

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

PRESCRIBED BURNING

(Ac.)

CODE 338

DEFINITION

Controlled fire applied to a predetermined area.

PURPOSE

This practice is used to achieve one or more of the following purpose(s):

- 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 where use of fire for management is appropriate.

CRITERIA

General Criteria Applicable to All Purposes

Prescribed burning requires participation of a certified prescribed burner. Certified prescribed burners must satisfactorily complete training and obtain certification from

the North Carolina Division of Forest Resources (NCDFR), Prescribed Burn Certification Program. Policy for NRCS participation in prescribed burning is found in the National Range Handbook.

All prescribed burns shall address the following items in a written burn plan prepared by a certified prescribed burner:

- Location and description of the burn area. Include a map of burn area and identify potential hazards (roads, residences, electrical power transmission lines and poles, fences, etc.)
- Location and construction of firebreaks. Refer to FIREBREAK – NC Practice Standard 394.
- Pre-burn vegetation cover/fuel conditions.
- Resource management objectives.
- Required weather conditions (relative humidity, winds, air temperatures, etc.) for prescribed burn.
- Notification check list.
- Pre-burn preparation.
- Equipment checklist/personnel assignments and needs/safety requirements.
- Post burn evaluation criteria.
- Firing sequence.
- Ignition method.
- Approval signatures

See Appendix 1 NCDFR Form 4210 for an example of a Prescribed Burn Plan format that can be used in North Carolina.

Prescribed burns must be conducted under the supervision of a certified prescribed burner. (A responsible landowner can conduct limited prescribed burns on their own property however, a written burn plan prepared by a certified prescribed burner is still required).

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

Personnel conducting the prescribed burn should be familiar with the burn plan and have adequate

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 electronic [Field Office Technical Guide](#) for your state.

**NRCS, NC
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communication, transportation, and protective clothing.

Expected weather conditions, impact of heat and smoke on human/vehicular traffic, liability (e.g., utility lines) and safety and health precautions shall be integrated into the timing, location and expected intensity of the burn.

Obtain the latest weather forecast for the prescribed burn area. Monitor weather parameters and other data that affect fire behavior during the burn. Sources of current/expected weather conditions include:

- National Weather Service
- NC Division of Forest Resources
- Local Weather Reports/Observations
- Private Weather Forecast Services

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

Obtain an open burning permit from the NCDFR prior to conducting a prescribed burn.

Refer to Appendix 2-Table 1 for more specific criteria that the certified burner must consider when preparing a burn plan and conducting a prescribed burn. Appendix 2-Table 2 contains prescribed burning terminology to help in communicating with the certified prescribed burner.

Do not prescribe burn on organic soils unless the water table is at or near the ground surface.

Comply with applicable federal, state, and local laws and regulations during the installation, operation and maintenance of this practice, including North Carolina (NC) Forest Practices Guidelines.

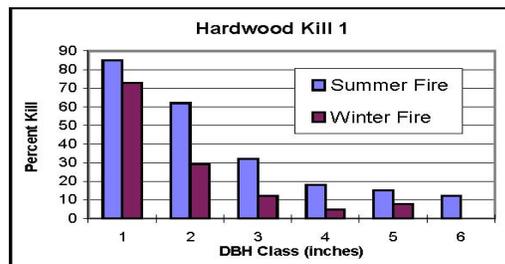
Additional Criteria to Control Undesirable Vegetation

Knowledge of the life cycle (phenology) of the target species and proper timing is important when using prescribed burns to control undesirable vegetation. Time treatment when plant carbohydrate reserves are low.

Generally, hot, growing season burns will have the greatest impacts. Often a properly timed combination of herbicide treatment or cut/slash and burning can give more complete control. Sometime fire will not give complete control but can reduce seed stocks of undesired species.

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For Pine Forest Land - Unwanted hardwood encroachment in pine stands is best controlled with summer burns when hardwoods are small diameter. The illustration below shows the effects of prescribed burning on undesirable hardwoods by diameter class and burn season.



Winter burns result in less pine root kill than spring and summer burns, but hardwood resprouting can occur. Resprouts can be controlled by repeated burns over several consecutive years while diameters are small.

