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# Smoke Management Guidelines for Vegetative Debris Burning Operations

in the State of South Carolina



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Produced by the South Carolina Forestry Commission

**Smoke  
Management  
Guidelines**

for  
**Vegetative Debris  
Burning Operations**  
in the State of South Carolina

SCFC 4th Printing  
Revised 11/98

# **Smoke Management Guidelines**

for Vegetative Debris Burning Operations  
State of South Carolina

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Published by  
**the South Carolina Forestry Commission**

## **Objective**

The South Carolina Smoke Management Guidelines provide for minimizing the impact of smoke from vegetative debris burning operations.

To do this, the Guidelines define smoke sensitive areas, amounts of vegetative debris that may be burned, and atmospheric conditions suitable for burning this debris.

## Administration

The South Carolina Forestry Commission is responsible for administering the Smoke Management Guidelines. In so doing the Commission will consult and coordinate activities with the National Weather Service and the South Carolina Department of Health and Environmental Control (DHEC).

The Forestry Commission is also responsible for training, education, complaint investigation, and evaluation related to the smoke management program. This is in accordance with the *Memorandum of Understanding* between DHEC and the Forestry Commission (p.15), and Air Pollution Regulation 62.2 (p.16).

Daily compliance with the smoke management guidelines will be coordinated by the appropriate SC Forestry Commission Dispatch Center. Dispatchers will be thoroughly familiar with the **Smoke Management Guidelines** and the **Operating Plan for Fire Weather Service in South Carolina**, and will keep informed of the category day and the respective mixing heights and transport winds. Dispatchers will maintain a record of smoke management notifications and smoke complaints.

**The prescribed fire manager** is ultimately responsible for compliance with the Guidelines.

This individual should follow a logical plan, identify any smoke sensitive areas, and evaluate downwind conditions prior to and during burning operations. If it is determined that visibility in a smoke sensitive area is already seriously reduced, or would likely become so with additional burning, prescribed fires should be postponed, and fires already in progress should be terminated. Upon termination, residual smoke should be eliminated as soon as possible.

## Prescribed Fire Planning

A written prescribed fire plan, prepared by a knowledgeable person, is needed for each forest, wildlife, and agricultural area to be burned (except for crop stubble and grass fields). The plan can be simple or complex, depending on the area, but each burn unit should be similar in topography, fuels, and the burn objective. The written plan should include the following:

- Location and sketch map or photo
- Purpose and objective
- Description of stand, fuels, and topography
- Optimum weather and fuel conditions
- Smoke management information
- Preparation required
- Public contacts needed
- Firing technique
- Patrol, mop up, and escaped fire procedures
- Special precautions
- Evaluation information

A prepared form with space for all the above information serves as a good checklist. A sample plan appears on pp.18-19. Other formats may be acceptable.

The prescribed fire plan should be on site during the burn and adhered to by personnel conducting the burn. It is important that the persons preparing the plan and conducting the burn consider the location of all potential smoke sensitive areas in order to eliminate any adverse effects from the smoke. In addition to evaluating smoke sensitive areas within a sixty degree arc downwind from the burn, consider possible wind direction shifts and down-drainage smoke drift in all directions. In the absence of significant wind, residual smoke usually flows to low areas and may create hazardous conditions during night and early morning hours, especially when combined with fog.

Use caution when igniting a large area in a very short time. Smoke columns may penetrate the mixing height ceiling, travel downwind, and descend a considerable distance from the burn. It is especially important under these circumstances to monitor smoke columns downwind to determine potential impact of the smoke.

## **Smoke Management Forecast**

The SC Forestry Commission receives a fire weather forecast every day of the year. It includes smoke management information and is available by 7:00 A.M. EST. An updated forecast is available at approximately 3:00 P.M. EST.

Fire managers can obtain forecast information by calling a Forestry Commission Dispatch Center (1-800-777-3473). The forecast includes: transport wind direction and speed, mixing height, ventilation rate, category day, surface inversion time, nighttime dispersion, and the next day's dispersion outlook. The fire weather forecast is also available on the internet ([www.nws.noaa.gov/er/cae/fire.htm](http://www.nws.noaa.gov/er/cae/fire.htm)).

The category day issued will remain in effect until a new forecast is received the following day unless it must be changed due to a revised forecast. If the category day is changed due to a revised forecast, all current prescribed fires must be brought into compliance as soon as possible.

