

# Envirothon New Brunswick

Forestry Workshop

Part 2 of 2

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# Dichotomous Key

- Understanding terminology is key

– Type of leaf

Simple



Compound



– Shape of leaf



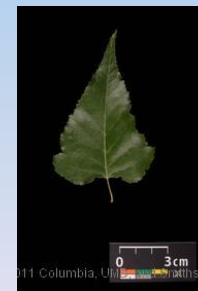
Hand-shaped



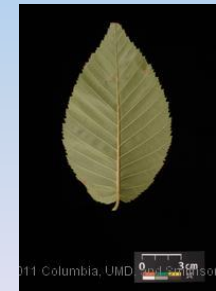
Heart-shaped



Round



Triangle



Egg-shaped

# Parts of leaf

leaflet



leaf margin or edge

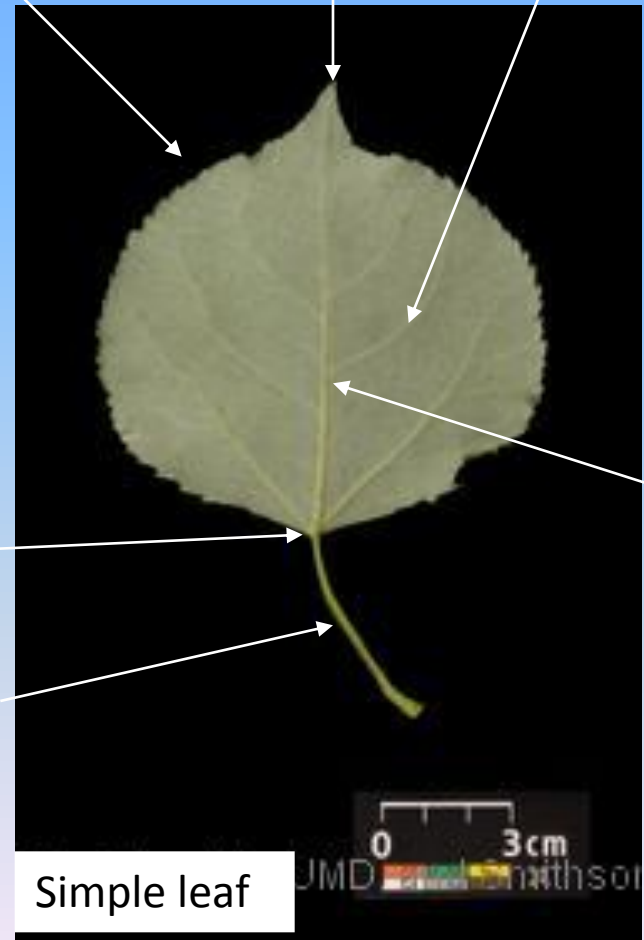
apex

lateral vein

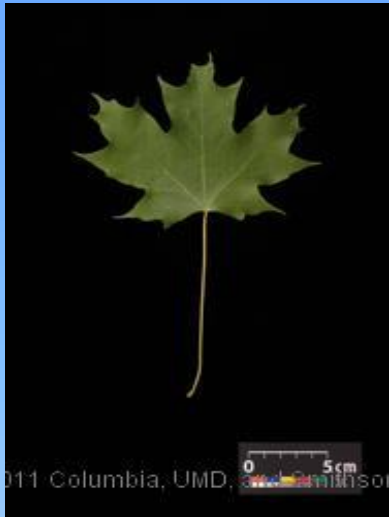
base

petiole or  
leaf stalk

midrib



# Leaf margins



Lobed and wavy



Small fine teeth



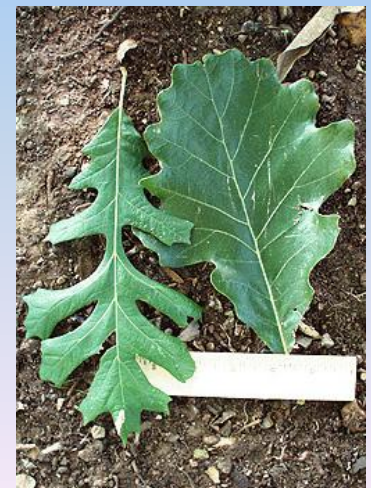
Large teeth



Double toothed



Deeply lobed with pointed teeth



Lobes rounded

# Important Invasive pests of forest trees in Eastern Canada

- Beech bark disease
- Dutch elm disease
- Gypsy moth
- Butternut canker
- White pine blister rust
- Brown spruce longhorn beetle
- Emerald ash borer and Asian longhorn beetle (not here yet)