Additional Criteria to Prepare Sites for Harvesting, Planting or Seeding

For Preparing to Harvest - High-moisture burns should be used to prevent destruction of organic duff, conserve moisture, and prevent erosion. High-moisture burns may be conducted 2 to 3 days after summer showers. FOREST STAND IMPROVEMENT – NC Practice Standard 666.

For Natural Regeneration - Burning should be done August-September during a good seed year. Burning for several successive years prior to harvest cutting may be necessary. Longleaf regenerates best on a light litter cover, so burning up to a year in advance is desirable. Loblolly does not need litter cover; so burning just prior to seed fall is satisfactory. Longleaf pine should be burned in the spring of the year in which seeding is expected. Refer TREE/SHRUB SITE PREPARATION – NC Practice Standard 490 and TREE/SHRUB ESTABLISHMENT – NC Practice Standard 612.

For Site Preparation and Planting - A hot fire is usually required to kill unwanted woody competition prior to planting. Burn in late summer and reduce understory and other debris. Refer TREE/SHRUB SITE PREPARATION – NC Practice Standard 490.

Additional Criteria to Control Plant Disease

In NC, the most common use of prescribed burning to control plant disease is treating brownspot in longleaf pine. Treatment is recommended when more than 20 percent of the seedlings are infected. Longleaf seedlings are susceptible to brown spot until they reach a height of 3 feet. This condition can be controlled with a fire during the dormant season (December - February). Seedlings should be in the "grass" stage and at least 2 years of age or older. If reinfection occurs, additional burns may be needed.

Other tree or plant species may benefit from burning to control specific diseases or insects. Consult a professional for an evaluation and burn specifications for specific field/plant disease incursion.

Additional Criteria to Reduce Wildfire Hazards

A systematic application of prescribed or 'hazard reduction' burns can reduce fuel loading in a forest and reduce the risk of wildfire, particularly in southern pine stands.

The type/intensity of a hazard reduction burn must be carefully designed and executed based on fuel type/amount and tree characteristics for a specific site, along with weather conditions. Hazard reduction burns should not significantly damage existing trees but should remove enough fuel to provide an appropriate level of wildfire protection.

The interval between hazard reduction burns varies based on fuel accumulation, past fire exposure, value of resource protected and risk of fire. For pine stands this is usually every 3-4 years but can be as often as every year.

Additional Criteria to Improve Wildlife Habitat

Deer, dove, quail and turkey are wildlife game species that benefit from prescribed burning, especially in loblolly, shortleaf, longleaf or slash pine stands. Some threatened/endangered species such as the red-cockaded woodpecker prefer more open habitats maintained by fires.

Burn prescriptions should recognize the biological requirements (life cycle, nesting times, etc.) of the preferred wildlife species.

Generally, the best season to burn for wildlife benefits is late February or early March. Frequency of burning varies, but usually is required about once every 3 years. Rotating burns on approximately one-third of the managed area each year helps maintain consistent habitat availability.

For deer and quail, strips or blocks within the burned area can be left unburned to increase the "edge" effect.

Additional Criteria to Improve Plant Production Quantity and/or Quality

Below are general guidelines for burning to improve plant production or quality. Given the wide range of plant/site conditions that might be encountered, consultation with a biologist, plant specialist or other professional is recommended.

For Warm Season Native Grasses – Burn every 3-5 years in the spring when plants have initiated 1 ½-3 inches of new growth.

For Forbs – Burn every 3-5 years in the late fall and early winter.

For Cool Season Grasses – Burn every 2-4 years in the spring when plants have initiated less than 2 inches of new growth.

Additional Criteria to Remove Slash and Debris

Broadcast burning is a better alternative to remove slash and debris than piling and burning.

If debris must be piled or windrowed, construct round piles when ground and debris are fairly dry to restrict the amount of dirt in the piles.

Protect surrounding trees/structures/habitats from fire and scorching.

Additional Criteria to Enhance Seed and Seedling Production

See Additional Criteria to Improve Plant Production Quantity and/or Quality.

Additional Criteria to Facilitate Distribution of Grazing and Browsing Animals

Low intensity burns can increase the quality and quantity of grasses and forbs. Generally, native plants will respond best to burning. Time burning based on the target grass/forb life cycle for best response.

