United States Department of Agriculture

314 – Brush Management Guidance Document (10 year lifespan)

Purpose of this document: Describe areas where it is appropriate for NRCS to provide financial assistance to landowners to help implement the Brush Management (314) practice.

Definition: Brush management is used for the management or removal of woody (non-herbaceous or succulent) plants, including those that are invasive and noxious. Mechanical or chemical methods may be applied with the goal of controlling the target woody species and encouraging the desired plant community. NRCS cannot provide financial assistance for brush management on cropland, but it can provide assistance on any other land use that meets our planning criteria requirements.

Operation and Maintenance: The practice must be applied using approved materials and procedures, and comply with all applicable laws and ordinances. Chemical treatments must be applied by a Licensed NH Pesticide Applicator. Landowners are not required to be licensed to apply non-restricted pesticides on land they own. Success and practice certification is determined by evaluating the effect the treatment had on the regrowth of target species.

Multiple Treatments: For difficult to control invasive plants, NRCS can provide financial assistance for up to three successive treatments within the 10- year practice lifespan. For all other target species, NRCS can only help fund a single treatment within that lifespan. All woody plant species on the NH Prohibited List of Invasive Species along with native species beech (*Fagus grandifolia)* and juniper (*Juniperus* genus) are approved for up to three treatments within the practice lifespan. A full list of the species approved for up to three treatments is available on the NH Electronic Field Office Guide - https://efotg.sc.egov.usda.gov/

Best Management Practices

- Encourage desired plants by selectively cutting and/or spraying invasive or undesirable plants
- Identify/consider the underlying causes for why the invasive species are present on your site. Are you addressing those causes with the treatment and any other planned management actions? If not, you should expect the invasive species to return.
- Pick your battles, prioritizing treatment in areas where control is likely. Small populations poised to spread rapidly by wildlife or planned management actions can be good candidates for treatment.
- Weigh the costs and benefits of action, including effects on wildlife habitat, and the potential need for ongoing maintenance which may not always be supported by NRCS funding.
- Prioritize control for invasive species which are well adapted to the landscape and current site conditions, and are more likely to spread aggressively without control
- Expect invasives to spread particularly well on rich sites when management actions increase sunlight levels and invaded areas are nearby

Additional Notes

- Brush Management treatments (mechanical or chemical) should ideally cut or treat at least 90% of the target undesirable vegetation.
- NRCS funding for chemical control of beech is being scaled back due to the arrival of Beech Leaf Disease in 2022. Starting in October 2024, producers/foresters have to provide additional justification to include chemical treatment of beech in NRCS contracts. The NRCS State Forester will review these requests and make the decision as to whether they are justified and reasonable.

MECHANICAL CONTROL METHODS

Planning Guidance: Mechanical control methods can be effective for controlling some invasive plants, but the expected response of the plant to treatment should be considered carefully; most invasive plants will sprout back vigorously after being cut. Mechanical treatment is often a good way to initially cut large plants back, and when they re-sprout, chemical treatment methods can be used more sparingly to achieve control. Understand the ecology (life cycle, growth habits, physical structure) of your target plants and tailor your treatment to those specifics.

Rotary Mowers (Brush Hogs): Commonly used to cut back old fields with stems less than 2" in diameter. Ideal time for treatment is early-August, during droughty conditions, before the plants have begun re-allocated their energy reserves to their root systems, but after nesting birds have fledged. If other rare species of wildlife are in the area, such as turtles, additional avoidance methods may be needed.

Forestry Mowers/Mulchers: Can be used for areas with stems too large for a rotary mower to handle. Forestry mowers can be mounted on an excavator, skid steer, or tractor. This equipment is commonly used around field edges or in reclaiming very overgrown fields. NRCS cannot provide financial assistance for the creation of new fields.

Brush Saw/Chainsaw: These tools can be effective for removing undesirable woody vegetation, but they are more labor-intensive than other heavier mechanical methods. They may also be difficult in areas with thorny plants or that are very tangled with thick vegetation or vines. As compared with the above two mechanical methods, brush/chain saw work may have a lesser impact to certain species of wildlife if the brush management work is being done during the active season.

Hand-pulling: It may be feasible to pull target plants out of the ground by hand or with a weed wrench if you are treating a small area where the target plants are not too large or too numerous. This method can be time consuming, and it may be difficult to get all of the root system for certain species.

CHEMICAL CONTROL METHODS

Planning and Implementation Guidance: Use integrated vegetation management; it may be helpful to combine chemical control with mechanical control to limit herbicide use and impacts to non-target plant species. Work with licensed pesticide applicator and follow applicable laws and ordinances. Consider the time of year treatment will occur and its impacts on pollinators and other wildlife.

Foliar application - applying herbicide directly to the leaves of the plant during the growing season with a backpack sprayer or truck-mounted sprayer.