# Invasive insects



Gypsy moth



Brown spruce longhorned beetle





Emerald ash borer

# Invasive insects



Asian longhorned beetle



# Invasive diseases



Beech bark disease



Butternut canker



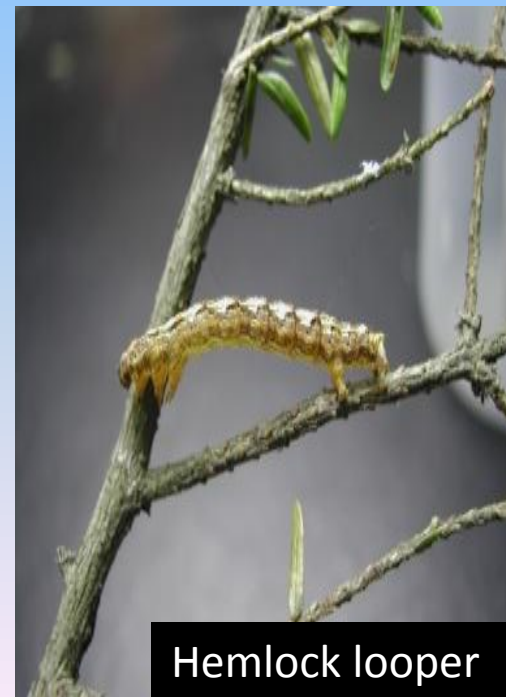
Dutch elm disease



# Native insects

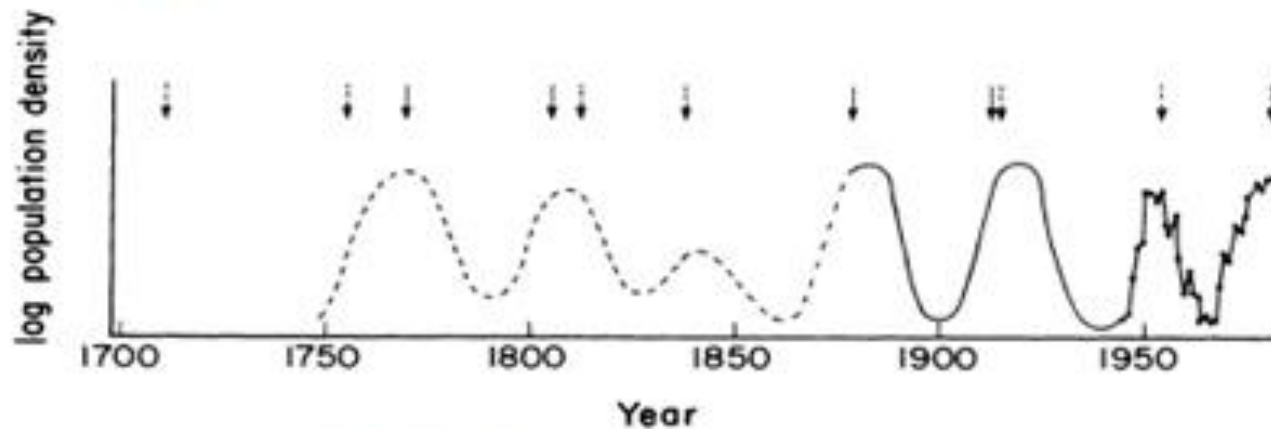


White pine  
weevil



# Spruce budworm

## Spruce Budworm -- Past Outbreaks



Outbreaks occur every 30-35 years



Natural Resources  