Cattle and other domestic animals will congregate to graze recently burned new growth. Plan burning to distribute animal herd and prevent overgrazing.

Additional Criteria to Restore and Maintain Ecological Sites

Some plant/animal communities depend on fire to become established and thrive. To restore or maintain these communities, specific characteristics of the target species or community of species must be understood, along with historical understanding of fire in the geographic area being managed. Prescribed burning should be planned and applied at an intensity, interval and season that the site and/or community would have historically burned.

CONSIDERATIONS

Prescribed burning is a highly technical job requiring knowledge of fire behavior, fire suppression techniques, and the environmental effects of fire.

“A landowner or the landowner’s agent who conducts a prescribed burning in compliance with NC GS 113-60.43 shall not be liable in any civil action for any damage or injury caused by or resulting from smoke.” (NC GS 113-60.42) This provision applies only when the landowner or agent is a certified prescribed burner and established smoke management guidelines are followed.

Consider existing barriers to fire such as lakes, streams, wetlands, roads and firebreaks when planning this practice.

Consider wildlife needs (nesting, feeding, cover) when planning a prescribed burn. Smaller patches burned in a mosaic pattern area generally better for wildlife than one large burn.

Notify appropriate adjoining landowners, local fire departments, and public safety officials prior to burning.

Consider cultural resources and threatened and endangered (T&E) plants and animals when planning this practice.

Consider the location of utilities such as electric power lines and natural gas pipelines to prevent damage to the utility and avoid

personal injury.

The principal danger in the use of prescribed burning is smoke. Smoke impacts should be considered before the burn and monitored during the burn. High moisture creates more smoke than low moisture conditions. Carbon release can be minimized with proper timing and burn intensity.

This practice has the potential to affect National Register listed, or eligible, significant cultural resources (CULTURAL RESOURCES INFORMATION - NC, FOTG Section II). Follow NRCS state policy for considering cultural resources during planning.

PLANS 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 and the burn plan, or other acceptable documentation.

Note: Generally someone other than NRCS personnel will be preparing the burn plan. NRCS responsibility is to communicate important conservation plan and case file information to the certified burner preparing the plan. This communication should include (but is not limited to) purpose of burn, expected extent, location of cultural resources, potential T&E in or near the proposed burn, natural features or sensitive areas that need protection, etc.

To achieve Class I job approval authority for Prescribed Burning; and, to be certified to include prescribed burning in a conservation plan, (no burn plan preparation, no on-ground participation), an NRCS employee must successfully complete the 2-day NC Forest Service (NCDFR) Prescribed Burner Certification Training (includes passing the required written test).

The 2-day NCDFR Prescribed Burner Certification Training reviews legal/liability issues related to prescribed burning in North Carolina; and, provides sufficient training to allow employees to evaluate natural resource conditions to determine where prescribed burning will accomplish landowner’s resource objectives, complete prescribed burning feasibility determinations, recommend optimal timing of burning to accomplish the desired management objectives, provide specifications concerning design and installation of firebreaks, document conservation decisions in conservation plans, provide natural resource information on appropriate portions of burn plan forms and, if needed, review completed burns to assure that they comply with this standard and burn plan specifications .

Employees may choose to utilize their own resources to acquire a Certified Burner designation through NCDFR; however, NRCS employees are NOT AUTHORIZED to participate in prescribed burns as part of conservation plan implementation. Employees that acquire a Certified Burner designation may prepare prescribed burning plans for customers.

Minimum documentation for this practice includes (as applicable):

- burn plan prepared by a certified prescribed burner
- map, generally the conservation plan map, showing fields to be burned; additionally the map should delineate:
 - existing natural or constructed barriers to fire such as streams, water bodies, roads, etc.
 - location of firebreaks
 - sensitive areas such as critical areas, cultural resources, wetlands, natural areas, power lines, etc. that need to be considered during the prescribed burn
- extent (acreage) of prescribed burn
- purpose of prescribed burn
- timing of prescribed burn
- forest management plan including forest land to be burned prepared by a registered forester or other professional if available
- statement requiring compliance with all federal, state and local laws.
- required operation and maintenance instructions

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation),

and repair and upkeep of the practice (maintenance). Generally O & M operations for this practice involve operation activity only; no maintenance is required.