Advantages

- Cost-effective for hedgerows, old fields, and in the forest understory
- Herbicides can be applied at lower concentrations than with basal bark or cut stem
- Foliar sprayers can be mounted onto ATVs to treat large fields and heavily infested areas

Disadvantages

- Can only be done in the growing season, at least two weeks before a killing frost
- Can be difficult to avoid impacts to non-target species in dense thickets or hedgerows
- Can be difficult or dangerous if vegetation to be treated is tall and/or overhead

Cut stem application - cutting woody plants (typically those over 1" in diameter) and then immediately applying herbicide to the fresh stump

Advantages

- Eliminates drift and impacts to adjacent non-target plant species
- Can be done in winter (dry, no snow)
- Best method when foliage is overhead, or where target and non-target plants grow together closely
- Good choice for vines like bittersweet

Disadvantages

- Requires a stronger concentration of herbicide mixture
- May be more expensive than foliar application, labor intensive
- The cut stem/brush can be difficult to work around or dispose of

Basal bark treatment - applying a low volume of herbicide to the base of the stem, with an oil carrier that allows the chemical to be absorbed through the bark of the plant

Advantages

- Works best for small and medium-sized stems
- Can be more efficient than cut-stem applications
- Can be done in fall or early winter

Disadvantages

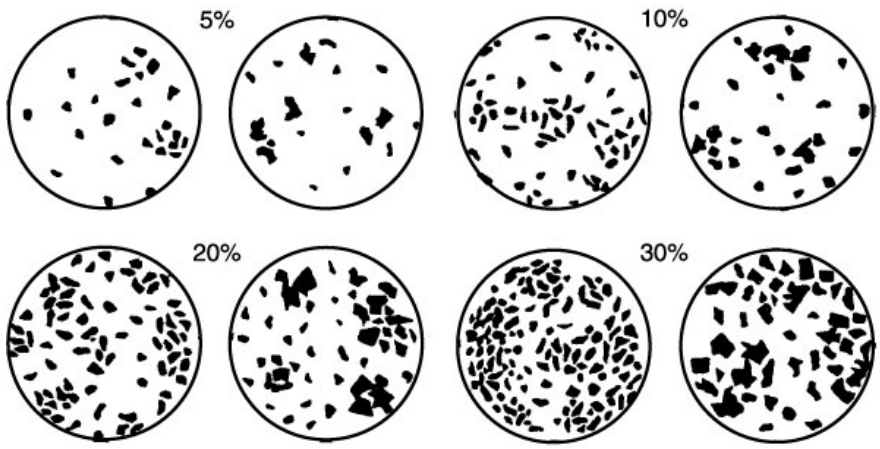
- May not be effective for large stems

MECHANICAL AND CHEMICAL COMBINED

Planning and Implementation Guidance: A combination of mechanical and chemical treatments can be an effective way to tackle heavy invasions of undesirable woody plants. A common strategy is to plan three treatments: (1) a mechanical treatment to cut back large plants, (2) a chemical treatment when the cut plants have re-sprouted a few feet tall and have enough leaf area to make chemical treatment effective, and (3) a treatment to kill any remaining sprouts and plants that germinated from the seeds in the soil. Coordinating these two types of treatment in coordination can provide effective control for heavy invasions, and minimize the amount of herbicide needed to achieve that control.

Payment Scenarios - Brush Management is planned to match the conditions on the ground, and there are different NRCS payment scenarios that are used to best align with the scope and cost of the work being performed. Some payment scenarios are based on the density of the undesirable woody plants present:

- "Light" scenarios are best for situations where the percent cover of undesirable woody plants is below 5%. These areas often look like plants scattered about, sometimes individually, sometimes in clumps.
- "Moderate" scenarios fit when the percent cover is 5-20%.
- "Difficult" scenarios are best suited when the percent cover of undesirable woody plants exceeds 20%.
- The diagram below can be used to visualize different percent covers, as imagined by looking down at the leaf area of the plants to be treated. Actual densities of undesirable woody plants will vary spatially, and it is recommended that NRCS staff plan the scenario that best fits the approximate average density across a reasonable-sized planning area.



What time of the year is best?
The ideal time for treatment will depend on the treatment specifics. For most herbicide treatments, avoid treatment in spring when sap in the plant is moving up from the roots. Foliar spray of herbicides is best during the summer or fall before the first frost. Cut stump and basal bark herbicide treatments can be effective in the summer, fall, or winter. Mechanical treatments that use heavy machinery should avoid wet times of the year to minimize soil compaction and rutting. Site-specific impacts to wildlife should also be considered when scheduling brush management treatments.

Wildlife Considerations - When planning treatments, consider the impact on wildlife and whether there is a more or less desirable time to conduct the work. Nesting songbirds, pollinators, and turtles are a few examples of wildlife that can be negatively impacted if certain brush management techniques are implemented in the wrong time of the year. NRCS will review the project with the NH Natural Heritage Bureau, and if rare species are present, that may impact the timing and technique of Brush Management that can be applied. In some cases, buffers may be required around sensitive areas or species.

