

USDA
NATURAL RESOURCES
CONSERVATION SERVICE
MARYLAND CONSERVATION
PRACTICE STANDARD
BRUSH MANAGEMENT
CODE 314
(Reported by Acre)

DEFINITION

Removal, reduction, or manipulation of non-herbaceous plants.

PURPOSES

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

1. To improve forage accessibility, quality, and quantity for livestock;
2. To maintain or enhance wildlife habitat, including habitat associated with threatened and endangered species;
3. To restore the desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality, or enhance stream flow;
4. To restore a natural plant community;
5. To create a desired plant community;
6. Protect life and property from wildfire hazards.

**CONDITIONS WHERE PRACTICE
APPLIES**

This practice may be applied on pasture, wildlife habitat areas, and other non-cropland areas where removal or reduction of undesirable woody (non-herbaceous) plants is desired.

This practice does not apply to controlling herbaceous weeds or other undesirable non-woody plants. (Refer to the Maryland conservation practice standard for Pest Management, Code 595.)

CONSIDERATIONS

Consider the long-term land use objectives of the client and how the implementation of this practice will affect those objectives.

Assess site conditions, including the potential for soil erosion if the method of control will involve soil disturbance.

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. If replanting the area is planned, consider how these factors will affect establishing the desired species.

Consider state and federal regulatory requirements for herbicide treatments, including applicator licensing requirements and label restrictions.

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

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

CRITERIA

General Criteria Applicable to All Purposes

Brush management shall be designed to achieve the desired plant community in terms of woody plant density, percent canopy cover, or plant height.

The practice shall be applied in a manner to achieve the desired control of the target woody species and protection of desired species. This shall be accomplished by mechanical, chemical, or biological methods, or by using a combination of these methods.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the [Natural Resources Conservation Service - Maryland](#) or visit the [electronic Field Office Technical Guide \(eFOTG\)](#).

Preference shall be given to the use of brush control methods having the lowest potential hazard to humans, domestic animals, and the natural environment. Non-herbicide methods of brush management shall be used to the extent feasible.

Operations shall comply with all local, state, and federal laws and ordinances. All required permits and approvals shall be obtained before implementing brush management.

Success of the practice shall be determined by evaluating regrowth or reoccurrence of target species after sufficient time has passed to monitor the site and gather reliable data. Evaluation periods will depend on the methods and materials used.

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

Brush management shall be utilized in association with prescribed grazing to ensure the desired response from treatment.

Additional Criteria to Maintain or Enhance Wildlife Habitat

Brush management shall be planned and applied to meet the habitat requirements of the desired wildlife species, including habitat associated with threatened and endangered species.

Note: Specific cost-sharing programs or other funding sources may dictate criteria in addition to, or more restrictive than, those specified in this standard.

Federal, state, and local regulations may significantly limit management activities in, or adjacent to, ponds, wetlands and other aquatic areas. Laws pertaining to protection of wetlands and water bodies, erosion and sediment control, and the use of herbicides may be applicable. Permits or approvals from federal, state, or local government agencies may be needed before any work is performed. Contact the county Soil Conservation District office for more information.

PLANS AND SPECIFICATIONS

General Requirements

Plans and specifications for brush management shall be prepared for each site or management unit accordance with this standard, and shall describe the requirements for applying the practice to achieve its intended purpose. Refer to documents in the References section of this standard and/or other resources (including professional weed control specialists) to develop specific brush control recommendations.

The completed work shall be checked and documented to verify that this practice was completed according to the narrative statements, specification sheets, job sheets, maps, and drawings that were provided to the land user. Documentation shall be in accordance with the section "Supporting Data and Documentation" in this standard.

At a minimum, the following components shall be addressed in the brush management plan, as applicable:

1. Mechanical control - include the following information:
 - a. Brush species to be controlled;
 - b. Types of equipment needed;
 - c. Techniques or procedures to be followed;
 - d. Recommended plant growth stage or timing for treatment.
2. Chemical control - include the following information:
 - a. Brush species to be controlled;
 - b. Herbicide name;
 - c. Rate of application or spray volume;
 - d. Recommended plant growth stage or timing for treatment;
 - e. Mixing instructions (if applicable);
 - f. Any special application techniques, timing considerations, or other factors that must be considered to ensure the safest, most effective application of the herbicide;
 - g. Reference to label instructions.

