



INSECTARY

NS Dept. of Natural Resources

Insectary Notes

July/August 2008

From the Editor

There is a legend that the Inuit people have 100 words for snow. A little research told me that, in fact, there are about the same number of words for snow in the Inuit language as there are in English. And where am I wandering with this thought? Right out into the rain, downpour, deluge, soggy, wet, mouldy, soaked, sodden, flooded, @!#\$% RAIN . . . the heavens have opened with words to describe August 2008. But even with the excess of damp weather, insects and their kind keep us busy.

This newsletter is packed full with information on the European fire ant as well as an Index of the past Insect Focus topics. Mike has provided an update on the status of the jack pine budworm and the pale winged grey. Keith has written on the activity in his garden as well as an update on the whitemarked tussock populations. Gina has shed light on the causes of tar spot on maples.

Til next time,

Jacqui

Editing is a Rewording Activity

Contents

(click on [article title](#) for navigation)

Insect Focus	
<u>European Fire Ants</u>	Page 2
<u>Focus Index</u>	Page 4
<u>From the email bag . . .</u>	Page 6
<u>Bits and Pieces</u>	Page 6
<u>Prov. Entomologist's Overview</u>	Page 7
Monitor Watch	
<u>Of Bugs and Birds and WMTM</u>	Page 8
Project Update	
<u>Jack Pine Budworm</u>	Page 9
<u>Pale Winged Grey</u>	Page 10

Say What and Quotes . . .

Back to School . . .

High School: the mouse race to prepare you for the rat race

"Sign on a High School bulletin board in Dallas: Free every Monday through Friday--knowledge. Bring your own containers. " - E. C. McKenzie

And don't forget the books . . .

Walking to School the First Day Back - by Misty Bus

The Day the Car Pool Forgot Me - by I. Rhoda Bike

What I Dislike About Returning to School
- by Mona Lott

Making It Through the First Week of School - by Gladys Saturday

Is Life Over When Summer Ends? - by Midas Welbee

What Happens When You Get Caught Skipping School - by U. Will Gettitt

Insect Focus

[Back to page 1](#)

Jacqui Gordon

Sad to say, insects rarely make the news in a good way . . . and news of the European Fire Ant and its impact on homeowners in Pictou and Halifax Counties is definitely not a good news story. Although it's not a forest pest and we are not the lead agency in developing a management plan, we wanted to provide our readers with current information on this insect and who to contact if you have a problem with European fire ants. So, here we go . . .

European Fire Ant, *Myrmica rubra*

(also known as European Red Ant)

It's important to note that these ants are only distantly related to the "true" fire ants (*Solenopsis* species) found in the southern U.S. and Latin America.

Why are they a problem?

These ants aggressively defend their territory. They will readily sting humans and animals that venture into their foraging area. Although reaction to the sting varies from one individual to another, the general reaction is a burning sensation and an inflamed area at the site of the sting. Homeowners in infested areas have reported that they are unable

to use their yards because of the fire ant attacks.

Also, European fire ants may displace our native species of ants.

To date, populations of the European Fire Ant are known in the Summit Street and Jubilee Road area of peninsula Halifax and in Spryfield, Lower Sackville, Abercrombie, and Stellarton.



Where did they come from?

The European fire ant is native to cold regions of Europe and Asia. It was first discovered in North America in Maine in the early half of the 20th century. It is thought that the ants arrived in containerized plant material shipped from Europe.

Identifying European fire ants

European fire ants are small (only about 5 mm), red ants. The queen is a little larger. They have a constricted "waist" that has two segments; most native species have only one. There are two backward pointing spines on the middle body section, visible with a magnifying glass.

They are capable of inflicting a painful, burning sting.

Where they live and how they spread

European fire ants build nests in soil under rocks, wood or other debris. These nests are NOT large soil mounds. The number of nests is usually very abundant, with 10-12 nests in a 10-ft x 10 ft area.

It appears the ants spread two ways. One way is by "colony budding" into adjacent areas where a group of ants, including the queen, moves from the original colony and establishes a new nest nearby. They are also spread by human transport of nests from infested areas (soil, decaying logs, potted plants, etc.)

Derailing our train of thought . . .

