

April 2013

Northern Wisconsin's Forest Insect & Disease Newsletter

Wisconsin Department of Natural Resources
Division of Forestry

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Forest Health News Across the Northern Third

Tamarack Mortality and Office Chair Recon

I reported widespread tamarack mortality in north-central Wisconsin in the [last newsletter](#). I subsequently received additional reports across northern Wisconsin of dying tamaracks. **I highly recommend looking at recent online imagery of any merchantable tamarack stand.** A prime way to do this office recon is link World Imagery into ArcMap 10 using ArcGIS Online. The most recent “wroc” or “naip” imagery typically does NOT show the mortality! As few as 5 dying tamarack show up clearly on these online services at a 1:5000 scale. If you see mortality in a given tamarack stand from the (un)comfort of your office chair, you can almost be assured it is due to Eastern Larch Beetle (ELB) and the mortality has expanded since the imagery was captured (see image below).



Figure 1: Thirty cm resolution aerial imagery (1:1643) taken in August 2011 of a tamarack stand in Lincoln County. Note the mortality on the east side of the red polygons. The red polygons represent present mortality (>100% increase in 1 growing season). You can access this imagery (World Imagery) through ArcMap 10's online service. Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

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Since ELB can move through tamarack stands quickly at times, and since not every year presents a feasible time to cut in a tamarack stand, I recommend setting up a pre-salvage / salvage / regeneration cut for any tamarack stand that has X% of the tamarack infested. No one knows what infestation level is a tipping point for a given tamarack stand, nor does anyone know when the bark beetle outbreak will crash; thus the 'X.' Many foresters are regenerating tamarack stands via seed tree or strip clearcut harvests. Colleen Matula notes that leaving scattered tops and limbs encourages tamarack regeneration for a variety of reasons.

On a related note, Venette and Walter with the USFS recently published some research on the winter survivorship of ELB in northern Minnesota. They report, "Survivorship of adults, however, seems more sensitive to winter temperatures. On average, adult survivorship has increased 0.7 percent per year from 1964–2004. Greater overwintering success by *D. simplex* [eastern larch beetle] places greater pressure on tamarack, which may lead to tree mortality."

For additional information on ELB and other tamarack pests, check out this [fantastic on-line presentation](#) created by the Mike Albers (MN DNR Forest Health Specialist).

Don't Forget to Watch Out for Asian Longhorned Beetles

Will you young foresters see Asian Longhorned Beetle (ALB) in Wisconsin during your careers? I hope not, and realistically maybe not. This is a slow moving critter, and the closest infested location we know of is in southwest Ohio. Unfortunately, this beetle is cryptic, very destructive, and a nightmare to eradicate. If you see an ailing maple with approximately ½ inch circular holes in



Figure 2: Long vertical galleries are etched into tamaracks by the eastern larch beetle. During late winter, bark sloughs off infested tamaracks quickly, presumably by birds and gravity. Infested stands' trunks look red with the nice April backdrop of snow.

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the bark, let me know. And, like Dr. Seuss says about your right and left feet, never mix up a native Whitespotted Sawyer with ALB. Oh yes, and for you older foresters, I highly doubt you'll see ALB.



Figure 3: Firewood showing damage by Asian Longhorned Beetle. Watch out for ½ inch diameter holes in maples! Photo from Michigan DNR's 2012 Forest Health Highlights. Thanks Michigan.

Did Bark Beetles Kill These Red Pines?

We know that pine plantation mortality pockets in north-central Wisconsin are usually caused by *Armillaria*, ips bark beetles, and/or Red Pine Pocket Mortality. Other fungi less frequently associated with pockets in northern Wisconsin are *Onnia* and *Perenniporia*. And of course, Heterobasidion Root Disease causes pockets.