Canada

Resources naturelles  
Canada

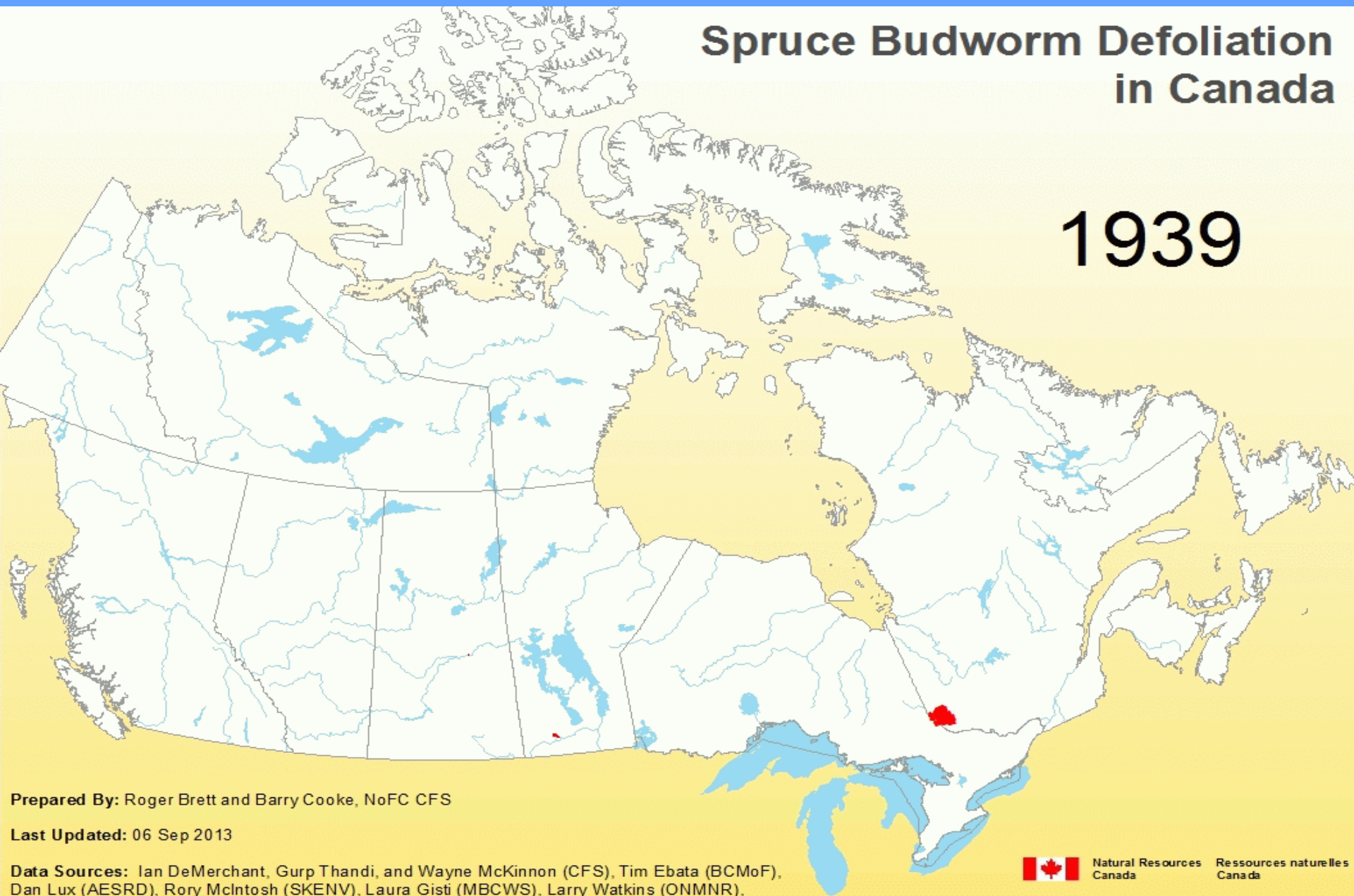


Canada



# Spruce Budworm Defoliation in Canada

## 1939



**Prepared By:** Roger Brett and Barry Cooke, NoFC CFS

**Last Updated:** 06 Sep 2013

**Data Sources:** Ian DeMerchant, Gurb Thandi, and Wayne McKinnon (CFS), Tim Ebata (BCMof), Dan Lux (AESRD), Rory McIntosh (SKENV), Laura Gisti (MBCWS), Larry Watkins (ONMNR), and Louis Morneau and Bruno Boulet (MRNQ)