[Back to page 1](#)



When one of the native species of ants is a nuisance on your property, the short term control method is to apply some type of insecticide that the worker ants take back to the queen. This usually works well because there is only one queen.

The long term solution to a problem with native ant species is to make your property less attractive to the ants by amending the soil with organic matter.

But, here's where the train goes off the tracks . . .

European fire ant colonies have more than one queen. In England, colonies were found with an average of 15 queens per colony and a maximum of 670 queens. Multiple queens will make it much more difficult to destroy the colony by killing the queen. Also these ants like moist humid conditions and don't seem to be bothered by organic material.

Management

1. Make sure you don't bring them onto your property. Avoid transporting materials (soil, mulch, plants, decaying logs, etc.) unless you are certain it is free of fire ants.
2. Remove preferred nesting sites, boards, logs, rocks . . . anything that maintains a moist environment.
3. Boric acid and diatomaceous earth are two of the registered pest control products that can be used. These products are most effective when everyone in the neighbourhood uses them consistently.



Who to contact for more information

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References

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Focus Index July 1993-July 2008

[Back to page 1](#)

Another year gone by and it's time for the annual index of *Focus* articles.

(Use underlined issue dates for navigation.)

Ages of Trees	April 2000	Drugstore Beetles	Feb 1999
Alder Flea Beetle	July/Aug 2004	Due Diligence	Feb 1996
American Dog Tick	April 1999, May/Apr 2002	Dust Mites	Jan/Feb 2007
Ants in Lawns	July 1998	Earwigs	April 1995
Asian Longhorn Beetle	Aug 1998, July 1999	Eastern Blackheaded Budworm	Oct 1997, Sept/Oct 2004
Asian Gypsy Moth	Nov 1993	Eastern Dwarf Mistletoe	Sept 1994
Bacillus thuringiensis	May 1996	Eastern Spruce Beetle	July 1993
Bagworm Moths	July 1994	Eastern Tent Caterpillar	May 1994
Balsam Fir Cytospora Canker	July/August 2006	Emerald Ash Borer	Jan/Feb 2003
Balsam Fir Sawfly	Sept 1998	European Fire Ant	Jul/Aug 2008
Balsam Gall Midge	May 1999, <u>Mar/Apr 2008</u>	European Marsh Crane Fly	June 1996, May/June 2002
Balsam Shootboring Sawfly	July/August 2006	European Pine Shoot Moth	Sept 1996
Balsam Twig Aphid	June 1999	European Spruce Bark Beetle	Sept 1996
Balsam Woolly Adelgid	Apr 1998, Jan/Feb 2001	Fall Cankerworm	Oct 1993
Balsam Fir Decline	Nov 1999	False Powderpost Beetles	Jan 1994
Bed Bug	May 1998	Fleas	Feb 1994, May 1998
Beech Bark Disease	Dec 1999	Forest Insect & Disease Survey	May 1999
Bees- Colony Collapse Disorder	<u>May/June 2007</u>	Forest Tent Caterpillar	May 1994
Biocontrol of Purple Loosestrife	Feb 1997, Mar 1997	Fruit Flies	Oct/Nov 98, Aug 99, Sept/Oct 05, July/Aug 06
Biting Insects	June 1995, May/June 2000	Fungus Midge	Dec 2000
Black-legged Tick	July/Aug 2002	Giant Garden Slug	Oct 1996
Blackheaded Budworm	Oct 1997, Sept/Oct 2004	Giant Water Bug	June 1998
Blackheaded Budworm in NS	May/June 2005	Gouty Oak Gall	May/June 2001
Black Vine Weevil	Jan/Feb 2001	Great Grey Slug	Oct 1996
Blow Flies	Aug 1999	Greenstriped Mapleworm	July 1995
Brown Spruce Longhorn Beetle	July 2000	Ground Beetles	May/June 2001
Browntail Moth	Jan 1999	Gypsy Moth	June 1994
Bruce Spanworm	Oct 1993	Gypsy Moth Biocontrol	Jan 1997
Bug Zappers Exposed	July 96, June 98	Gypsy Moth in NS	Mar 1995
Carpenter Ants	Oct 1994	Hairy Chinch Bug	July 1999
Carpet Beetle	May/June 2003	Hardwood Discolouration	Aug 1999
Chinch Bugs	July 1999	Harvestmen	July /August 2006
Cluster Flies	Dec 1993	Hemlock Borer	May/June 2004
Colony Collapse Disorder	<u>May/June 2007</u>	Hemlock Looper	Aug 1993, Nov 1994, Sept/Oct 2002
Cytospora Canker	July/August 2006	Hylobius Weevil	April 1997
Deathwatch Beetles	Jan 1994	Hypoxylon Canker of Poplar	Mar/Apr 2003
Deer Tick	July/Aug 2002		

