta traps are also placed but this part of the survey is done in the area outside the Canadian Food Inspection Agency (CFIA) Regulated Zone (see map, Fig. 9). Both types of traps are placed by the Pest Detection Officers.

Multi-Pher® (permanent) Trap Survey

There were a few changes from 2011 collections. Catches in Guysborough and Colchester Counties increased while catches in Inverness and Halifax Counties decreased. Historically collections in Hants, Kings, and Lunenburg Counties have been in the high category and this trend continues. No defoliation was reported.
Gypsy Moth Delta (Pheromone) Traps
Jacqui Gordon

Fig. 9  Gypsy moth delta trap survey results, 2012.

Trap catches remain consistent with results from 2011.

Thanks go out to the Pest Detection Officers who placed and collected the traps.

Fig. 10  Delta trap with catch.  
Inset: Male gypsy moth.
Pheromone trap catches for eastern spruce budworm (SBW) have been gradually on the rise in Nova Scotia since the early 2000s. In 2012, 153 traps were placed throughout the province, resulting in an increase in both the average number of moths collected and percent positive traps. The greatest increases occurred in Cape Breton and the northern shore of mainland Nova Scotia. The highest trap catches were along the northern portion of Cape Breton in Belle Cote and Pembroke Lake, with 89 and 57 SBW moths collected respectively.
Spruce Budworm Overwintering Larva (L-2)

Jeff Ogden

One hundred and eleven L-2 points were collected at and around positive eastern spruce budworm (SBW) pheromone trap locations in 2012. Although there was a bit of excitement for a brief time with the possibility of an L-2 actually being found, these “hopes” were quickly extinguished with the aid of our New Brunswick Department of Natural Resources colleagues from Fredericton. Zero SBW L-2 to report again for 2012.

Fig. 13 Spruce budworm overwintering larvae (L-2) survey results, 2012.

Fig. 14 Processing balsam fir branches for spruce budworm larva.
Blackheaded Budworm Overwintering Eggs
Brandon Oikle

For the year of 2012, 64 plots were established throughout Inverness and Victoria Counties for blackheaded budworm (BHB). When the samples collected from the plots were processed, 61 plots had a low population category (1 to 26 eggs per 45cm branch). The remainder of the plots sampled had zero BHB eggs (Fig. 16) identified. There was no significant change in results compared to the previous year.

Fig. 15 Blackheaded budworm overwintering egg survey results, 2012.

Fig. 16 Blackheaded budworm eggs washed from balsam fir branches (magnified).
The Last Laugh . . .

Close Calls

It was a particularly tough football game, and nerves were on edge. The home team had been the victim of three or four close calls by the officials, and they were now trailing the visitors by a touchdown and a field goal. When the official made yet another close call in the visitors’ favor, the home quarterback blew his top. “How many times can you do this to us in a single game?” he screamed. “You were wrong on the out-of-bounds, you were wrong on that last first down, and you missed a clip in the first quarter.”

The official just stared. The quarterback seethed, but he suppressed the language that might get him tossed from the game. “What it comes down to,” he bellowed, “is that YOU STINK!”

The official stared a few more seconds. Then he bent down, picked up the ball, paced off 15 yards, and put the ball down. He turned to face the steaming quarterback. “And how do I smell from here?“.

There was once a young man who, in his youth, professed his desire to become a great writer. When asked to define “great” he said, “I want to write stuff that the whole world will read, stuff that people will react to on a truly emotional level, stuff that will make them scream, cry, howl in pain and anger!”

He now writes error messages for a large software corporation.

Thinking of Traveling this Winter . . .?

I have been in many places, but I’ve never been in Cahoots. Apparently, you can't go alone. You have to be in Cahoots with someone.

I've also never been in Cognito. I hear no one recognizes you there.

I have, however, been in Sane. They don't have an airport; you have to be driven there. I have made several trips there, thanks to my friends, family and work.

I would like to go to Conclusions, but you have to jump, and I'm not too much on physical activity anymore.

I have also been in Doubt. That is a sad place to go, and I try not to visit there too often.

I’ve been in Flexible, but only when it was very important to stand firm.

Sometimes I’m in Capable, and I go there more often as I’m getting older.

One of my favorite places to be is in Suspense! It really gets the adrenalin flowing and pumps up the old heart! At my age I need all the stimuli I can get!

And, sometimes I think I am in Vincible but life shows me I am not!