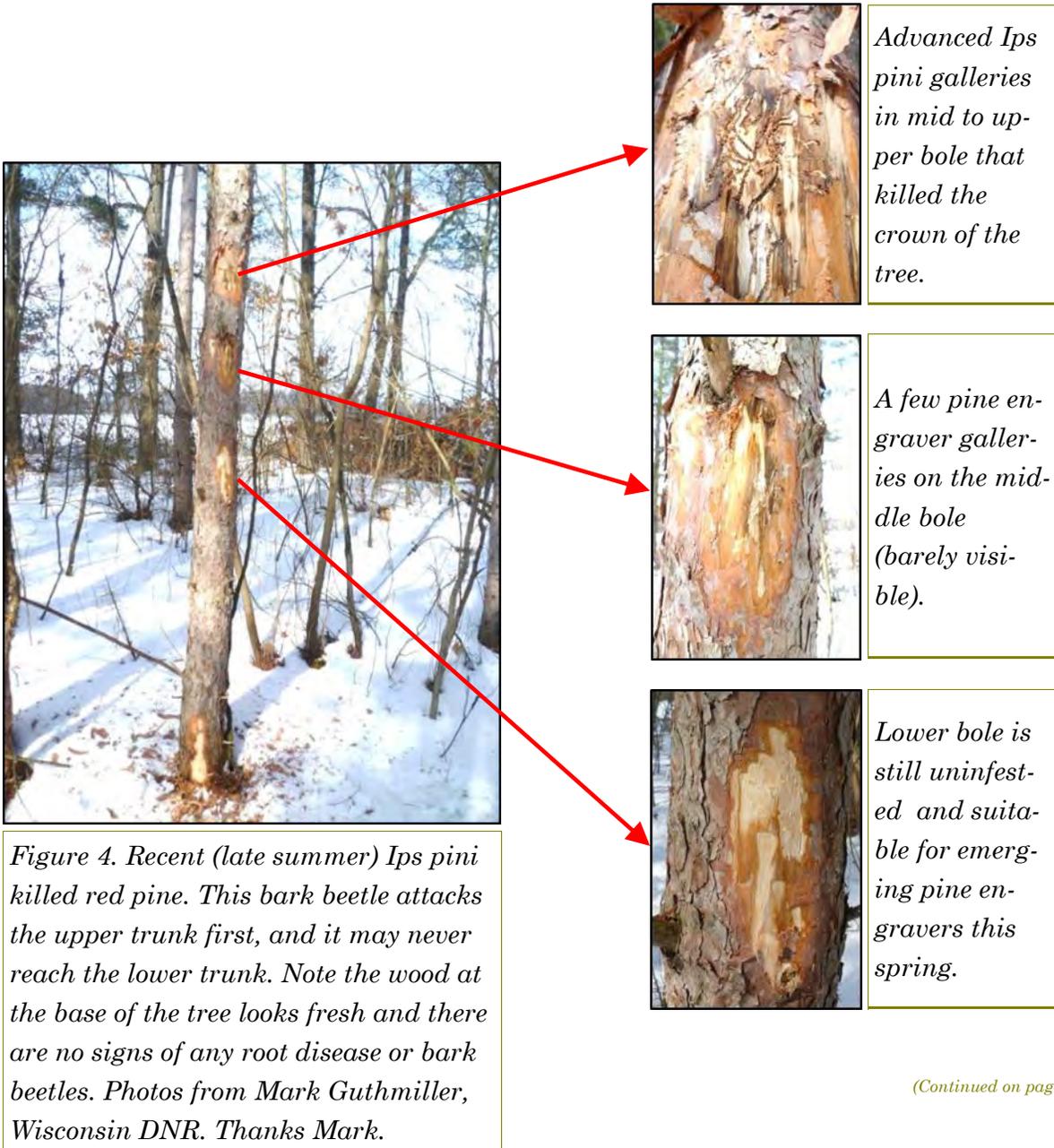
Focusing on mortality pockets where bark beetles are *the only cause*, here are some general pocket characteristics: (1) pine seedlings and saplings are healthy, (2) lightning strike damage may be evident, (3) adjacent living pines have full crowns (though some upper canopy branches may be brown), (4) pines

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often die in a single growing season, and (5) *exit holes are often absent on the lower bole* because *Ips pini* (the Pine Engraver) attacks upper trunks first (check out the excellent photos below from my counterpart Mark Guthmiller).