3. Biological control - include the following information:
 - a. Brush species to be controlled;
 - b. Type of biological agent or grazing animal to be used;
 - c. Timing, duration, and intensity of browsing or grazing;
 - d. Desired degree of browsing or grazing use for effective control of the target species;
 - e. Maximum allowable degree of use on desirable non-target species;
 - f. Special precautions or requirements when using insects or plants as control agents.
4. Debris disposal - Brush shall be disposed of in a manner consistent with maintaining a quality environment, based on the site conditions and the objectives of the land user. Disposal of brush shall not interfere with the establishment of desired plants and future maintenance of the area.

Acceptable disposal methods may include:

- a. Burning, if conducted in compliance with local ordinances and permit requirements;
- b. Piling, especially if providing wildlife habitat (brush piles) is an objective of the land user. One brush pile per acre can provide effective wildlife cover. Place larger material on the bottom of the pile, and make the pile at least 10 feet in diameter, and 6 feet high;
- c. Chipping, shredding, or mulching;
- d. Removal to other areas.

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be prepared for each site or management unit. Appropriate Job Sheet(s) may be used to serve as the management plan as well as supporting documentation, and shall be provided to the land user.

Following the initial treatment, some regrowth, resprouting, or reoccurrence of brush should be expected. Plans should include recommendations for periodic inspections, and for spot treatment of individual plants or areas, as needed.

Important: For herbicide applications, follow the directions and heed all of the precautions on the herbicide container label. Observe all applicable federal and state laws pertaining to the use of herbicides. If herbicides are handled or applied improperly, or if unused portions are not disposed of safely, they may injure humans, domestic animals, desirable plants, wildlife, and fish, and may contaminate nearby crops and other vegetation. Herbicides shall not be used over or directly adjacent to ponds, lakes, streams, wetlands, or other waterbodies unless so labeled.

For specific herbicide recommendations, contact the appropriate specialist from the Maryland Cooperative Extension Service; the Maryland Department of Agriculture, Weed Control Program; or the Maryland Department of Natural Resources, Forest Service.

SUPPORTING DATA AND DOCUMENTATION

1. Field location and extent of the brush management area, and assistance notes. Also note the location of the brush management area on the conservation plan map. Assistance notes shall include dates of site inspections, name or initials of the person who made the inspections, specifics as to what was inspected, alternatives discussed, decisions made, and by whom;
2. Operation and Maintenance plan, or completed job sheet(s).

REFERENCES

1. Arnold, Glen and Greg LaBarge, December, 1994. *Weed Control in Non-Cropland Areas*. Ohio Pesticide Applicator Training, Student Workbook, Ohio State University Extension. <http://ohioline.osu.edu/pdf/b821-9.pdf>
2. Bissonnette, Suzanne, 2004. *Brush Control in Illinois*. Illinois Agricultural Pest Management Handbook, Chapter 10. <http://www.ipm.uiuc.edu/education/index.html>
3. Bissonnette, Suzanne, 2004. *Weed Control for Noncrop Areas*. Illinois Agricultural Pest Management Handbook, Chapter 11. <http://www.ipm.uiuc.edu/education/index.html>
4. Bradley, Kevin W., and J. Andrew Kendig, December, 2004 (revised). *Weed and Brush Control Guide for Forages, Pastures and Noncropland*. MP581, Department of Agronomy, University of Missouri Extension. <http://muextension.missouri.edu/explore/miscpubs/mp0581.htm>
5. Heiligmann, Randall B. *Herbicides Commonly Used for Controlling Undesirable Trees, Shrubs, and Vines in Your Woodland*. F-45 Supplement-06, Ohio State University Extension. <http://ohioline.osu.edu/fact/0045.html>
6. Loux, Mark M., John F. Underwood, James W. Amrine, Jr., William B. Bryan, Rakesh Chandran, September, 2005. *Multiflora Rose Control*. Bulletin 857-06, Ohio State University Extension. <http://ohioline.osu.edu/b857/index.html>
7. Loyd, Bruce M. and Rakesh Chandran, May, 2004. *Various Brush-Control Herbicides Require Different Application Methods*. West Virginia University Extension Service. <http://www.wvu.edu/~agexten/ipm/weeds/weedcontrol.pdf>
8. Patmos, M. and J.F. Ahrens. 2006 *New England Guide to Chemical Weed and Brush Control in Christmas Trees*. University of New Hampshire Cooperative Extension. <http://extension.unh.edu/Forestry/Docs/NEGTWC.pdf>