# Natural Resources Conservation Service

## CONSERVATION PRACTICE STANDARD

# BRUSH MANAGEMENT

## CODE 314

## (Ac.)

### DEFINITION

The management or removal of woody (nonherbaceous or succulent) plants including those that are invasive and noxious.

### PURPOSE

This practice may be applied to support one or more of the following purposes:

- Create the desired plant community consistent with the ecological site or a desired state within the site description;
- Restore or release desired vegetative cover to protect soil, control erosion, reduce sediment, improve water quality, or enhance hydrology;
- Maintain, modify, or enhance fish and wildlife habitat;
- Improve forage accessibility, quality, and quantity for livestock and wildlife;
- Manage fuel loads to achieve desired conditions;
- Control pervasive plant species to a desired level of treatment that will ultimately contribute to creation or maintenance of an ecological site description “steady state,” addressing the need for forage, wildlife habitat, and/or water quality.

### CONDITIONS WHERE PRACTICE APPLIES

On all lands except active cropland where the removal, reduction, or manipulation of woody (nonherbaceous or succulent) plants is desired.

This practice does not apply to removal of woody vegetation by prescribed fire (refer to the Maryland conservation practice standard for Prescribed Burning, 338) or removal of woody vegetation to facilitate a land use change.

### CRITERIA

#### General Criteria Applicable to All Purposes

Design brush management to achieve the desired plant community based on species composition, structure, density, and canopy (or foliar) cover or height.

Apply brush management in a manner to achieve the desired control of the target woody species and protection of desired species. This will be accomplished by mechanical, chemical, burning, or biological

methods, either alone or in combination. When prescribed burning is used as a method, the Maryland conservation practice standard for Prescribed Burning (338) will also be applied.

When the intent is to manage trees for silvicultural purposes, use the Maryland conservation practice standard for Forest Stand Improvement (666).

NRCS will not develop biological or chemical treatment recommendations, except for biological control utilizing grazing animals. In such cases, use the Maryland conservation practice standard for Prescribed Grazing (528) in addition to this practice to ensure that desired results are achieved and maintained.

NRCS may provide clients with acceptable biological and/or chemical control references.

When herbicides are used, environmental hazards and site-specific application criteria listed on pesticide labels, and contained in extension service and other approved pest management references, must be followed. Refer to University of Maryland recommendations for the species being treated when selecting the appropriate method, timing, and management to achieve the desired results.

In cases where there is insufficient understory vegetation to provide a seed source that will result in the desired plant community, use another conservation practice such as Conservation Cover (327) or Tree/Shrub Establishment (612) to ensure that the desired results are achieved and maintained.

Follow-up treatments may be necessary to achieve objectives.

**Additional Criteria for Creating the Desired Plant Community Consistent with the Ecological Site**

Use applicable ecological site descriptions (ESD), vegetation community classifications, or reference plant communities to develop specifications that are ecologically sound and defensible. Treatments must be compatible with dynamics of the ecological site and keyed to state and plant community phases that have the potential and capability to support the desired plant community functions and resiliency.

Plan and apply additional treatments as needed to achieve effective control of pervasive plant species through reapplication.

**Additional Criteria for Restoring or Releasing Desired Vegetative Cover to Protect Soil, Control Erosion, Reduce Sediment, Improve Water Quality or Enhance Hydrology**

If erosion potential is high and revegetation will be slow or uncertain, choose a method of brush management that results in the least amount of soil disturbance so that the site is not vulnerable to long-term exposure and soil loss. Use additional conservation practices as needed to protect the soil and minimize erosion.

In conjunction with other conservation practices, manage the number, sequence, and timing of soil-disturbing brush management operations to maintain soil loss within acceptable levels, using approved erosion prediction technology.

**Additional Criteria to Maintain, Modify or Enhance Fish and Wildlife Habitat**

Plan and apply brush management to meet the habitat requirements for wildlife species of concern, as determined by an approved habitat evaluation procedure.

When possible, conduct treatments during periods of the year that accommodate reproduction and other life cycle requirements of desired wildlife and pollinator species.

**Additional Criteria to Improve Forage Accessibility, Quality and Quantity for Livestock and Wildlife**

Plan the timing and sequence of brush management in coordination with specifications developed for the Maryland conservation practice standard Prescribed Grazing (528).

**Additional Criteria for Control of Pervasive Plant Species to a Desired Level of Treatment**

Establish treatment targets and schedules that will result in an ecological "steady state", where desired plant communities will persist without long-term intensive treatment. Plan and apply multiple treatments to achieve treatment level targets

**Additional Criteria to Manage Fuel Loads to Achieve Desired Conditions**

Control undesirable woody plants in a manner that creates the desired plant community, including the desired fuel load, to reduce the risk of wildfire, and facilitate the future application of prescribed fire.

*Note: Specific programs may dictate criteria in addition to, or more restrictive than, those specified in this standard, including limits on the number of treatments that may be applied*.

**CONSIDERATIONS**

Consider using the Maryland conservation practice standard for Integrated Pest Management (595) in support of brush management.