I have observed presumably higher than normal bark beetle infestation rates in red pine plantations in the southern tier of the NE and NW Districts this winter. I suspect this is due to these areas being on the margin of the severe late summer 2012 Wisconsin drought. Specifically, I have seen 2012-infested plantations in southern Lincoln, Taylor, and northeastern Chippewa counties.



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For preventing bark beetle damage in red pines, these cultural tactics are quite effective (not a comprehensive list): (1) don't thin during extreme droughts, (2) get logs out of plantations within 3 weeks of cutting between April 1 and September 1, (3) if thinning between March 1 and September 1, utilize slash down to 2 inches in diameter (or as small as possible), and (4) promptly clean up storm damage if it occurs between March 1 and July 15.

Local population reduction efforts for ips bark beetles are more complicated than the preventative strategies but may be possible on small private properties. Unfortunately, they do have the potential to make problems worse.

Heads Up When You See Blond Ash Trees



Figure 5: If you see ash trees that look like these, think Emerald Ash Borer (EAB). Birds fleck away the bark in search of abundant overwintering EABs. Check the trees out for any D-shaped exit holes or sinuous larval galleries. These trees were in southeastern Wisconsin. Photos from Bill McNee, Wisconsin DNR. Thanks Bill.

The Rot Room

Welcome to the Rot Room. Come here to keep your white, brown, and canker rots straight. Brown rot is more structurally unstable than white rot. Canker rotters cannot be compartmentalized well, so they are classified by the DNR as “high risk.”



Figure 6: This is the Red Belt (Band) Fungus, a perennial conk that causes brown cubical heart-rot. Even though it could be rotting a tree's core, it usually doesn't fruit until the tree is dead. If you saw this on a standing tree, look out! This fine specimen was picked off a downed Lincoln Co. tamarack. It has at least 9 annual layers.

The Positive Corner

Sick of reading negative agency newsletters? Roll out on the wrong side of bed? Confused by a reorg.? Here's a place to come when you need cheering. Revel in the overwhelming positiveness.

New Jersey and Canada recently declared that Asian Longhorned Beetle is eradicated within their borders.

Odds & Ends

Annosum Policy and Forest Health Training Needs

From recent gossip I heard, I feel the need to write this statement: if you know of a group of foresters or loggers or landowners that feel in the dark about major forest health concerns (e.g. Annosum identification), know that I am happy to do any forest insect/disease training.

Forest Health Links

- Logging debris matters I: better soil, [fewer invasive plants](#)
- Logging debris matters II: [increase in doug-fir seedling growth](#) observed

Forest Health Web and Phone Resources

- Insects
 - Invasive Insect [Factsheets](#)
 - [Emerald Ash Borer](#)
 - * EAB Hotline—1-800-462-2803
 - [Gypsy Moth](#)
 - * Gypsy Moth Hotline—1-800-642-MOTH
- Diseases
 - Invasive Pathogen [Factsheets](#)
 - [Annosum](#) Root Rot (Heterobasidion Root Disease)
 - [Oak Wilt](#)
- Plants
 - Invasive Plant [Factsheets](#)
 - [Timing of Herbicide](#) Applications for Planted Trees
- Sick Tree Diagnostic Keys:
 - U. of Minnesota Extension—[What's Wrong With My Plant](#)
 - [Natural Resources Canada](#)—navigate to a tree species to see insects/diseases
 - U. of Wisconsin Extension [Green Industry Website](#)

Front page: This is what a northern red oak looks like 12 months after it is killed by Oak Wilt. It still has fine branches and even some dead leaves attached. The high-risk time for overland oak wilt transmission is nearly here.

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Note: This pest report is an informal newsletter and covers forest health issues in the northern 18 counties of Wisconsin. The purpose of this newsletter is to provide forest owners and managers in Northern Wisconsin with regional up-to-date forest health information. I welcome your comments/suggestions on this newsletter *and your reports on forest health problems you observe in your area*. If you would like to subscribe to this newsletter, please contact Brian Schwingle at brian.schwingle@wisconsin.gov. Previous issues of this newsletter and regional forest health updates from other Wisconsin regions are available at <http://dnr.wi.gov/topic/ForestHealth/Publications.html>.