- The kinds and expected variability of site factors (e.g., fuel condition and moisture content, weather conditions, human and vehicular traffic 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.
- Monitor the burn site and adjacent areas until such time as ash, debris and other consumed material is at pre-burn temperatures.

REFERENCES

National Range and Pasture Handbook, NRCS-Grazing Lands Technology Institute, 1997 – Revised 2003

A Guide for Prescribed Fire in Southern Forests, Technical Publication R8-TR11, USDA Forest Service, 1989.

N. C. General Statute 113.

Appendix 1 – NCDNR Form 4210 page 1

Form 4210-1 Updated 6-2006	NCDNR Prescribed Burning Plan	District _____	County _____					
Latitude _____	Longitude _____	Photo # _____						
PART 1 GENERAL INFORMATION								
Landowner: _____ Address: _____ _____ Phone: _____ Agent: _____ Agent Phone: _____	Initial Estimates Acres to Burn: _____ Miles to Plow: _____ Miles Bladed Line: _____ Hand Line: _____ Other: _____ Other: _____	Purpose of Burn <input type="checkbox"/> Site Prep <input type="checkbox"/> Silviculture <input type="checkbox"/> Haz Reduction <input type="checkbox"/> Wildlife Habitat <input type="checkbox"/> Growing Season <input type="checkbox"/> Other: _____						
PART 2 PRE-BURN PLANNING								
Specific Objectives: _____								
Overstory Species: _____		Avg. Hgt. (ft): _____	Avg. DBH (in): _____					
Age of Dominant Species: _____		Understory Species: _____						
Fine Fuels: _____		Litter Depth (in): _____	Fuel Type (Model): <input type="checkbox"/> Continuous <input type="checkbox"/> Patchy					
% Slope: _____	Aspect: _____	Elevation (ft): _____	Soil: <input type="checkbox"/> Mineral <input type="checkbox"/> Organic					
For In-Stand Burning:	Basal Area (sq ft): _____	Ht. to Live Crown (ft): _____	Allowable Scorch Height (ft): _____					
Smoke Management								
Direction to Smoke Sensitive Area (SSA)	N	NE	E	SE	S	SW	W	NW
Distance to SSA (miles)								
Smoke Mngt./Tonnage: Estimated Acres _____ X Est. Total Available Tons/Acre _____ = _____ Est. Total Tons to be Burned								
Acceptable Range of Weather parameters (To Be Completed By, Or In Consultation With, A Burn Boss):								
Temp. (°F): _____ to _____ RH (%): _____ to _____ Wind Velocity (MPH): _____ to _____								
Wind Direction (Surface): <input type="checkbox"/> N <input type="checkbox"/> NE <input type="checkbox"/> E <input type="checkbox"/> SE <input type="checkbox"/> S <input type="checkbox"/> SW <input type="checkbox"/> W <input type="checkbox"/> NW								
Mix Height (ft): _____ to _____ Wind Direction (Transport) <input type="checkbox"/> N <input type="checkbox"/> NE <input type="checkbox"/> E <input type="checkbox"/> SE <input type="checkbox"/> S <input type="checkbox"/> SW <input type="checkbox"/> W <input type="checkbox"/> NW								
Nighttime Smoke Dispersion (minimum): _____ Acceptable Burn Categories: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5								
KBDI: _____ to _____ Fine Fuel Moisture (%): _____ to _____								
Other Weather Considerations: _____								
Special Situations/Instructions (note on attached map): _____								
Prepared By: _____	Title: _____	Certified Burner # _____	Date: _____					
Approved By: _____	Title: _____	Certified Burner # _____	Date: _____					

Appendix 1 – NCDNR Form 4210 page 2

PART 3 - PREPARATION FOR BURN

Resources needed:

Prior to ignition Burn Boss must confirm the following (circle Y for yes, N for no, or N/A for not applicable):