Relevant laws - all applicable local, state, and federal laws need to be adhered to when implementing this practice. Laws that are particularly relevant to Brush Management work include:

- Invasive Species Act (state law) HB 1258-FN, which prohibits the movement of prohibited invasive species, except for their proper disposal
- Pesticide state laws, which require that anyone applying pesticides (this includes herbicides) on land of another be licensed through the state
- Additional regulations, licenses, and setbacks are required when applying herbicides nearby or within wetlands, streams, lakes, or other water bodies.

Is a Forest Management Plan (FMP) Required? Under EQIP policy, a FMP is required for NRCS-funded forestry-related activities on forestland. So if the brush management is being planned within the forest, then a forest management plan that describes the goals and techniques to be used is required. If the Brush Management is being planned within fields, grazing land, or along field edges, a FMP is not required and NRCS will work with the landowner to develop a viable plan of action to accomplish the desired goals.

United States Department of Agriculture

314 – Brush Management
Implementation Requirements (10 year lifespan)

Producer:		**Contract/App:**	
Location:		**Tract Number:**	
County		**Planner:**	

Definition

Brush management is used for the management or removal or woody (non-herbaceous and non-succulent) plants, including those that are invasive and noxious.

Practice Purpose

This practice is used to accomplish one or more of the following purposes (check all that apply):

- ☐ Restore/create the desired plant community
- ☐ Control invasive plants to encourage native plants
- ☐ Restore vegetative cover to protect soils, control erosion, improve water quality, and enhance stream flow
- ☐ Maintain, modify, or enhance fish and wildlife habitat - *if checked, describe wildlife impacts in green box below*
- ☐ Improve forage accessibility, quality, and quantity for livestock on pasture (not allowed on cropland)
- ☐ Pervasive plant species are controlled to acceptable levels to address needs for forage, wildlife habitat, or water quality

Justification, Goals, and Plan for Long-term Control

Effective control of invasive species or other undesirable woody plants is difficult and often requires an ongoing commitment. In many sites, complete eradication is not feasible, and in some sites it may be cost prohibitive to achieve the desired level of control. Please describe below the overall plan for controlling undesirable plants on the property, the goals of treatment, what success looks like, and any additional actions you plan to carry out (if any) to achieve that success, beyond what is required for the 314 Brush Management practice standards. Then use the remaining areas on this sheet to describe the specific plans and timing for specific areas on the property.

Please describe the first 314 Brush Management treatment area in the boxes below; use the next page for additional areas. If the practice scenario is known, list it below. Three treatments are not required - just list those that are recommended.

Treatment Area A

Stand # (or location description): Acres:

Describe planned treatments including mechanical/chemical, technique, equipment, month/year, and special instructions

Treatment #1 -	Treatment #2 -	Treatment #3 -

United States Department of Agriculture

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Please use this page to detail any additional 314 Brush Management treatment areas, if needed. If the practice scenario is known, list it below. Three treatments are not required - just list those that are recommended.

Treatment Area B

Stand # (or location description): Acres:

Describe planned treatments including mechanical/chemical, technique, equipment, month/year, and special instructions

Treatment #1 -	Treatment #2 -	Treatment #3 -

Treatment Area C

Stand # (or location description): Acres:

Describe planned treatments including mechanical/chemical, technique, equipment, month/year, and special instructions

Treatment #1 -	Treatment #2 -	Treatment #3 -

Treatment Area D

Stand # (or location description): Acres:

Describe planned treatments including mechanical/chemical, technique, equipment, month/year, and special instructions

Treatment #1 -	Treatment #2 -	Treatment #3 -

Treatment Area D

Stand # (or location description): Acres:

Describe planned treatments including mechanical/chemical, technique, equipment, month/year, and special instructions

Treatment #1 -	Treatment #2 -	Treatment #3 -

Plan meets Standards and Specs:

Designer Signature: *Date*

Landowner agrees to install practice to specs in plan:

Landowner signature: *Date*

Certification: Please fill out the rows in the table below during the certification visits for the planned treatment areas. Were the practices completed as planned? This table can be used for multiple certifications on different dates, and can provide a good summary of the work done over time. List any notes on treatment success in the Certification Notes sections.

Treatment Area	Acres	Date Completed	Date Inspected	Inspector	Certification Notes

Certification Checklist - All Scenarios

- ☐ Practice(s) were implemented to NRCS practice standards
- ☐ Certification Map and Digital Photos Attached
- ☐ GPS Points Collected
- ☐ Before Pictures on File

UNH Extension assisted with:

☐ Plan ☐ Certify ☐ Both ☐ Neither

Certification Statement: I certify that implementation of this conservation practice is complete, meets criteria for the stated purpose(s), and meets the NRCS conservation practice standard and specifications.

Planner Signature: Date:

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