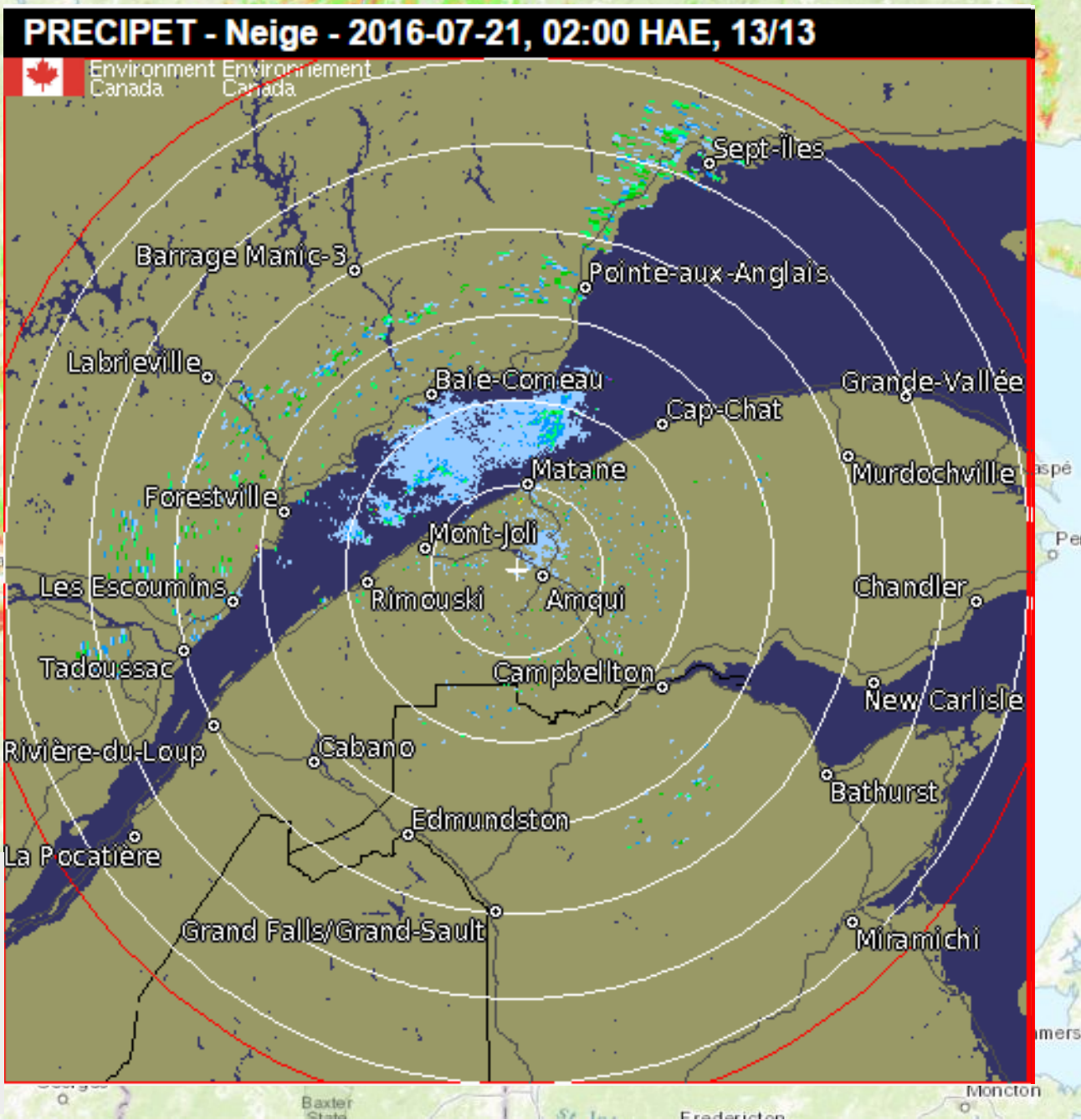
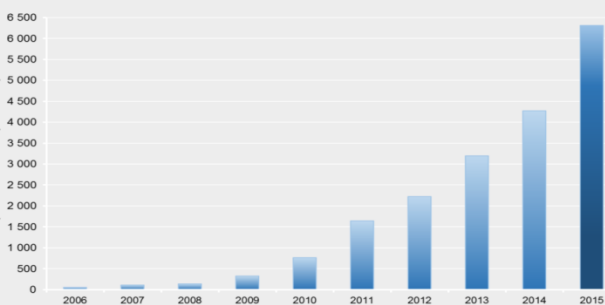
