Prescribed Burning (Acre) 338

DEFINITION

Apply controlled fire to predetermined area.

PURPOSES

- Control undesirable vegetation.
- Prepare sites for planting or seeding.
- Restore native plant communities.
- Control plant disease.
- Reduce wildfire fuel buildup.
- Improve wildlife habitat.
- Improve forage production quantity and/or quality.
- Enhance seed and seedling production.
- Facilitate distribution of grazing and browsing animals.
- Reduce cattail mono-cultures.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on pastureland, hayland, and wildlife areas with predominantly herbaceous cover. While it is recognized that prescribed burning has been used as an effective tool for forest management, this standard does **not** apply to forestland. This practice also does not apply to: areas adjacent to forestland without a firebreak, annually tilled cropland areas, and roadsides.

CRITERIA

The timing of the prescribed burn will be within recommendations set forth in Table 1 of this standard. For more information, refer to "Managing Michigan's Wildlife: A Landowner's Guide," Part V - Grassland Management, Prescribed Burning[1].

The procedure, equipment, and number of trained personnel shall be adequate to accomplish the intended purpose. The timing of the burn will be based on all of the following: plant growth stage of species being burned, relative humidity, wind conditions, air temperature, and fuel conditions.

Comply with all applicable laws and regulations, including air quality.

Copies of a Fire Prescription and Burn Plan must be documented, filed, and provided to landowners and the local fire department. See Appendix A-5 of the National Range and Pasture Handbook for an example of a Prescribed Burn Plan. These plans may be developed by landowners, consultants, or other qualified individuals.

All permits will be obtained through proper channels. Logon to the Michigan DNR web site for more information:

http://www.dnr.state.mi.us/www/fmd/fire/burnpermit.htm

A 24-hour weather outlook is required prior to doing a prescribed burn.

All persons using this practice standard shall adhere to Michigan NRCS and state and local certification requirements for prescribing, planning, and carrying out this practice.

Smoke management considerations will be addressed in the burn plan.

NRCS employees will not act as burn boss, ignite the fire, or carry a torch.

To the extent those NRCS employees are acting within the scope of their work and have the proper job approval authority, they may assist as follows:

- Provide information to the landowner during the planning process of the effects of a prescribed burn as an alternative treatment.
- Provide resource information such as soils, vegetation, production, maps, photos, climate data, etc.
- Assist local or state agencies in the development of the burn plan, ***but may not author a burn plan.***
- Provide follow-up assistance in the evaluation of the prescribed burn.

CONSIDERATIONS

A. General

Plan precautionary measures to protect sensitive wildlife habitat, forestland, headquarters, oil and gas sites, powerlines and poles, windbreaks, highly

[1] See References listed on page 3.

erodible areas, or other areas that would be unsafe to burn.

Existing barriers such as lakes, streams, wetlands, roads, and constructed firebreaks are important to the design and layout of this practice. See the Firebreak Standard (384) for information on establishing firebreaks.

Liability and safety precautions are to be planned before the burn and monitored during the burn.

Faster burns are less effective as they may not remove all the litter and unwanted species.

Burning after dark is considered dangerous and should not be done, even if all other conditions are favorable.

B. Weather Conditions

Weather has an overriding effect on prescribed burns.

If relative humidity reaches below 50 percent, the dryness of the grass will create a very hot fire.

If relative humidity reaches above 70 percent, excessive moisture will interfere with a successful burn.

If temperatures reach below 32° Fahrenheit, grass mats will rarely burn, and above 80° Fahrenheit, burning is hazardous. Temperatures between 40° and 80° Fahrenheit are ideal.

Wind speed should be between three and seven mph and the wind direction should remain steady.

Wind speed and direction are the most critical weather parameters.

C. Wildlife

Burning should be managed with consideration for wildlife needs such as nesting and feeding cover.

Wildlife habitat can be improved for various species by burns of different sizes, frequencies, and intensities that create mosaic patterns and produce "edge effect." Approximately one-third of the field should be undisturbed to provide residual cover for wildlife species.

Wildlife habitat can be improved, not by reducing the amount of brush, but rather by making it more available. Cooler fires should be used when burning root-sprouting brush species to burn the brush back to a height below the normal browse line of wildlife.

D. Improve Forage Production and/or Quality

Plant response to burning results in increased palatability, quality, quantity, and availability of grasses and forbs. Dead material low in nutrient value is removed, and new growth high in protein, phosphorus, and calcium becomes readily available. Grazing management following the burn must be designed to allow for the desired response of forage species and to aid in accomplishing the burn objectives.

The soil rooting zone should have enough moisture to support recovery of the desired plant species following the burn.

In light fuel loads, continuity is more important for a continuous fire front than fuel loading.

E. Soil Erosion

Soil texture and slope influence soil erodibility following a burn. Burning of coarse textured sandy soils or on slopes greater than 20 percent can increase soil erosion rates until cover is reestablished.

PLANS AND SPECIFICATIONS

Specifications (a burn plan) shall be prepared for each burn. The client and the person designing the burn plan shall sign the burn plan.

The minimum documentation requirements of a burn plan will include:

- Objectives to be accomplished through the Prescribed Burn.
- Dates and times targeted for burn.
- Desired burn conditions for wind speed, relative humidity, wind direction, and soil moisture.
- Checklists of parties to notify, equipment needs, and burn crew responsibilities.
- Management needed to accomplish prescribed burn and meet objectives.
- An aerial photo indicating wind direction, fire lanes, location and type, back-up fire lanes, firing sequence, and hazards such as roads, buildings, power lines, etc.
- A contingency plan to suppress an escaped burn.

OPERATION AND MAINTENANCE

Maintenance requirements are not applicable for this practice.

REFERENCES AND OTHER READING MATERIALS

USDA NRCS, 1997. National Range and Pasture Handbook, 190-vi, Appendix A.

"Managing Michigan's Wildlife: A Landowner's Guide". Part V of this book is titled "Prescribed Burning." This book has been distributed to Michigan NRCS Field Offices. For more information, contact Michigan United Conservation Clubs or the nearest Conservation District office.

NRCS Grazing Land Technology Institute 2000. "Prescribed Burning." A general background of prescribed burning as a technical tool for NRCS and policies within the agency.

NRCS Practice Standard 645 - Wildlife Upland Habitat Management.

NRCS Practice Standard 644 - Wildlife Wetland Habitat Management.

TABLE 1 - PRESCRIBED BURN TIMING BY OBJECTIVE AND VEGETATION TYPE

OBJECTIVE AND VEGETATION TYPE	TIMING OF BURN ACCORDING TO LIVE GROWTH HEIGHT
Stimulate Warm Season grasses	1 - 3"
Distribute grazing of Warm Season grasses	1 - 3"
Stimulate Cool Season grasses	1 - 3"
Remove litter of Warm and Cool Season grasses	1 - 3"
Control woody plants	Variable methods, usually plants are in full leaf
Reduce Cool Season grasses	When Warm Season grasses are 1 - 3"
Improve wildlife habitat	When Warm Season grasses are 1 - 3"
Reduce wildfire hazard	When grasses are 1 - 3"
Stimulate forbs	Before forb growth