



Your Woodlands Future

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What to Expect

- Polls and Chat
- Spruce Budworm
- Planting & Protection – Tricks of the Trade
- Creating space for trees & reducing fire risk
- Tools and resources
- Open discussion and Q and A



Poll

- What have you done on your property in the last year. Check all that apply.
 - Walk or check the property lines
 - Check the fencing around your trees
 - Plant and fence trees
 - Build a trail
 - Help a neighbor with tree planting or care
 - Answer questions about trees
- If something you have done is not on the list, type a response in the chat



Spruce Budworm

- On-going
- Endemic/Native
- Outbreaks
 - Lasting 5 - 10 yrs.
 - Cyclical 25-40 yrs.



M. McCormack



1912-1919

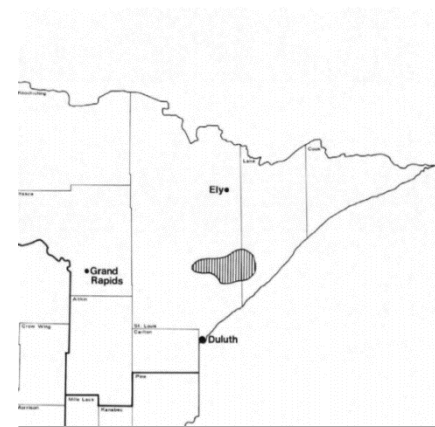
Graham and Orr:
20 million cords
of dead balsam fir
(Kooch, St. Louis,
Lake, and Cook)

1950-1964;

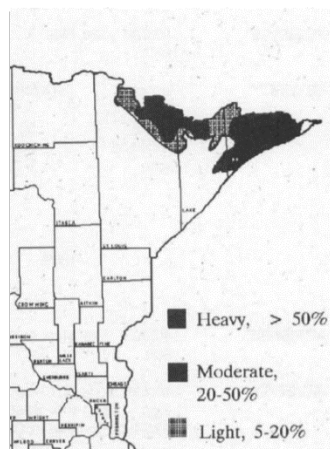
1967-1969

Ongoing white spruce
mortality

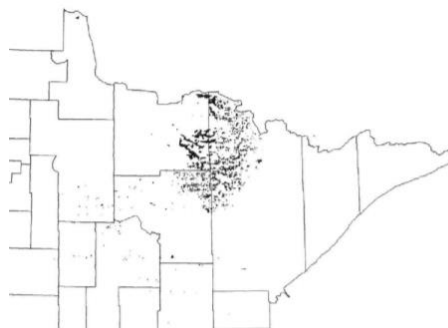
1978



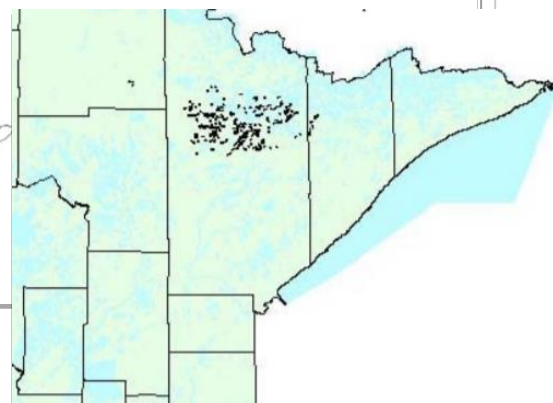
1988



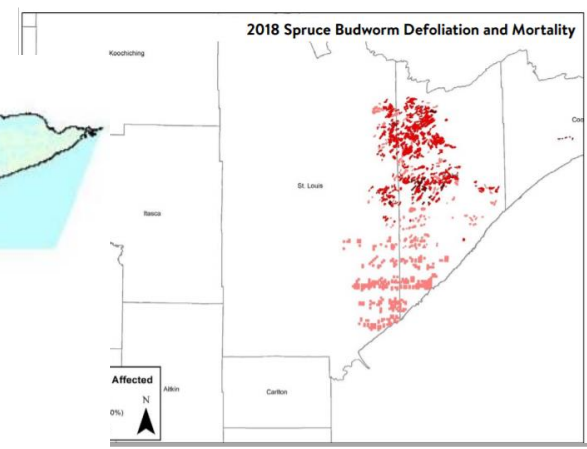
1998



2008



2018



Thin to create space for new trees

- Too thick to walk through: > 800 stems per acre
- Remove ½ or more of the trees
- Retain trees with healthy live crowns



North Nova Forestry



Poll

For the following, check all that apply

I have seen spruce budworm affected trees on my property

I am concerned about spruce budworm on my property

I am working to reduce fire risk from dead balsam on my property

I do not have a problem with spruce budworm

I do not have balsam fir trees (balsam and spruce are hosts for spruce budworm, balsam fir is the preferred host)

Comment in the chat.