Ice Damage	March 1998	Spruce Cone Maggot	June 1994
Indian Meal Moth	Mar/Apr 2004, <u>Jan/Feb 2008</u>	Strawberry Root Weevil	Dec 2000
Insects as Food	Jan 1996	Sugar Maple Borer	Mar/Apr 2001
Jack-O-Lantern Fungi	May 1995	Swiss Needlecast	May 1996
Jack Pine Budworm	March/April 2006	Tent Makers	<u>May/Jun 2008</u>
Ladybird Beetles	Sept/Oct 2001, Sept/Oct 2006	Toxic House Plants	Feb 1999
Ladybugs	Sept/Oct 2001	Tree Banding	June 1995, Nov 1999
Larder Beetle	Jan 1995	Tree Injury	Aug 1996, Nov 1996
Leatherjackets	June 1996, May/June 2002	True Powderpost Beetles	Jan 1994
Leucostoma Canker	July/August 2006	Western Conifer Seed Bug	May/June 2001
Lice	Oct 1994, July/Aug 2001	White Grubs	Sept 1999
Longhorned Beetles	Jan 1994, Aug 2000	White Pine Weevil	
Maggots Nurse Wounds	Feb 1996		Aug 1994, Mar/Apr 2007, <u>Mar/Apr 2008</u>
Millipedes	Oct 1999	Whitemarked Tussock Moth	
Mimic	Dec 1994		Jan 1998, Jan/Feb 2005
Moisture Stress	May 1998	Whitemarked Tussock Moth in Christmas Tree Lots	
Mosquito Magnetism	July 1997		Mar/Apr 2007
Mosquitoes	May/June 2000	Whitespotted Sawyer	July 2000
Moth Flies	Dec 2000	Winter Caterpillars	Feb 1998
No-see-ums	July/August 2002	Winter Insects	Feb 1995, Feb 1999
Pale Winged Grey	Jan/Feb 2004	Winter Moth	Oct 1993
Pavement Ants	July/Aug 2005	Woolly Alder Aphid	Sept 1997
People Pressure Diseases	Aug 96, Nov 96	Yellow-bellied Sapsucker	July 1996
Pheromones and Allomones	Sept/Oct 2005	Yellowheaded Spruce Sawfly	Aug 2000
Pine Shoot Beetle	March 1999	Yellowjackets & Paper Wasps	Sept 2000
Pine Spittlebug	July 1996		
Pitcher Plant	June 1994		
Plantwatch	March 2000		
Pseudoscorpians	April 1996		
Rosy Maple Moth	July 1995		
Salt Damage	Mar/Apr 2001		
Satin Moth	June 1997		
Sawflies on Conifers	July 1996		
Seedling Debarking Weevil	April 1997		
Silverfish	April 1999		
Snow Fleas			
	March 1994, Feb 1998, Jan/Feb 2002		
Sowbugs	Nov 1995, Dec 1999		
Spiders	Sept/Oct 1995		
Springtails	March 1994, Jan/Feb 2002		
Springtime & Wildfire	March 1996		
Spruce Budworm	Sept 1993, <u>Sept/Oct 2007</u>		
Spruce Beetle (Eastern)			
	July 1993, March 1995, <u>Jul/Aug 2007</u>		

It's time to go to school

One morning a mother was trying to wake up her son. "Wake up now! It's time to go to school."

"I don't want to go to school," the son replied. His mother said, "Give me two reasons why you don't want to go to school."

"Okay. One, all the children hate me. Two, all the teachers hate me."

