

YOUR WOODLOT IS AT RISK

Balsam woolly adelgid (BWA) has the potential to be even more destructive than the spruce budworm outbreak of the 80s, and it might be attacking your woodlot right now.



Have you ever wandered through the forest and noticed that some balsam fir trees were dying for no apparent reason?

Have you noticed fir trees with funny, thinning, windswept-looking crowns lining our highways? Meet *Adelges piceae*, more commonly known as the balsam woolly adelgid (BWA). It causes serious damage to forests, seed production, as well as ornamental and Christmas trees. It is considered one of the most significant pests of balsam fir in North America.

The balsam woolly adelgid primarily attacks true firs such as balsam fir (*Abies balsamea*) and Fraser fir (*Abies fraseri*) and has slowly been advancing through Atlantic Canadian forests for the last 100 years. New Brunswick's cold winters have held the insect at bay, but recent warming trends have allowed it to begin spreading throughout the province. As our climate changes and our winters grow warmer, the balsam woolly adelgid is set to become an even greater threat to Maritime forest ecosystems and the industries they support.

FACT:

When BWA attacks twigs they form gall-like growths and abnormal thickening on the branches.

Crown Attack

Typical crown deformation

- Windswept, flattened, bird's-nest-like top
- Thinning, burnt-looking lower crown
- Formation of galls, swelling and abnormal thickening of branches and branch nodes
- Thinning needles
- Poor needle retention
- Brittle branches

Do not confuse crown attack with:

- Cone formation – crowns will thin when a heavy cone crop is formed
- Black spruce can have similar looking crowns – bald stem below the crown, roundish crown on top – adelgid does not cause damage in spruce, so make sure you're looking at a fir

Diseased

Healthy

Stem Attack

Trees will never fully recover – permanent damage

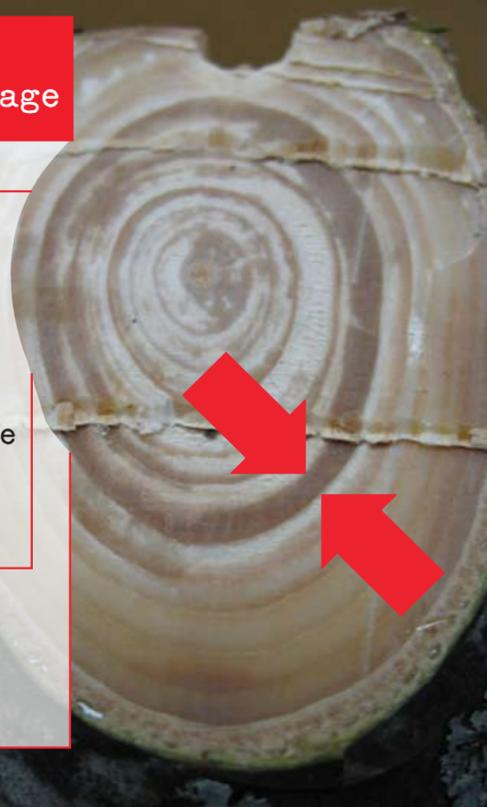
- Trunk covered in namesake white 'wool'
- Waxy fibres excreted by feeding insects
- Leads to formation of compression wood
 - Reduces water movement
 - Impedes photosynthesis
 - Affects heartwood formation
 - Poor needle retention
 - Brittle branches snap when bailed
 - Heavier trees to handle
 - Poor timber and fibre

FACT:

Compression wood, indicated by dark rings and malformed heartwood, is a sure sign of a BWA infestation.

Stem infestation ID

- White wool
- Black ink stain on finger when smudged
- Orange-red compression wood visible in cut stem



Cold Weather

Extreme winter cold (temperatures of -35°C) are fatal to balsam woolly adelgid and have historically helped to limit the pest's spread into New Brunswick. As winters warm, the BWA is expanding its range throughout the province. Even with lethal temperatures, the BWA can survive beneath deep snow cover on lower branches, seedlings and advanced regeneration.

Protect Your Woodlot

- Identify infested trees by either crown or stem attack symptoms, generally on older trees
- Cut and remove trees in winter while the insect is dormant. Dragging infested trees around during the growing season will spread it throughout the stand.
- If wood is to be transported or yarded, limb and de-bark it and either burn the bark and slash or leave it exposed to the wind so it will dry. Burning is preferable as snow-covered limbs and bark may still support adelgids which can spread the following spring.
- Avoid cutting and moving fir during the spring and summer when the adelgid is active and easily spread.



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