Consider the species of brush to be controlled, the possible methods of control, and timing and duration of treatment needed to achieve the desired results. Some brush management activities can be effective when applied within a single year; others may require multiple years of treatment(s) to achieve desired objectives.

Consider the potential for soil erosion and difficulty of re-establishing vegetation when choosing a method of control that causes soil disturbance.

Consider impacts to wildlife species, food supplies, space, and cover availability when planning the method and amount of brush management. In general, treatments that create a mosaic pattern may be the most desirable.

In a pasture system, consider the timing and sequence of brush management to ensure the availability, quality, and quantity of needed forage.

For air quality purposes, consider using chemical methods of brush management that minimize chemical drift and excessive chemical usage. State-issued licenses may be required when using chemical pesticide treatments.

Consider mechanical methods of brush management that minimize the dispersal of particulate matter into the air.

Identify and evaluate other constraints such as management options, economic feasibility, access, or program requirements.

**PLANS AND SPECIFICATIONS**

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice, and may be recorded in narrative form, on Implementation Requirements (IR) sheets, on fact sheets, or other approved forms.

The appropriate fact sheet(s) and completed 314 IR sheet can serve as the plan and specifications for this practice. The following items shall be addressed, as appropriate:

- Purpose(s) of brush management;
- Species to be controlled and method(s) to be used;
- Pre-treatment cover or density of the target plant(s), and the planned post-treatment cover or density (goal);
- Maps, drawings, and/or narratives identifying areas to be treated, pattern of treatment (if applicable), and areas that will not be disturbed;
- A monitoring plan that identifies what shall be measured, including timing and frequency, and the changes in the plant community that will be achieved.

**Mechanical Treatment Methods**

In addition, the following components shall be included in a plan for mechanical treatment:

- Types of equipment needed, and any modifications necessary to enable the equipment to adequately complete the job;
- Dates for effective treatment;
- Operating instructions (if applicable);
- Techniques and procedures to be followed.

**Chemical Treatment Methods**

In addition, the following components shall be included in a plan for chemical treatment:

- Acceptable chemical treatment references for containment and management of target species;
- Evaluation and interpretation of herbicide risks associated with the selected treatment(s), using WIN-PST or other approved tools;
- Dates or plant growth stage for effective treatment;
- Any special mitigation, timing considerations, or other factors (such as soil texture and organic matter content) that must be considered to ensure the safest, most effective application of the herbicide;
- Reference to product label instructions.

**Biological Treatment Methods**

In addition, the following components shall be included in a plan for biological treatment:

- Acceptable biological treatment references for containment and management of target species;
- Kind and number of grazing animals to be used, if applicable;
- Timing, frequency, duration, and intensity of grazing or browsing;
- Desired degree of grazing or browsing use for effective control of target species;
- Maximum allowable degree of use on desirable non-target species;

- Special mitigation, precautions, or requirements associated with the selected treatment(s).

**Supporting Data and Documentation**

The following is a list of the minimum data and documentation to be recorded in the case file:

- Location of the practice on the conservation plan map;
- Assistance notes. The notes shall include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom;
- For chemical treatment, WIN-PST risk assessment and documentation of mitigation practices. The website for the WIN-PST, Windows Pesticide Screening Tool is located at: https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/quality/?cid=stelprdb1044769
- Completed IR sheet, and copy of the appropriate fact sheet(s) or other specifications and management plans.

**OPERATION AND MAINTENANCE**

An Operation and Maintenance (O&M) plan shall be prepared and is the responsibility of the client to implement. The appropriate fact sheet(s) and IR sheet may serve as the management plan, as well as supporting documentation, and shall be reviewed with and provided to the client.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

- Apply brush management practices using approved materials and procedures. Comply with all local, state, and federal laws and ordinances;
- Inspect the area after treatment to assess the effectiveness of brush management, and then at least annually thereafter, to the extent feasible. Following initial treatment, some regrowth, resprouting, or reoccurrence of brush may be expected. As needed, use spot treatment of individual plants or areas needing re-treatment when undesirable plants are most vulnerable to treatment procedures;
- When chemical treatment is used:
    - Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS). MSDS and pesticide labels may be accessed on the Internet at: http://www.greenbook.net/;.
    - Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, and reservoirs;
    - Post signs, according to label directions and/or federal, state, and local laws, around fields that have been treated. Follow restricted entry intervals;
    - Dispose of herbicides and herbicide containers in accordance with label directions and adhere to federal, state, and local regulations;
    - Calibrate application equipment according to recommendations before each seasonal use and with each major chemical and site change;
    - Replace worn nozzle tips, cracked hoses, and faulty gauges on spray equipment;
    - Maintain records of brush/shrub control for at least 2 years. Herbicide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Recordkeeping Program and state-specific requirements;

- Develop an emergency response plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers and the telephone number for the nearest poison control center. The National Pesticide Information Center (NPIC) telephone number in Corvallis, Oregon, may also be given for non-emergency information: 1-800-858-7384, Monday to Friday, 6:30 a.m. to 4:30 p.m. Pacific Time. The national Chemical Transportation Emergency Center (CHEMTRAC) telephone number is: 1-800-424-9300.

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