Burn Contract Signed: Y N N/A	Smoke Mgmt Called In: Y N N/A	NFORB Values Acceptable: Y N N/A	Area checked for new SSA's: Y N N/A
CoatShare Approved: Y N N/A	Region Approval: Y N N/A	On-Site Weather within Parameters: Y N N/A	Fireline Installed & Cleaned: Y N N/A
FD/Central Notified: Y N N/A	Adjoining LCA Notified: Y N N/A	Problem Areas Considered: Y N N/A	Smoke Signs Posted: Y N N/A
From T&E Species, Culture, Historic Res. Protected: Y N N/A	Burning Permit Obtained: Y N N/A	Point Forecast Evaluated: Y N N/A	Crew Briefed, Radio checked: Y N N/A

Burn Boss: _____ Title: _____ Certified Burner #: _____ Date: _____

PART 4 BURN EXECUTION PLAN

Base Line Location: _____	On-Site Weather Readings, etc.
Base Line Width: _____ or # of fire lines: _____	Time of Readings: _____
Firing Technique: _____ Aerial Ig. Spacing (chains, ft): _____	Temp. (°F) _____
Test Fire Behavior: _____	RH (%) _____
Ignition Started: Date: _____ Time: _____	Wind Direction _____
Ignition Completed: Date: _____ Time: _____	Wind Speed (MPH) _____
Active Burning Completed: Date: _____ Time: _____	Calculated FPM _____
	Trans. Wind Direction _____
	KBDI Value _____

Part 5 MOP-UP Critical Areas/Special Instructions:

Distance Inside Line to be Mopped Up (ft): _____ Fireline to Rehab (ft): _____ Applicable BMPs Used: Y N N/A
 Tract In FPG Compliance: Y N

Follow Up Checks: Date: _____ Time: _____ By Whom: _____

Follow Up Checks: Date: _____ Time: _____ By Whom: _____

PART 6 POST BURN EVALUATION

Acres Actually Burned: _____	Fire Effects		Forest Fuel Types Loading Table			
	Scorch Height (ft)		Fuel Type	Total Tons Per Acre		
Burn Objectives <input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Unsatisfactory	Crop Tree Mortality (%)		Pin Litter	3	8	12
	Soil Exposure (%)		Hardwood Litter	3	5	7
	Slash Removed (%)		Mixed Litter	4	8	12
	Fireline Rehab Satisfactory: Y N N/A		Brush < 2 ft.	4	7	10
Emissions: Acres Actually Burned _____ X Actual Tons per Acre Burned _____ = _____ Total Tons Actually Burned			Brush 2- 4 ft.	8	8	15
Observations/Damage/Recommendations for Follow Up:			Brush > 4 ft.	10	20	30
			Light Slash	5	10	20
			Medium Slash	10	20	40
			Heavy Slash	20	40	60
			Short Grass / Wire Grass	3	5	7
			Tall Grass / Brodiaea, Marsh Grass	3	8	8

Evaluated By: _____ Title: _____ Date: _____

Burn Cat	Smoke Management Allowable Loadings													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Burn Type	None	Open	Understory	Open	Understory	Open	Understory	Open	Understory	Open	Understory	Open	Understory	Open
Ngt. Time Smoke Day	Any	Any	Any	Any	Any	Poor to Very Poor	Poor to Very Poor	Good to Fair	Good to Fair	Poor to Very Poor	Poor to Very Poor	Good to Fair	Good to Fair	Good to Fair
Time of Burn	Day	Day	Day	Day	Day	Day	Day	Day/Ngt	Day/Ngt	Day	Day	Day/Ngt	Day/Ngt	Day/Ngt
0-1/2 ml.	0	0	0	0	0	0	0	0	0	1000	0	0	0	1000
1/2 - 5 ml.	0	360	720	450	900	720	1440	1440	2160	900	1800	1800	2700	2700
5-10 ml.	0	720	1440	900	1800	1400	2880	2880	4320	1800	3600	3600	5400	5400
10-20 ml.	0	1080	2160	1350	2700	2160	4320	4320	6480	2700	5400	5400	8100	8100
20-30 ml.	0	1300	2600	1600	3200	2500	5000	5000	7500	3000	6000	6000	9000	9000
30+ ml.	0	1440	2880	1800	3600	2880	5760	5760	8640	3600	7200	7200	10800	10800