The predicted category day, issued in the afternoon updated forecast, is for planning purposes only.

The following table shows the relationship between ventilation rate and category day.

Afternoon Ventilation Rate*	Smoke Management Category Day
0 — 14,999	1
15,000 — 29,999	2
30,000 — 44,999	3
45,000 — 59,999	4
60,000 or greater	5

\* Ventilation rate equals transport wind speed multiplied by mixing height

Transport wind speed is measured in knots, and mixing height is measured in feet.

Exercise caution with high transport wind and low mixing height or low transport wind and high mixing height which can cause smoke dispersion problems.

## **Air Stagnation Advisory**

Occasionally, during periods of relatively stagnant air, the National Weather Service, at the request of the South Carolina Department of Health and Environmental Control, will issue an Air Stagnation Advisory (ASA). An ASA is a report or warning stating that an Air Pollution Episode exists. There are four levels of an Air Pollution Episode: forecast; watch; alert; and emergency.

*When an Air Pollution Episode exists, at the watch, alert, or emergency level, the smoke management category day will be 1.*

ASAs will be issued directly to the public by the Weather Service through television, commercial radio, N.O.A.A. weather radio and newspapers. They will also be relayed by the Forestry Commission's communication network to all SCFC offices. Managers of fires in progress will be notified as soon as possible by Forestry Commission personnel.

## **Notification Procedure**

The fire manager must comply with Title 48, Chapter 35, of the 1976 Code of Laws as amended ("Notification/Precautions Law"), and all other applicable regulations. Using information from the smoke management forecast and the Guidelines, it is the fire manager's responsibility to calculate available fuel tonnage and/or acreage that may be burned under forecasted conditions before notifying the SC Forestry Commission. Notifications will be accepted only on the day of the burn.

On the day of the burn the fire manager should report the following information to the Forestry Commission Dispatch Center:

- Time of burn (planned)
- County and location (latitude and longitude if possible)
- Type of burn
- Tonnage and/or acreage to be burned
- Identity of and distance to nearest downwind smoke sensitive area
- Person in charge of burn and how he/she can be contacted

If the tonnage for a single burn causes the tonnage for a given 16,000 acres (25 square miles) to exceed permissible limits, the Forestry Commission will advise the fire manager that the plan should be altered (either by delaying the burn, or by reducing the acreage to be burned). Burning is allowed up to the tonnage acceptable under the Guidelines. If a prescribed fire manager decides not to complete a burn or reduces the number of acres to be burned, he/she should then advise the Dispatch Center. This may make it possible for someone else in the vicinity to ignite additional fuels that day.

## General Burning Limitations

### Category 1:

No burning allowed, except for crop stubble and grass fields (p. 10).

### Category 2:

Daytime burning only, between 9:00 A.M. and 4:00 P.M. EST, (10:00 A.M. and 5:00 P.M. DST). The fire should be appreciably burned out by the end of this time frame, with smoke production substantially ended.

Distance to closest downwind smoke sensitive area	Maximum tons of fuel that may be burned per day per 16,000 acres (25 sq. miles)
0 — less than 1000 feet	0
1000 feet — less than 5 miles	360
5 miles — less than 10 miles	720
10 miles or more	1440

**CAUTION:** In addition to downwind smoke sensitive areas, always consider down-drainage smoke drift. Residual smoke flows to and settles in low areas during the night and early morning, creating hazardous conditions on roads, especially when combined with fog.

### Category 3:

If forecasted nighttime dispersion is poor or very poor, only daytime burning will be permitted between 9:00 A.M. and 5:00 P.M., (10:00 A.M. and 6:00 P.M. DST). The fire should be appreciably burned out by the end of this time frame, with smoke production substantially ended. If forecasted nighttime dispersion is fair to excellent, then daytime burning (all hours) and nighttime burning are permissible. If nighttime burning is allowed, ignition prior to receiving the new category day the following morning will be allowed based on the current category day. All burns (including those ignited earlier that morning) must comply with the new category day when issued.

Distance to closest downwind smoke sensitive area	Maximum tons of fuel that may be burned per day per 16,000 acres (25 sq. miles)
0 — less than 1000 feet	0
1000 feet — less than 5 miles	1800
5 miles — less than 10 miles	3600
10 miles or more	no limit

**CAUTION:** In addition to downwind smoke sensitive areas, always consider down-drainage smoke drift. Residual smoke flows to and settles in low areas during the night and early morning, creating hazardous conditions on roads, especially when combined with fog.