Planting & Protection: Tricks of the Trade

Recording progress

- GPS and mapping software to map trees and planting areas.
- Use paper clips on the fencing to show height from year to year.
- Take pictures.

Fencing

- Cut 4 out of a 50' roll rather than 5.
- Leave fence in place until trees are about 15 to 18 feet tall.
- Mark trees with orange flagging when planting so they can be found in the winter, Mark fenced and trees with green flagging to note special attention needed.



Type in Chat

- What tricks have you learned to more efficiently plant and protect trees?



Space for trees/Reducing fire risk

- Future North Shore may have more balsam fir
 - Thinning, and removal of balsam fir will likely be needed
- Create planting sites
 - Openings in the grass, brush or trees large enough to allow newly planted trees to get sun and to reduce root completion
- Natural Regeneration
 - Create sites to capture seed
 - Expose bare mineral soil in small areas



Tools for creating planting space: Forestry mowers



Walk behind brush cutter



Professional grade brush saws



Poll

What tools do you use? Check all that apply

Hand tools only

Chain saw

Professional grade bush cutter

Walk behind brush cutter

Forestry mower

I do not use tools

Please use chat to tell us more about what you have used and your experience.



POLL

What obstacles have you encountered when planting, protecting or caring for you woodland. Check all that apply.

Lack of time

Lack of experience with the tools

Do not know what tools to use

Do not know where to find contractors

Physcial limitations

Financial limitations

Other Please use chat to let us know.



Resources

Eastern Spruce Budworm: Management Approaches in Minnesota's Forests

Matthew Russell (Extension Specialist-Forestry) and Michael Albers (Minnesota Department of Natural Resources, retired)

June 2016

The eastern spruce budworm (*Choristoneura fumiferana*) is a native forest insect of concern across Minnesota's coniferous forests. Spruce budworm is responsible for defoliating and/or killing vast acreages of balsam fir and spruce annually in Minnesota. Despite its name, balsam fir trees are most susceptible to budworm while spruces are moderately susceptible. Fortunately, these important conifer species can be protected through effective forest management.

Large-scale outbreaks of spruce budworm in the eastern Canadian provinces and northern New England typically occur cyclically every 30 to 40 years. In Minnesota, budworm activity has been observed every year since at least 1954, representing an endemic budworm population for over 60 years. Budworm outbreaks in Minnesota typically occur in the same area every 25 to 40 years. Estimates from the Department of Natural Resources suggest that annual budworm defoliation averaged 94,500 acres of Minnesota's forests from 2010 through 2014.

SYMPTOMS

Life cycle

The eastern spruce budworm is a native insect that has evolved with forests across the US Lake States. Moths lay up to 10 egg masses on spruce and balsam fir needles in July. Larvae soon hatch from the eggs and spin down on a silk tread which can blow a considerable distance by wind. After overwintering, young larvae emerge just before balsam fir budbreak in the spring (Fig. 1).



Fig. 1. Eastern spruce budworm larvae (photo: Max McCormack).

Budworm larvae feed on new foliage growth through May and June then pupate and emerge as moths by mid-July. These adult moths will mate, lay eggs, and eventually die in the summer. Moths are effective fliers and use wind currents to disperse over long distances.

Populations remain in outbreak stage in a forest stand until much of its food source, i.e., mature and overmature balsam fir and spruce, is killed. When an outbreak of budworm occurs, it typically will remain in that area defoliating trees for the next eight to ten years.

Budworm

- Management of spruce budworm on private land
<https://z.umn.edu/jwidenbudworm>
- <https://z.umn.edu/budworm>

Contractors and Nursery List

- <https://z.umn.edu/treeplantingworkers>



Contact me

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Open for Q and A