Appendix 2 – Tables of Factors and Terms

Table 1. Factors Affecting Prescribed Burns	
<u>FUEL</u>	Fine fuel moisture should be 10 to 20 percent. Burning when the fine-fuel moisture is below 6 or percent can result in damage to plant roots and the soil. When fine-fuel moisture approaches 30 percent, fires tend to burn slowly and irregularly, often resulting in incomplete burns that do not meet desired objectives. Debris from harvested areas should be burned when fuels are dry, provided soil moisture does not get too low.
<u>SOILS</u>	Sites with mineral soils can be burned so long as there is adequate soil moisture (Damp soil helps keep soil temperatures low during the burn, protecting tree roots and soil microorganisms). Soil on slopes up to 25 percent can be burned with minimum danger of soil movement. Slopes greater than 25% can be burned for site preparation if a high-moisture burn is used. Plan fires to burn downhill where possible. Do not prescribe burn on organic soils unless the water table is at or near the ground surface!
<u>WEATHER</u>	Preferred relative humidity is 30 to 55 percent. Burning at relative humidity below 30 percent is dangerous; burning at humidity above 60 percent may not burn hot enough. The preferred temperature for winter burning is below 60 degrees F. When the objective is to control undesirable species, growing season burns with air temperatures above 80 degrees F. are recommended. The preferred range in windspeed in the stand is 1 to 3 mph (measured at eye level). Windspeed readings for most fire-weather forecasts are taken 20 feet above ground at open locations. The minimum 20-foot windspeed for burning is about 6 mph and the maximum is about 20 mph. Select actual humidity and wind range parameters based on purpose of prescribed burn and required property protection and smoke management concerns.
<u>TIME OF DAY</u>	Prescribed fires should normally be ignited between 10 a.m. and noon. Ground ignition should be stopped before 3 p.m. and aerial ignition before 4 p.m. to allow adequate time for the fire to burn out before atmospheric dispersion conditions deteriorate. Night-time burning is allowed only for reduced fuel levels when night smoke dispersion is rated fair or good; separate smoke management guidelines apply.
<u>SMOKE</u>	Smoke should be kept away from smoke-sensitive areas such as public roads, airports, and populated areas. A proper burning plan considers all aspects of smoke management. All burning should be done in accordance with applicable smoke management guidelines and regulations. Smoke can conduct electricity...winds should carry smoke away from power lines.

Table 2. Prescribed Burn Terminology**Fire Terms**

Backfire: A fire set to spread against the wind to remove flammable material and thus help to stop or control the headfire. Backfires may be used for the entire burn in some circumstances.

Fire Boss: A person that supervises all phases of the application of a prescribed burn.

Firebreak: A space which is clear of flammable materials to stop or check fires. It also serves as a line from which to work and facilitate the movement of personnel and equipment. Firebreaks should be established before a prescribed burn is executed. See FIREBREAK – NC Practice Standard 394.

Flankfire: The sides of a fire between the head and the backfire.

Headfire: A fire, which is set to spread with the wind and is usually used with a backfire. They should be lit as rapidly as possible for the fire to be effective.

Mop Up: This is the process of checking the entire perimeter of the burn area to ensure all fires or smoldering materials are out or removed to a safe area. This includes cow chips, logs, dead trees, small areas still burning, and stumps.

Ring Fire: This technique requires a firebreak downwind that provides adequate width to prevent escape of the fire. Once the firebreak is secure, the remaining sides of the burn should be lit as rapidly as possible. The resulting headfire will spread rapidly across the area. Ring fires are the safest because once the ring is closed and the perimeter fires are extinguished there is little chance for the fire to escape.

Strip Headfire: A technique that requires setting a line or series of lines upward from a firebreak so no single line can develop enough heat or convection to escape or cross the firebreak. The width of the strips depends on fuel type, amount, slope, and uniformity. It is most useful to widen firebreaks and burn areas adjacent to hazards (controls size of fire and amount of smoke). Its disadvantages are the high heat concentration as the lines come together and the necessity of a well developed firebreak.

Fuel Terms

High Volatile Fuels: These fuels have large amounts of compounds such as fats, waxes, or oils that are highly flammable and can produce firebrands or windborne flaming debris. High volatile fuels can be burned safely with proper precautions.

Low Volatile Fuels: These fuels contain small amounts of highly flammable compounds and include most grasses and hardwood trees. These fuels can burn safely within a wider range of environmental conditions than high volatile fuels.