

**NATURAL RESOURCES CONSERVATION SERVICE
 CONSERVATION PRACTICE STANDARD
 MARYLAND
 PRESCRIBED BURNING
 (Ac.)
 CODE 338**

DEFINITION

Controlled fire applied to a predetermined area.

PURPOSE

- Control undesirable vegetation.
- Prepare sites for harvesting, planting or seeding.
- Control plant disease.
- Reduce wildfire hazards.
- Improve wildlife habitat.
- Improve plant production quantity and/or quality.
- Remove slash and debris.
- Enhance seed and seedling production.
- Facilitate distribution of grazing and browsing animals.
- Restore and maintain ecological sites.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on all lands as appropriate.

CRITERIA

General Criteria Applicable to All Purposes

All prescribed burns shall address the following items:

- Location and description of the burn area.
- Pre-burn vegetation cover.
- Resource management objectives.
- Required weather conditions.
- Notification check list.

- Pre-burn preparation.
- Equipment checklist/personnel assignments and needs/safety requirements.
- Mop-up and post burn evaluation criteria.
- Firing sequence.
- Ignition method.
- Firebreak locations, types, and size.
- Approval signatures.
- State/county burn permit requirements and regulations.

The procedure, equipment, and the number of trained personnel shall be adequate to accomplish the intended purposes while maintaining safe and adequate control of the fire.

The expected weather conditions, human and vehicular traffic that may be impeded by heat or smoke, liability (e.g., utility lines) and safety and health precautions shall be integrated into the timing, location and expected intensity of the burn.

Timing of burning will be commensurate with soil and site conditions to maintain site productivity and minimize effects on soil erosion and soil properties (structure, soil moisture).

Weather parameters and other data that affect fire behavior should be monitored during the burn. Carbon release should be minimized by the timing and burn intensity.

Take into account the location of utilities such as electric power lines and natural gas pipelines to prevent damage to the utility and avoid personal injury.

Smoke impacts must be considered before the burn and should be monitored during the burn.

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 [Field Office Technical Guide](#).

Firebreaks shall be adequate to contain the fire within the burn area. See the Maryland Conservation Practice Standard for Firebreak (Code 394).

Take into account exposure to structures, including confined animal feeding operations, to prevent any potential damage.

NRCS prescribed burn policy can be found in the General Manual 190, Part 413, and the National Range and Pasture Handbook, Appendix A. Maryland NRCS State policy, including job approval authority required to plan and implement prescribed burning, can be found in the Maryland State Supplement to the General Manual 190, Part 413.

CONSIDERATIONS

Burn only when a specific management objective is to be met.

Generally, it is not necessary to burn more often than once every 3 to 5 years. When burning to control undesirable sprouting woody plants, it may be necessary to burn more than once.

Consider the effects of burn timing on plant communities and wildlife.

Burning should be managed with consideration for wildlife needs such as nesting, feeding, and cover. Burning will generally reduce nesting potential and cover for the year burned, so the benefits of burning should be weighed against the temporary loss of habitat. Rotations that leave some areas burned and others unburned can be used to provide wildlife habitat in all years.

Grasses and perennial forbs are most susceptible to fire during their growing seasons. In general, late summer and early fall burns benefit early forbs and hurt warm season grasses, while early growing season burns benefit late forbs and warm-season grasses and hurt cool-season grasses. However, another important factor is the species composition of the stand. If a stand is dominated by warm-season grasses, then a late summer or early fall burn could decrease competition of warm-season grasses and promote more stand diversity.

Cooperators without experience in burning should be advised to seek assistance from persons who have had training or experience in applying the practice.

Cooperators will be advised to burn in accordance with all state and local laws and regulations. All necessary burning permits must be obtained.

Cooperators must be fully aware that they are liable for any damages caused by fire escaping from their land or caused by smoke blowing into or across residences, roads, or airport runways. They may also be liable for fire suppression costs if the fire escapes control.

Incorporate existing barriers to fire such as lakes, streams, wetlands, croplands, and roads into the burn plan.

Whether to use a head fire, flank fire, or backing fire is determined by the objective to be accomplished. A head fire will produce a fast moving fire which carries rapidly over the surface. A flank fire burns parallel to the wind. A backing fire is a slow moving, hot fire burning into the wind consuming all combustible materials, except when the mulch layer is wet.

Consider the types and quantities of necessary tools, equipment, and personnel to contain the fire to the area planned for the prescribed burn. Consider the need for post-burn monitoring personnel and equipment.

When burning near an airport, secure the necessary permission from airport authorities.

Burn when the smoke impact to roads and occupied residences is minimized.

Notify adjoining landowners, local fire departments, and public safety officials within the airshed prior to burning. This includes providing adequate signage to affected roads.

Consider cultural resources and threatened and endangered plants and animals when planning this practice.

Carbon release should be minimized by managing the timing and intensity of the burn.

