

Forestry Mowing and *Comprehensive Woody Invasive Species Management*



Presented by Clay Frazer
Land Management Consultant
EC3 Environmental Consulting Group, Inc.
cfrazer@ec3grp.com
262-305-6525

www.wildlands.net



Services Provided Include:

Native Grass and Wildflower Planting

Custom Native Seed Mix Design and Native Seed Sales

Native Prairie Restoration/rejuvenation

Prescribed Burning (grasslands, wetlands, and woodlands)

CRP and Mid-Contract Management

Mowing

Food Plots

Custom Herbicide Application

Tree Planting

Invasive Species Management/TSI

Comprehensive Land/Wildlife Management Plan writing

Wetland Restoration

Detention Basins/Rainwater Gardens

What is “Forestry Mowing?”







Multi-Stemmed Buckthorn



12.20.2008



Same Tree, 2 minutes later... 12.20.2008













Woodland Management Objectives of Forestry Mowing:

- Mechanical removal of woody invasives to facilitate **additional management**. Gives you a place to start.
- Allow sunlight to reach forest floor to facilitate native species (woody and herbaceous) regeneration. This can be a double edged sword (Garlic Mustard).
- Quickly eliminates seed production of invasives on larger area
- Allows hardwood leaf litter to accumulate to enhance forest soil quality and to provide fuel for future prescribed burns. Forestry mowing slash also adds organic material to forest soils.

■ Advantages of Forestry Mowing over other means of mechanical removal:

- Alleviates multiple handling of woody material
- Faster breakdown of woody material
- Adds to fuel loading for more intense woodland burns
- Less impact (compaction) of forest or wetland soils
- Reduces the use and total volume of expensive herbicides
- Very cost effective on a per acre basis

Two Classes of Re-sprouts to be targeted for herbicide treatments



Seedling regeneration



Stump/Stem regeneration

Less exposed cambium means less re-sprouting AND delayed re-sprouting



Where's the Cambium?

If you spray now very little herbicide will reach the roots



Delayed Foliar Herbicide Application Has Ecological and Management Advantages:

- Herbicides can be applied in early fall when native herbaceous plants have gone dormant, but woody invasives are still green and active.
- Re-sprout foliage will be peaked for the season (maximizing herbicide uptake) and waiting till later in the year ensures a more complete flush of re-sprout seedlings/saplings.
- Water soluble foliar herbicide treatments can be utilized
- Lower concentration of herbicide can be used with “foliar” treatments versus “cut stump or basal bark” treatments
- 2% solution of Garlon mixed with surfactants and adjuvants

“Boomless” ATV foliar Herbicide Application



Cut Stump Treatments



Stumps must be sprayed **directly** following cutting.

Cut Stump Treatments

- For stumps >6" in diameter
- Best done in fall (sap is flowing down)
- Only need to apply herbicide to cambium layer
- Use marker dye to ensure complete coverage
- Triclopyr (Garlon) at 10% solution with bark oil or diesel fuel (13 oz/gallon)
- Don't cut more than you can spray in a given day!



Basal Bark Treatments



- For trees <6" in diameter
- Kills the tree standing
- Stops seed production
- Best done in the fall (sap flowing down)
- Spray from ground up to 12-15 inches around entire base of tree
- 20% solution of Triclopyr (Garlon) mixed with bark oil (26 oz/gallon)

Conventional Mowing

Brush mowing alone can keep invasives in check....but it takes A LOT of cutting.



Woodland Prescribed Burns



- After herbicide treatments, the use of prescribed fire is the single most important and effective management tool for permanently ensuring that woody invasives do not return after mechanical removal.
- The ability to choose a time to burn with the right weather conditions to meet management objectives is critical. Example: Maples can be damaged by fires of higher intensity.
- Burns can be done in fall or spring
- Fire kills invasive seedlings and suppresses saplings, stimulates native grasses, sedges, and forbs in a woodlot which will provide fuel for future burns.



Costs of Forestry Mowing

- Rates range from 170-250 dollars per hour depending upon total hours contracted and distance from Madison (home base).
- Rates of clearing vary depending upon species, density, age class, topography and obstacles on site (fences, rocks, debris)
- Typical Oak/Hickory woodlot scenario in SE Wisconsin will see .3 to .5 acres cleared per hour.
- Cost-share is available through programs like MFL and WHIP.

Follow-Up and Monitoring after Mechanical Removal of Woody Invasives

- Mechanical removal is done...now what? Greatest pitfall for landowners is to think that one herbicide application will be the silver bullet.
- Vigilance is imperative!
- Multi-faceted follow-up approaches are better than any single method.
- One method may work better (or worse) on any given piece of land (or within different portions of a single project)
- Experiment ...and keep detailed records
- Start small to avoid frustration. When you see positive results over time it will encourage you to keep going! We're all in this together!