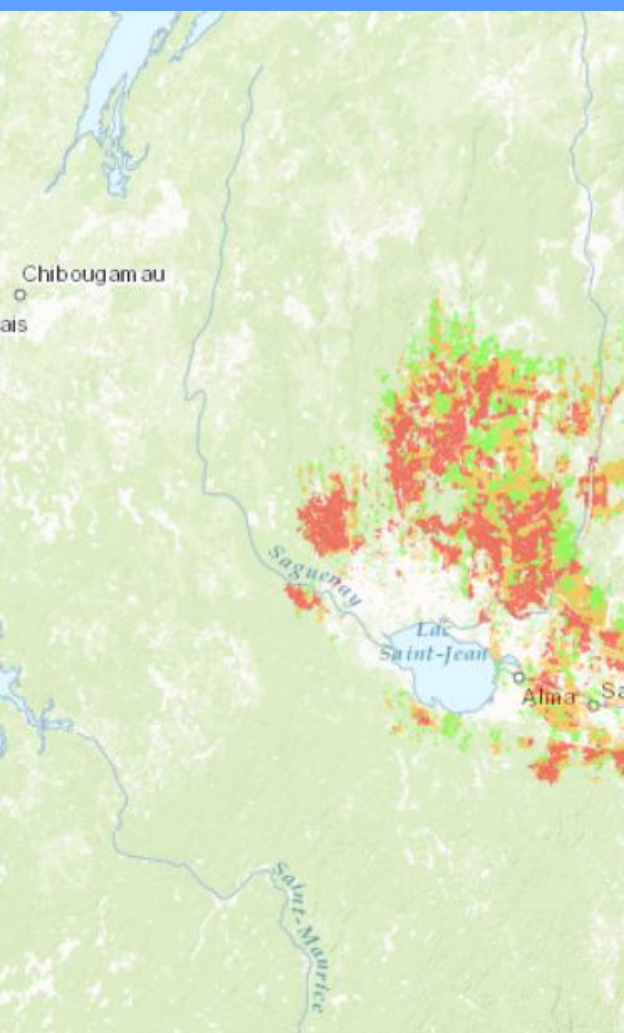
Natural Resources  
Canada