"Not good enough," the mother replied.

"Fine," the son said. "Then you give me two good reasons why I SHOULD go to school."

"One, you're 50 years old. Two, you're the principal of the school."

From the e-mail bag . . .

[Back to page 1](#)



Fig. 1. Tar spots on maple.
Submitted by Andrew Williams,
Truro Tree Committee

Tar Spot on Maple

The wet weather has brought on another round of tar spot on maples. This photo shows the dark blotches on the leaves caused by the fungus (Fig. 1.)

For more information on tar spot, check out the Provincial Entomologist's Overview.



Fig. 2. Asian ladybird beetle
Submitted by Victoria Peddle

Asian Ladybird Beetle

Also called the southern ladybird beetle, this is an introduced species of ladybird beetle (ladybugs). It is more common to see the red or orange beetles but they also come in yellow. (Fig. 2.)

Bits and Pieces

[Back to page 1](#)

Balsam Gall Midge

Keith Moore

Christmas tree growers should be on the look-out for the balsam gall midge (BGM). The population seems to be on the rise across the province. Some areas have high numbers of a beneficial parasitic midge that is a natural control for the BGM, while other areas have very few parasites present at this time. I have looked at some samples that had as low as 4 percent beneficial midges present: this indicates that the population of the BGM will be on the rise again next spring. Stay in touch with your Christmas Tree Specialist.

Game - Who Am I . . .

A very dirty little fellow came in from playing in the yard and asked his mother, "Who am I?" Ready to play the game she said, "I don't know! Who are you?" "WOW!" cried the child. "Mrs. Johnson was right! She said I was so dirty, my own mother wouldn't recognize me!"

Bad Grades

A little boy wasn't getting good grades in school. One day he surprised the teacher by tapping her on the shoulder and saying, "I don't want to scare you, but my daddy says if I don't get better grades somebody is going to get a spanking!"

Most Unwanted List

Fruit Flies	Balsam Gall Midge
Mosquitoes	Fall Webworm
Spruce Beetle	

Dishonourable Mention

Blacklegged Ticks	Millipedes
Tar Spot on maples	Spiders

First Day at School

The child comes home from his first day at school. Mother asks, "What did you learn today?" The kid replies, "Not enough. I have to go back tomorrow."

Provincial Entomologist's Overview . . . What's the Buzz?

[Back to page 1](#)

Are there leaves falling from the maple tree in your backyard? Have you noticed spotty maple trees in your neighborhood? Recently at Forest Protection, we've received numerous calls concerning these unsightly spots.

Tar spots on maples are caused by two species of *Rhytisma* fungi. These fungi infect the upper surface of leaves, each producing different symptoms. The first species, *Rhytisma acerinum*, causes shiny, raised black spots, approximately 0.5 - 2 cm in diameter, surrounded by a yellow halo whereas *Rhytisma punctatum* produces smaller spots, about 1 mm in diameter, sometimes referred to as speckled tar spots. Leaf tissue beneath a large tar spot turns brown while the tissue below speckled tar spots remains yellow.

Outbreaks of tar spot are sporadic, occurring during wet years. Disease symptoms first appear in late spring or early summer as light or yellowish green spots. As the season progresses these spots enlarge, thicken and become black in colour. The impact of this disease is mainly aesthetic. It is rarely serious enough to cause long term damage to established trees. However, heavy infections may result in premature leaf drop.

Tar spot fungi overwinter on infected leaves that have fallen to the ground. The following spring, new spores are released and blown by the wind to reinfect new, expanding maple leaves. Therefore the most effective management practice is to rake and destroy all the spotted leaves in the fall. This can help reduce the amount of overwintering fungal spores. Although fungicides can be applied to protect newly emerging leaves, their use is seldom warranted.

If there is any silver lining to this gray tar spots cloud it's that these fungi are an indicator of air quality. In areas where air is polluted, especially with sulfur dioxide, this disease is rarely seen. So here in Nova Scotia, breath deep!

'Til next time

Gina

Gina Penny, Provincial Entomologist

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www.halifax.ca/RealPropertyPlanning/UFMP/MapleTarSpot.html

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Monitor Watch

Of Bugs and Birds and Whitemarked Tussock Moth

Keith Moore

[Back to page 1](#)



Fig. 3. A chickadee returns to the Sugar Shack with a tasty larva for its young.

