

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

Prescribed Burning

(Acre)

CODE 338

DEFINITION

Controlled fire applied to a predetermined area.

PURPOSES

- 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

Use of this standard will comply with all applicable federal, state, and local laws and regulations.

Prescribed burns will only be conducted after a Prescribed Burn Plan has been developed.

All Prescribed Burn Plans will address the following items:

- Location and description of the burn area
- Pre-burn vegetation cover
- Resource management objectives
- Required weather conditions for prescribed burn
- Notification check list
- Smoke sensitive areas
- Pre-burn preparation
- Equipment checklist/personnel assignments and needs/safety requirements
- Post burn evaluation criteria
- Firing sequence
- Ignition method
- Approval signatures

The procedure, equipment, and the number of trained personnel will be adequate to accomplish the intended purposes.

Prescribed burning may not be conducted during unfavorable meteorological conditions such as:

- High winds
- Temperature inversions
- Air stagnation

All prescribed fires must be attended at all times during burning until completely extinguished

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service State Office, or download it from the Field Office Technical Guide for your State.

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 will be integrated into the Prescribed Burn Plan.

The location of utilities such as electric power lines and natural gas pipelines will be noted in the Prescribed Burn Plan. The Prescribed Burn Plan will address how to prevent damage to all utilities and to prevent personal injury.

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).

If prescribed burning is absolutely necessary on organic soils, only conduct burns when soils are either frozen or saturated to the point they are unlikely to burn. Severe fire hazards are associated with these types of soils.

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.

Prior to the burn, firebreaks will be established that separate the area to be burned from those needing protection according to Indiana (IN) Field Office Technical Guide (FOTG) Standard (394) Firebreak.

Additional Criteria to control undesirable vegetation

Time of burning to suppress deciduous woody species should be in late spring, when the target species have just fully leafed and carbohydrate reserves are at their lowest, or in late fall. Coniferous species, such as cedar, should be burned after the herbaceous species to be improved starts growth. The best suppression on coniferous species is achieved when they are small, from one to three feet tall. Larger trees will need to be cut prior to burn for best control.

Frequency of burning will be based on regrowth of target species, weighed against forage and/or wildlife habitat considerations.

Additional Criteria to improve wildlife habitat

Where wildlife habitat (including wetlands) is the primary concern, and except as noted below, only about $\frac{1}{3}$ of the area will be burned in any one year. Greater than $\frac{1}{3}$ of the area may be burned when:

- a) Management units will be one acre or less.
- b) Other nearby management units under control of the landowner will be left unburned in the same year.
- c) Required for initial establishment purposes.

When feasible, the primary nesting season (April 1 – August 1) will be avoided. When amphibians or reptiles are one of the target species burning will be conducted between November and March 1.

Additional Criteria to Improve Plant Production Quantity and/or Quality

Frequency of burning should not be more than once every three years, to stimulate vigor and production of warm-season grasses or to maintain diversity of mixed-grass communities.

Specify on the burn plan the desired species to be maintained or restored. Time of burning should be just prior to or soon after dormancy break of desired species in the spring. Generally, grass species are burned in spring when the desired grass has achieved 1 inch of new growth, usually from late February to late March for cool season species and from early April to early May for warm-season species.

Additional Criteria to Facilitate Distribution of Grazing and Browsing Animals

Frequency of burning will be based on extent and duration of grazing responses, but should not be more than once every three years.

Time of burning should be just prior to or soon after dormancy break of desired species in the spring.

Additional Criteria to Restore and Maintain Ecological Sites (savanna and woodland communities)

Restoration of a savanna and/or reduction of aggressive nondesirable plants may require yearly or every other year burns for up to six years to open up the canopy, stimulate oak reproduction, and retard invader species. Once accomplished, limit burns to 5 to 15 year intervals for savannas.

Burn when desirable trees are dormant and more resistant to fire. Keep flame lengths (scorch heights) less than 2 feet near the trunks of desirable trees. Fires with six foot scorch heights or higher will kill even larger (>11 inch diameter breast height (dbh)) oak trees. Desirable oak saplings should be allowed to grow to 3-4 inch dbh before burning the area.

