

Leave Dead Trees



- When cutting firewood leave the deadwood on the ground. It provided nutrients and habitat

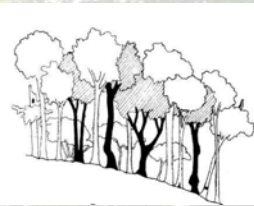
Thinning

- Reduce density of trees (Timber Stand Improvement)
- Reduce competition around desirable trees (Crop Tree Release).
- Done to favor residual trees, utilize harvested trees.
- Can be commercial or noncommercial



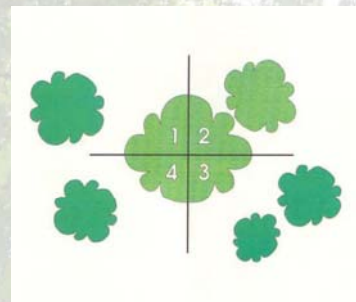
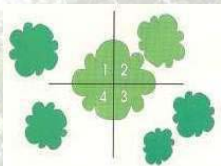
Thinning Trees Rule of Thumb – Pg 71

- Estimate DBH of trees in forest area
- Multiply by 2
- Number of feet between trunks of remaining trees
- EXAMPLE - if the trees average 5 inches in diameter, the desired spacing would be 10 feet.
- If wildlife is a major objective, add 2–4 feet to the spacing



Crop Tree Management

- Objectives can be firewood, lumber, aesthetics, wildlife, etc
- Crop Tree Release
 - Good for younger woods
 - Select “crop” trees
 - Number can vary
 - Release (Free To Grow) on 3-4 sides
 - Concentrates/accelerates growth



The center tree has space to grow on three of the four sides



How to kill Trees

- Cutting
 - Immediate
 - Leaves the root system in place
- Girdling
- Chemically
- Combination

Girdling

- Hatchet or chainsaw
- Cut through the cambium
- Some species easier to kill than others.

Applying Herbicides to Individual Trees

Cut Stump Application

50% mixture of roundup
Use a good ax

Controlling Vines

- Cut at base of tree
- Herbicide usually not needed
- Vines will dry out and fall apart
- Keep some vines for wildlife

Swedish Safety Brush Ax

Regeneration Harvests

- Purpose is to promote the development and growth of young trees
- Correct an undesirable condition.

Young regeneration growing after a shelterwood harvest

Logging in Large-Lot Suburban Developments with a Good Forester



Use smaller and lower impact harvesting and processing equipment



Enhancing Recreation & Aesthetics



Build The Trail and Tell The Tale

- Access
- Sanctuary
- Campfire or camping areas
- Wildlife viewing areas
- Aesthetically pleasing areas

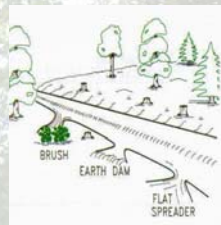


Trail Design for Small Properties, university of Minnesota publication

Best Management Practices

Purpose – to reduce erosion and prevent or control water pollution resulting from actions which disturb soil.

- Specific recommendations:
- * properly designed & built travel ways
 - * streamside management zones (SMZs)



Best Management Practices



Cleaning out culverts

Diverting water from road

Conclusions

- Take time to consider your objectives
- Desirable outcomes can be related to forest products, wildlife, aesthetics, water quality, recreational or a combination of each.
- You have a toolbox of techniques that provide many options.

Invasive Species



- What are they?
- General characteristics
- Why are they so bad?
- Control options
- Some specific examples

Invasive Species What Are They?

- Also known as exotic, non-native, or non-indigenous plants
- Alien to the ecosystem
- Cause economic harm or environmental damage, or injury to human health
- Can be plants, animals, or other organisms
- Not all invasive plants are non-native



Invasive and natural species can take over.
Especially in early succession stages

Invasive Species General Characteristics

- Rapid growth and maturity
- Aggressively opportunistic
- Prolific seed producers
 - With high rates of:
 - Dispersal
 - Germination success
 - Colonization
- Rampant vegetative spread
- Few natural enemies or predators
- Outcompete native species
- Once established, high cost to control



Invasive Species What Do I Do About Them?

- Step1: Learn to identify them
- Step 2: Plan and Assess Your Property
 - Prevention
 - Control (management)
 - Restoration
 - If already established, eradication is most likely not an option

In many cases, control can only be achieved by using herbicides as part of an integrated approach. A combination of mechanical, chemical, environmental, and biological methods.

Herbicides Basics

- Understand the Most control problems can be addressed using
 - Glyphosate (Roundup) – post-emergent – most home stores
 - Triclopyr (Garlon) – pre-emergent – only available in 2.5 gallons
- Use a backpack sprayer
- Spray at proper time of year
- Many county weed departments will do herbicide spraying on larger areas for a fee.
- Educate yourself....

Invasive Species Control Options

- Mechanical
 - Hand-pulling, cutting, mowing
 - Targeted grazing - goats
- Chemical
 - Herbicides
- Environmental
 - Create conditions in which the plant cannot survive
 - Habitat conversion
- Biological
 - Insect
 - Microbial pathogen




Common Invasive Species Ailanthus

- Aka:
 - Tree-of-Heaven
 - Heaven wood
 - Stinkwood, Stink Tree
 - Paradise Tree
- Introduced in late 1700s from China as an ornamental
- May be confused with sumac or black walnut



Common Invasive Species Ailanthus

- Highly aggressive
 - Disturbed sites
- 300,000 seeds annually
- Prolific root sprouter
- Allelopathic
- No wildlife value
 - Minimal timber value



Common Invasive Species Ailanthus

- Control
 - Mechanical
 - Limited hand pulling
 - Chemical is most effective
 - Foliar < 2"
 - Basal 2" – 6"
 - Cut stump > 6"
 - Environmental
 - Reforestation



Common Invasive Species Multiflora Rose

- Introduced in 1860s from Asia
 - Ornamental
 - Erosion control
 - Living fence
 - Wildlife habitat
- Perennial
 - Flowers: May - June
 - Rose hips: Sept. – Oct.
- Common on formerly grazed areas



Common Invasive Species Multiflora Rose

- Means of spread
 - Seed – favored by wildlife
 - Layering
- Forms dense thickets
 - Chokes out desirable vegetation
 - Impenetrable
 - Highly competitive for water and nutrients



Common Invasive Species Multiflora Rose

- Control
 - Mechanical
 - Responds well to:
 - Cutting
 - Mowing
 - Grubbing
 - Repeat treatment necessary
 - 3 – 4 times per year
 - 2 – 6 years
 - Chemical
 - Glyphosate
 - Cut stump or foliar
 - Environmental
 - Rx burning
 - Re-establish desired ground cover



Other Common Invasive Species Vines – Oriental Bittersweet




Other Common Invasive Species Vines – Japanese Honeysuckle




Invasive Species Final Thoughts.....

- Make them a priority
 - Get them under control before you implement other projects
- Be vigilant – learn to recognize them in all life stages
- Annual effort
- Integrated Vegetation Management



**Invasive Species
Questions or Comments?**