One year my father received a replica of a sugar shack, all painted up blue with an attached wood house. A fancy little birdhouse, more for decoration than for nesting birds. I placed the sugar shack out on the rail of the deck at the farm house near my father's swing seat so he could admire it. My father spends many hours out on the lawn swing in the shade of the house. Beside the deck grows a huge butternut tree that my older brother planted. It's about 49 years old and about 2 feet across at the stump. Only 1 of 6 trees that survived. Its broad, spreading branches provide deep shade that makes it one of the coolest places in our yard. Around 1st July, a pair of chickadees took up nesting in the sugar shack birdhouse about 4 feet from lawn swing in the deep shade of the butternut. It was great fun watching them lug bits of moss up to the door of the house, check to see if we were watching and then quickly fly in the hole. By 24th July, they were busy lugging little green 1/4 inch larvae into the hole and you could here the buzz of the young ones as they received a tasty green worm. I was cheering "Go chickadee, Go! The parents gradually worked up to moths, spotted tussock, and an assortment of leaf-feeding insects. All very interesting!

By 10 August, a showery Sunday afternoon, the first fledgling left the nest, it bounced across the tarp on the lawn swing

where we were seated and landed on a limb of the butternut. A second young'un was very busy peaking out the nest hole waiting to stretch its wings. I think there was at least 5. I think maybe I will put in an extra scoop of sunflower seeds in the feeder this winter to reward them for good insect control program.

Whitemarked Tussock Moth

I've been speaking with Christmas tree growers who are always on top of it and have the scoop. . .

Whitemarked tussock . . . They're back in spots.

This summer there have been a few cases of whitemarked tussock moth rearing its ugly little head. If larvae counts are exceeding 6-8 per tree, your trees will sustain damage. Many thanks to Bill Rundle for alerting us to a problem in the Dickey Lake area and Wayne Higgins in the Upper Musquodoboit area. Allan Jackson (PDO, McLellans Brook) reported an area in Landsdown and Scott MacEwan (Christmas Tree Specialist), and Greg Murphy (PDO, Antigonish) picked up an area in College Grant near Locharber, Antigonish Co. This area was counting out 20 larvae per tree. Apparently any area that had severe populations last year has one or two larvae per tree this year.

However!!! And it's a good however . . . by the first week in August there were no signs of larvae in the Antigonish area, the population had collapsed again. Hurray for diseases!!!

The Dickie Lake/ Landsdown area still has larvae pupating and will have to be monitored closely for egg masses this fall and winter.

Project Update

[Back to page 1](#)

Jack Pine Budworm (JPBW)

Mike LeBlanc

The amount of damage to mature white pine caused by this defoliating insect, a close relative of the spruce budworm, increased again this year. Aerial surveys detected a total of 3535 ha of defoliation (see Table 1); 3154 ha = light; 381 ha = moderate.

The damage has also expanded geographically to the northwest to Fifth Lake Flowage, a distance of approximately 6 km from the Big Pine Lake outbreak, causing 102 ha of moderate defoliation in this, its first year of detectable damage. It has also expanded 6km eastward from the Northeast Bay outbreak to Cowie Bay and across East Brook Bay (Lake Rossignol) causing 551 ha of new defoliation. It has also expanded 5 km south across Lake

Rossignol from Northeast Bay to Kempton Bay, causing 80 ha of new, light defoliation there.

We will be collecting our pheromone traps soon. The catch results from these will aid us in deciding where to collect branch samples to determine the overwintering population levels (L-2 survey).