Dead wood left to burn can sterilize underlying soil for several years. Avoid burning brush piles and downed logs by removing the material out of the burn area. Or, protect the dead wood with a firebreak and burn the area when conditions allow for a cooler fire and lower flame lengths to reduce the risk of igniting the dead wood.

CONSIDERATIONS

Consider that high relative humidity and low temperatures will often reduce fire intensity and effectiveness. Topography (i.e. steep slopes, southern aspect, etc.) also influences the fire spread and intensity.

Burns should be accomplished when the mulch layer and soil surface are slightly moist but dry enough to carry a fire. Generally this is 1-3 days after a rain on grassland. The relative humidity should be between 30-60 percent.

Consider reducing the fuel height to about 1 foot next to the fire line, this will greatly reduce the intensity of the fire at the fire line. Remove snags and brush piles near the firebreak to help prevent fires from escaping or spotting over.

Consider the use of fire in wetland areas to:

- a) Thin dense, persistent emergent wetland vegetation.
- b) Create areas of open water for breeding.

- c) Create feeding, brood cover and habitat for molting birds.

When amphibians or reptiles are one of the target species:

- a) Back-burns are preferred because of their slow rate of spread which gives greater escape time.
- b) Weather or site conditions that result in spotty burns are preferred as this provides refuge areas.
- c) Wetland shorelines should only be burned when a management objective requires it.

Consider burning mineral soil wetlands when the site is dry or nearly dry. Any vegetation that is moist or over open water will not usually burn. Normal dates for burning wetlands are from fall through late winter. Burning over ice with no snow pack on the wetland is effective. A snow pack will prevent burning.

Consider the use of prescribed burning to disrupt disease cycles and insect reproduction, thus decreasing the need for pesticides and promoting a vigorous plant community.

Consider the use of prescribed burning to meet a specific management objective. Prescribed burning is not usually meant to be an annual management practice.

The burn crew should wear clothing of natural materials (i.e. cotton, wool, leather, etc.). Cap, gloves and high top leather boots are needed. Note: fire resistant clothing is preferred.

Participants should constantly evaluate preplanned escape routes, especially if the burn is conducted under low light conditions.

PLANS AND SPECIFICATIONS

Specifications consistent with the criteria in this standard will be prepared by qualified individuals and 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. All necessary permits must be obtained and a Prescribed Burn Plan developed before implementation of the practice.

Prior to initiating a burn the landuser will complete all of the following:

- a) Inform the local law enforcement agencies, fire chief, rural fire department or fire district and board of health of planned burns.
- b) Have all necessary tools, equipment, and adequately trained and experienced personnel on site to properly conduct the burn.
- c) Notify all adjoining and potentially affected landowners or landusers.
- d) Ensure that all persons involved in the burning procedure fully understand the burning plan.
- e) Obtain the latest site specific weather forecast.
- f) The National Wildfire Coordinating Group (NWCG) Prescribed Fire Go/No-Go Checklist will be reviewed before starting a prescribed fire.
- g) Burn only within the prescription set forth in an approved prescribed burn plan and after the NWCG checklist has been reviewed with all positive results.

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) will be monitored during the operation of this practice.

Sufficient fire suppression equipment and personnel will 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.

Maintenance will include monitoring of the burned site and adjacent areas until ash, debris and other consumed material is at pre-burn temperatures.

REFERENCES

Prescribed Burning Habitat Management Fact Sheet, IDNR, Division of Fish and Wildlife
<http://www.in.gov/dnr/fishwild/files/HMFSPrescribedBurn.pdf>

Missouri NRCS – Prescribed Burning Conservation Practice Information Sheet (IS-MO338), Missouri NRCS Fotg Web Site, Section 4.
http://efotg.nrcs.usda.gov/references/public/MO/JSAgron18rev10_06.xls

The National Wildfire Coordinating Group (NWCG) Prescribed Fire Go/No-Go Checklist
www.nwcg.gov/pms/RxFire/GONOGO.PDF