Ressources naturelles  
Canada

Canadian Forest  
Service

Service canadien  
des forêts











# Thank you

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# Silviculture Treatments

- Reforestation (site preparation, planting, tending)
- Pre-commercial thinning
- Commercial thinning
- Salvage cut
- Sanitation cut
- Seed tree cut
- Shelterwood cut

# Reforestation

Mechanical site preparation  
Scarification



Tree planting



Chemical site preparation  
Chemical tending



Chemical site preparation  
Chemical tending







Precommercial thinning



After 45 years







Commercial Thinning - Softwood





Commercial Thinning - Hardwood



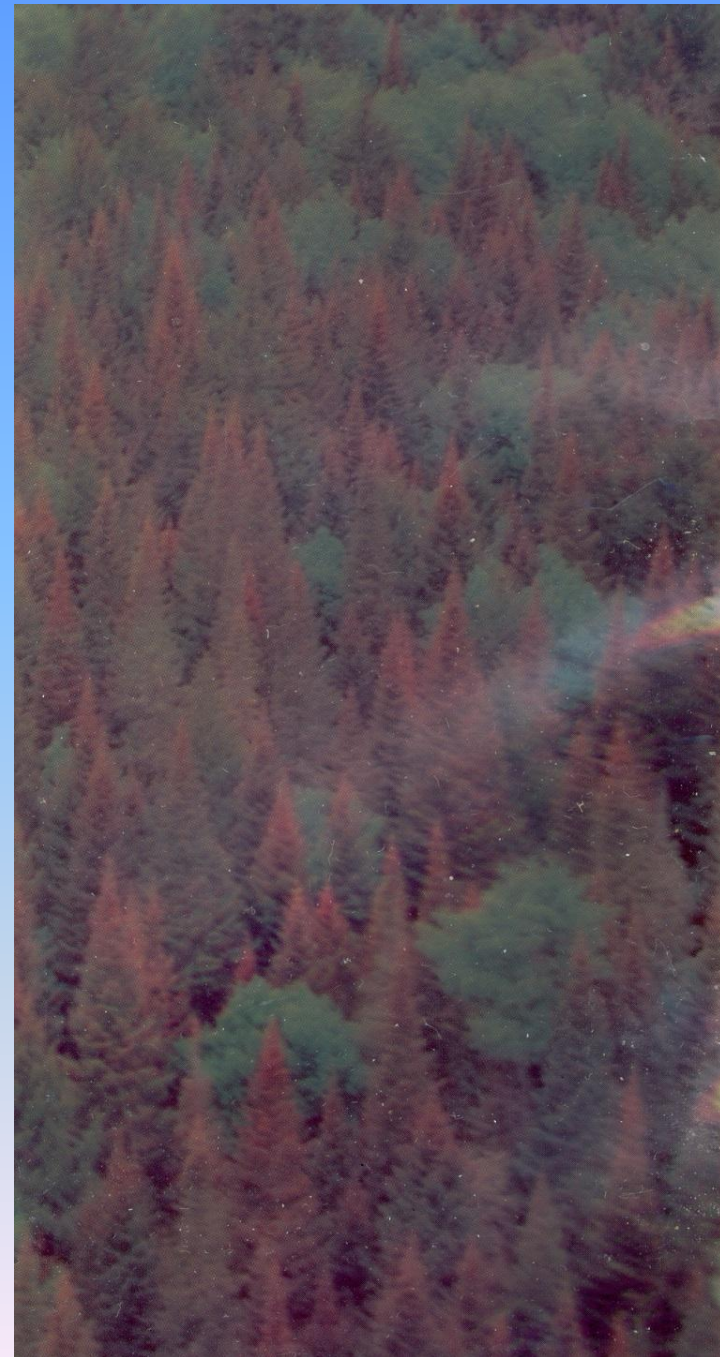


Sanitation cut

Ash trees killed by emerald ash borer



## Salvage Cutting Spruce budworm





# Uniform shelterwood White pine