PLANS AND SPECIFICATIONS

A written burn plan will be prepared to meet NRCS standards and specifications. Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation. Obtain all necessary permits before implementation of the practice.

At a minimum, a burn plan will include the following:

- Location and description of the burn area.
- Objective of the burn, including expected changes in vegetation.
- Description of vegetation and fuels to be burned (i.e., vegetative type, density, age class, amount of ground litter, etc.).
- Preparation requirements for the burn area including a map locating planned constructed and/or natural firebreaks, location of the test burn, safety zones, and identification of areas needing special protection.
- Smoke management plan, including distance and direction to smoke sensitive areas.
- The types and size of firebreaks.
- Acceptable conditions for prescribed burn including constraints of temperature, relative humidity, wind direction and speed, fuel moisture, drought index, time of day, and time of the year.
- The firing plan (the type of procedure that will be used to accomplish the burn), including firing method, expected rate of spread, flame length, burn duration, and control and mop-up procedures.
- Equipment, manpower needs, and safety requirements. These shall be adequate to safely accomplish the intended purposes.
- Notification information and requirements prior to igniting the burn.
- Identification of sensitive areas, including endangered species and cultural resources, and measures to avoid adverse impacts on these areas.
- Permits needed.
- Documentation that the landowner or operator has acknowledged all liabilities or been informed in writing (send letter to the landowner by certified mail, return receipt requested) of possible liability for damages if the fire escapes, smoke damage occurs, accidents caused by poor visibility occur, or other damages occur as a result of the prescribed fire.
- Mop-up/post burn evaluation criteria.

OPERATION AND MAINTENANCE

The kinds and expected variability of site factors (e.g., fuel condition and moisture content, weather conditions, human and vehicular traffic that may be impeded by heat or smoke, liability, and safety and health precautions) shall be monitored during the operation of this practice.

Sufficient fire suppression equipment and personnel shall be available commensurate with the expected behavior of these factors during the time of burning to prevent a wildfire or other safety, health or liability incident.

Complete a test burn on the downwind side of the burn area to insure that the fire will achieve the planned objectives before the main fire is started.

Ensure current and expected weather conditions, including wind direction and velocity, air temperature, and relative humidity, meet requirements for burn initiation and make a record of the conditions prior to ignition of the test burn.

Establish primary firebreaks on all sides of the area to be burned.

Install firebreaks around timber harvest landings containing logs or slash piles that occur within 60 feet of the primary firebreak or burn unit edge.

Do not set head fires until all firebreaks (backing fires, etc.) are in place and sufficient to control the head fire.

Patrol fire lines to watch for and extinguish any spot fires resulting from flying embers.

Make sure all fire is out before leaving the area. At a minimum, conduct sweeps of the burn area occurring within 25 feet of the edge of the burn unit, and within 60 feet of adjacent properties and structures. Stumps, logs, dead trees, cow chips, grass clumps, etc., can smolder for hours or even days before they are completely consumed. Smoke produced by these types of fuels tends to gather in low areas when wind conditions calm at dusk. This residual smoke, combined with fog and darkness, can lead to poor visibility on roads near the fire location. Periodic checks of these areas may be necessary for several days. If possible, remove these obstacles prior to ignition to avoid safety concerns and extensive mop up.

Maintenance shall include monitoring of the burned site and adjacent areas until ash, debris and other consumed material is at pre-burn temperatures. At a minimum, 1 day of post-burn

monitoring shall be conducted. Additional site monitoring may be required on prescribed burns in woodland, forests, and cut-over areas, or on any site with potential for flare-ups.

SUPPORTING DATA AND DOCUMENTATION

A copy of the *prescribed burn plan* shall be filed in the cooperator's case file.

A *prescribed burn report* containing mop-up and post-evaluation information shall be filed in the cooperator's case file. The prescribed burn report shall include, at a minimum:

- Units burned and acres
- Crew members
- Types and numbers of equipment used
- Actual weather conditions
- Ignition and holding information, including dates and time of ignition
- Evaluation of planned objectives and implementation results
- Notable events, such as escapes and spot fires, and handling of such events, including any calls for assistance and backup
- Photos of the burn
- Post-burn monitoring results

REFERENCES

Maryland Department of Natural Resources, Forest Fire Protection. Code of Maryland Regulations (COMAR) 08.07.04.

National Wildfire Coordinating Group. Interagency Prescribed Fire Planning and Implementation Procedures Guide, July 2008, 50 pp.

USDA Natural Resources Conservation Service. General Manual 190, Part 413 – Prescribed Burning, Amendment 15, September 2009.

USDA Natural Resources Conservation Service. Maryland State Supplement to the General Manual 190, Part 413 – Prescribed Burning.

USDA Natural Resources Conservation Service. National Range and Pasture Handbook, Appendix A. NRCS Policy on Prescribed Burning on Grazing Lands, September 1997.