Table 1. JACK PINE BUDWORM DAMAGE HISTORY

Year	Damage (ha.)
2005	360
2006	553
2007	1554
2008	3535

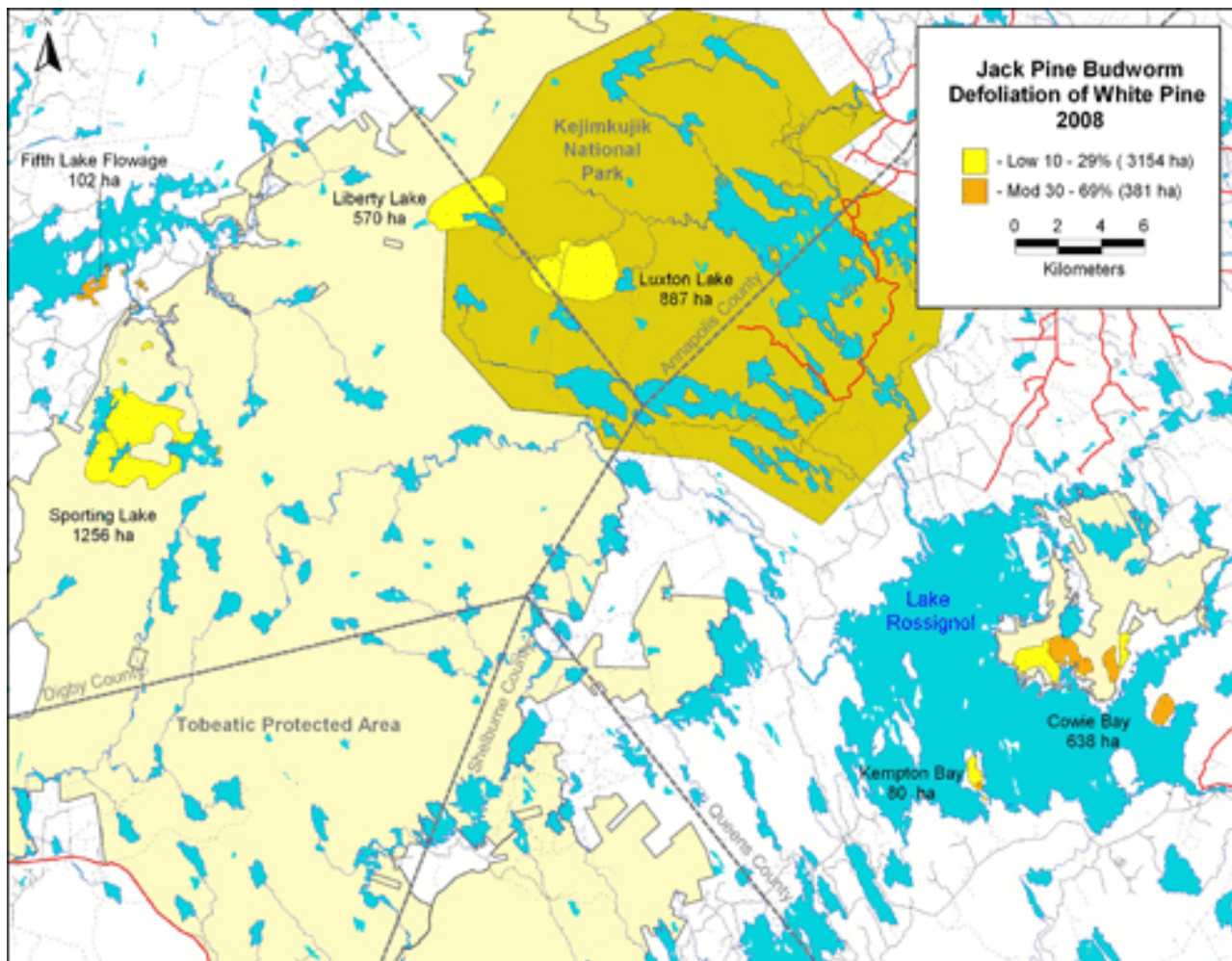


Fig. 4. Jack pine budworm defoliation of white pine, 2008.

Pale Winged Grey (PWG)

Mike LeBlanc

[Back to page 1](#)

Defoliation by this looper has intensified in the Bangs Falls, Greenfield, Labelle, and Pollards Falls (Shelburne River) areas. The feeding larvae had consumed the understory foliage over the past few years, and have now moved up into the lower and mid crowns of the dominant trees (see photo).

Two new areas of defoliation have been detected at Beaverskin Lake and Peskowsk Brook, both located in Kejimikujic Park. There have also been eyewitness reports of defoliation occurring at Jordan Lake, Queens Co. which we will investigate over the next few weeks. One infestation in South Brookfield where the population had collapsed 2 years ago has come back with a vengeance.