**Category 4:**

Daytime burning (all hours). Nighttime burning permissible with forecasted fair to excellent nighttime dispersion. When nighttime burning is permissible, ignition prior to receiving the new category day the following morning will be based on the current category day. All burns (including those ignited earlier that morning) must comply with the new category day when issued.

When forecasted dispersion is poor or very poor, the fire should be appreciably burned out by sunset, with smoke production substantially ended by the time of the forecasted inversion.

Distance to closest downwind smoke sensitive area	Maximum tons of fuel that may be burned per day per 16,000 acres (25 sq. miles)
0 — less than 1000 feet	0
1000 feet — less than 5 miles	2880
5 miles — less than 10 miles	5760
10 miles or more	no limit

**CAUTION:** In addition to downwind smoke sensitive areas, always consider down-drainage smoke drift. Residual smoke flows to and settles in low areas during the night and early morning, creating hazardous conditions on roads, especially when combined with fog.

**Category 5:**

Daytime burning (all hours). Nighttime burning permissible with forecasted fair to excellent nighttime dispersion. When nighttime burning is permissible, ignition prior to receiving the new category day the following morning will be based on the current category day. All burns (including those ignited earlier that morning) must comply with the new category day when issued.

When forecasted dispersion is poor or very poor, the fire should be appreciably burned out by sunset, with smoke production substantially ended by the time of the forecasted inversion.

Distance to closest downwind smoke sensitive area	Maximum tons of fuel that may be burned per day per 16,000 acres (25 sq. miles)
0 — less than 1000 feet	0
1000 feet — less than 5 miles	3600
5 miles — less than 10 miles	7200
10 miles or more	no limit

**CAUTION:** In addition to downwind smoke sensitive areas, always consider down-drainage smoke drift. Residual smoke flows to and settles in low areas during the night and early morning, creating hazardous conditions on roads, especially when combined with fog.

## Crop Stubble and Grass Fields

This fuel type includes debris left following the harvest of crops such as corn, soybeans, and small grains. Also included are coastal Bermuda and other open field grasses where there is an absence of pine needles, leaves, pine cones, stumps, tree limbs, and other fuels that produce residual smoke. *Marsh grasses and rice fields are not included in this fuel type.*

Because crop stubble and pasture grass fires burn quickly and produce very little residual smoke, fuel loading is not a critical factor. Most attention should be directed to smoke sensitive areas close to the fire. Smoke blowing directly over a road can reduce visibility and cause hazardous conditions. Always consider what is downwind from your fire before igniting it. Don't burn if the wind will blow your smoke on a road or other smoke sensitive area.

### Category 1:

Burning is allowed between 9:00 A.M. EST and sunset. A maximum of 50 acres may be ignited at any one time. If you are burning the maximum of 50 acres, smoke from the fire must have dissipated before adjacent fuels are ignited. The burn location must be at least 1000 feet from any downwind smoke sensitive area.

### Categories 2-5:

Burning is allowed between 9:00 A.M. EST and sunset. A maximum of 200 acres may be ignited at any one time. If you are burning the maximum of 200 acres, smoke from any previous fires must have dissipated before adjacent fuels are ignited. The burn location must be at least 1000 feet from any downwind smoke sensitive area.

## Piled Debris

This fuel type normally follows a land clearing or timber cutting operation where vegetative materials are piled.

Burning piled debris produces long-term residual smoke and releases large amounts of particulate matter into the air. Special consideration should be given to nighttime dispersion, wind shifts, downwind/down-drainage smoke drift, and residual smoke production during subsequent times of poor dispersion. Piled debris fires should be appreciably burned out and smoke production substantially ended before any forecasted time of inversion or poor dispersion.

*Except for small amounts from less than two acres, piled debris must not be ignited on any day when the forecasted nighttime dispersion is poor or very poor.*

**CAUTION:** In addition to downwind smoke sensitive areas, always consider down-drainage smoke drift. Residual smoke flows to and settles in low areas during the night and early morning, creating hazardous conditions on roads, especially when combined with fog.

### Category 1:

No burning allowed.

### Categories 2-5:

No igniting allowed when forecasted nighttime dispersion is poor or very poor, except for small amounts from less than two acres.

