



DNR Forest Enhancement Considerations

Presentation to Lessard Sams Outdoor Heritage Council

FAW Forest Habitat Team and Partners

May 27, 2026

The Story

Imagine you're a leader/manager of a natural resource agency tasked with enhancing the Minnesota's public forest lands for all of values **sustainably**.

- Timber Productivity
- Biodiversity
- Wildlife Habitat
- Water Quality
- Economics

Sustainability

- Enhancing sustainability for habitat, timber production and the other important values means **adjusting** for changes to both ecosystem function and economics.
- Change is inevitable and unavoidable:
- It's a big job to manage millions of acres of forest-we are lucky to have it.
- Challenges unknown 50 years ago are major considerations today:

Spruce Budworm (Native)

Emerald Ash Borer (Exotic)

Eurasian Buckthorn (Exotic)

Spruce Budworm (native species)

Spruce Budworm

Ecology: **Spruce budworm** is a native insect that affects **Balsam Fir** in MN.

Ecology: **Balsam Fir** is an important understory species. Mortality increases once it gets above the canopy.

Ecology: Understory conifers are critical habitat for deer, moose and grouse in winter.

Spruce Budworm

Safety and Economics: We need to reduce the impacts to human safety and economics while maintaining ecosystem functions for diversity and habitat values.

Economics: Balsam Fir is less important to industry than it once was.

New Impact: Fire hazard due to increases in insect survival and climate change.

Spruce Budworm

Solution: remove balsam fir and **replace** with other conifers and **add canopy conifers** to create forest structure that mimics heterogeneity :

Timber industry and public support this work: healthier, more resilient forests managed sustainably

Emerald Ash Borer (nonnative)

Emerald Ash Borer (nonnative)

Ecology: insect introduced from Asia

Ecology: Ash species thrive in wet forests, **Minnesota has an abundance of ash.**

Ecology/Hydrology: Transpiration prevents swamping

Economics: Remer, MN location of early outbreak and *Savannah Pallet.*

Cultural Significance: Native American use.

Emerald Ash Borer (nonnative)

Mitigation solutions include planting following every harvest with other hydrophilic/tolerant species.

Maintain hydrologic **functions**.

We use the best available science with input from **North Central Experiment Station** and other partners including tribal research groups.

Assisted migration (swamp oaks)

Common Buckthorn (nonnative)

Buckthorn

Ecology: **Buckthorn** is relentlessly spreading out from original introductions, also marching northward.

Ecology: Growth and spread rates explode when canopy is removed.

Ecology: once buckthorn is established in the shrub layer, removing trees from the canopy may result in an explosion of buckthorn which may change the forest to a “**buckthorn forest.**”

Buckthorn

Ecology: Effective treatment of buckthorn includes application of herbicide to cut surface of woody stems

Buckthorn

Economics: it has been suggested and discussed with the council whether the most efficient way to accomplish this work would be to have **loggers apply the treatment.**

A timber company could certainly bid on a contract, but it is our experience that invasive treatment/herbicide work is different work with different equipment and loggers are often more interested in logging. Herbicide treatments need to occur prior to logging and often at a different time of year.

Other challenges to healthy forest habitats

Solution: Every other forest type can be maintained or enhanced through some type of prescription

Other challenges to healthy forest habitats

Other native plant communities can be maintained or improved through better planting, herbicide and other means (sometimes using LSOHC funds in a supplemental way) including:

Oak

Cedar

Aspen

Tamarack

Birch

Pine

Butternut

Continue the discussion

- We would be happy to discuss further at any time (a field tour stop?).



Ted Dick
FAW Forest Habitat Supervisor
MNDNR
Cohasset, MN
218 395-0577
ted.dick@state.mn.us

Questions?

Thank you!

The end

Thank you!