Fig 5. Pale winged grey defoliation in Bangs Falls, 2008.

The University of New Brunswick is in its first year of a study to attempt to develop a predictive survey method to determine overwintering population levels of this insect (egg stage). This involves mounting small squares of upholstery foam to the bark of trees so female moths can lay their eggs on it rather than on the bark. The squares are collected and examined for eggs using a microscope and the egg counts are correlated to the damage caused by the larvae, the following feeding stage, in June and July.

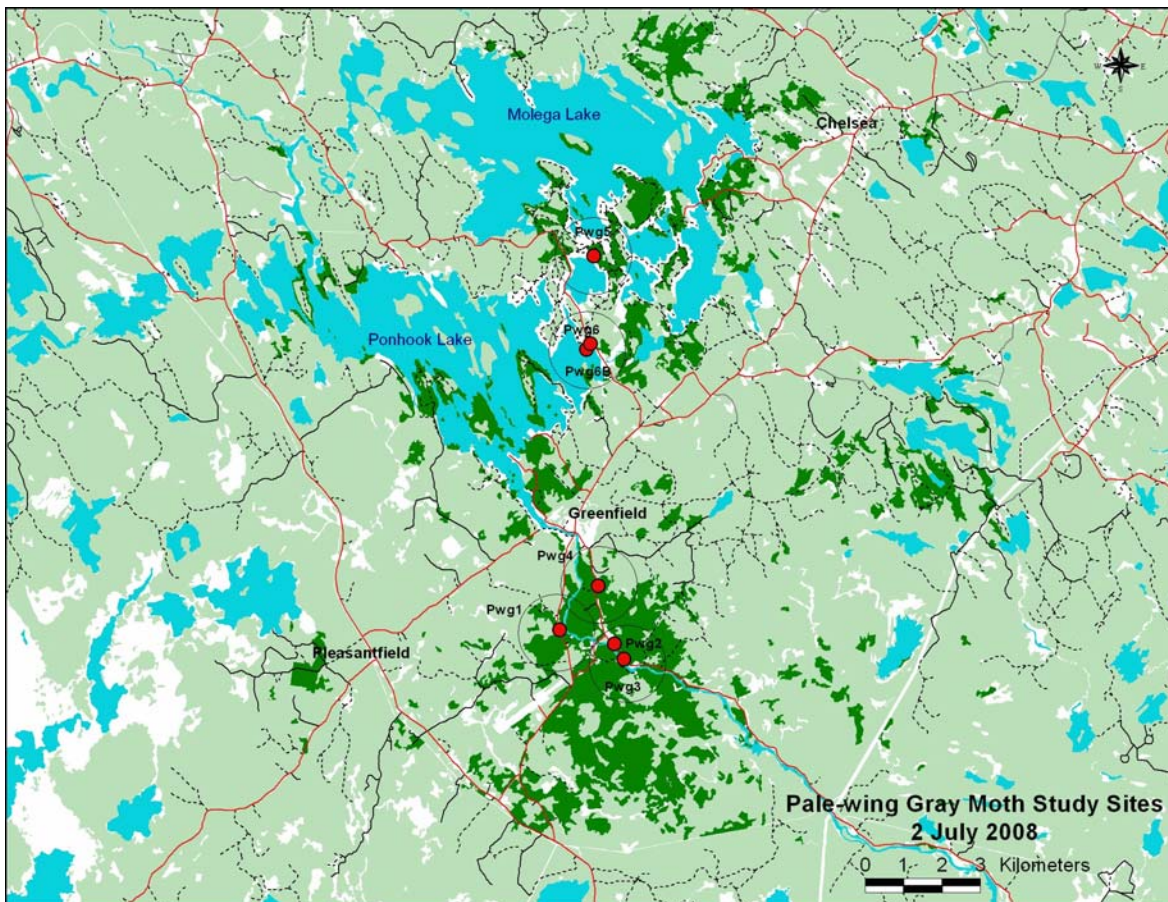


Fig 6. University of New Brunswick pale winged grey moth study sites, 2008.