Other limitations apply as set forth in the chapter **General Burning Limitations**, Categories 2 through 5, pp. 8-9.

**NOTE:** SC Forestry Commission employees are not permitted to conduct, or provide standby service for, the burning of piled debris.

## Ditchbank/Hedgerow

Burning ditchbanks/hedgerows is normally associated with agricultural operations and therefore falls under the Smoke Management Guidelines. To determine fuel loading, select the fuel type (in the Guidelines) that best represents the fuel to be burned in the ditchbank/hedgerow, and use the tons/acre for that type. Then estimate the acres to be burned.

## Typical Total Fuel Loadings

In most, if not all, prescribed fire situations, available tons of fuel will be less than total tons. Due to soil moisture and other factors, all of the fuel on a given area will not be consumed by the fire.

**Example:** It rained heavily 4 days before a burn is to be conducted in a 20-year-old pine plantation. The pine plantation has a total fuel loading in the medium (8 total tons per acre) range. In this case, if approximately one half of the total fuel will still be wet from the rain, the available fuel will be 4 tons per acre. This is the tonnage that should be used when calculating the tonnage limit that can be burned on a given Category Day.

The following are typical South Carolina fuel types. The total fuel loading ranges are based on results of actual sample measurements.

**Pine Litter**—overstory composed of loblolly, shortleaf, slash, or longleaf pine. Amount of litter will vary with the age of the stand, degree of crown closure, species and age of rough.

Loading Range	Total Tons/Acre
Low	3
Medium	8
High	14

**Hardwood Litter**—overstory usually composed of oak-hickory with a mixture of other hardwoods. Amount of litter will vary with the age of the stand, degree of crown closure, species, and age of rough.

Loading Range	Total Tons/Acre
Low	3
Medium	5
High	7

**Pine/Hardwood Litter**—overstory composed of both pines and hardwoods. Amount of litter will vary with age of the stand, degree of crown closure, species and age of rough.

Loading Range	Total Tons/Acre
Low	3
Medium	6
High	8

**Wiregrass**—usually associated with a longleaf pine-scrub oak overstory. Some forested areas that are fairly “open” will have a mixture of wiregrass and broomstraw.

Loading Range	Total Tons/Acre
Low	2
Medium	3
High	5

**Grass/Brush**—first fuel type to appear on site-prepared, burned, or cutover areas. Grass is the major fuel component. Tree/brush species present include pine, gum, maple, oak, wax-myrtle, and sumac.

Loading Range	Total Tons/Acre
Low	2
Medium	4
High	8

**Palmetto/Gallberry**—occurs mostly along the coast. Overstory is usually pine. Gallberry and palmetto form a brush-type understory. Pine litter is a significant component of this fuel type.

Loading Range	Total Tons/Acre
Low	5
Medium	10
High	15

**Marsh Grass**—coarse grass, 2–6 feet tall, associated with open wetlands.

Loading Range	Total Tons/Acre
Low	4
Medium	10
High	15

**Bay**—characterized by heavy brush on a site with considerable organic soil. Primary species are various bays, maple, gum, wax-myrtle, and pond pine. Some species present have waxy leaves with a high oil content.

Loading Range	Total Tons/Acre
Low	10
Medium	15
High	20

**Slash in Place**—normally follows a clearcut or heavy thinning operation where the debris is not piled. Limbing gate piles should be excluded because of residual smoke production.

Loading Range	Total Tons/Acre
Low	8
Medium	12
High	16

**Piled Debris**—normally follows a land clearing or timber cutting operation where vegetative materials are piled. Due to heavy fuel loading, fuel arrangement, and large fuel size, inefficient burning produces great amounts of smoke and particulate matter for long time periods.

Loading Range	Total Tons/Acre
Low	10
Medium	15
High	20+

## Glossary

**Available Fuel**—An estimate of the tons of fuel per acre that will actually be consumed by a fire at a given time and place. It is influenced by soil moisture and other factors.

**Backing Fire**—A fire spreading against the wind.

**Category Day**—A scale from 1 to 5 based on ventilation rates. For smoke dispersal, 1 is poor and 5 is excellent.

**Dispersion**—The removal (by whatever means) of pollutants from the atmosphere over a given area.

**Dissipated**—Scattered, disappeared, vanished.

**Down-drainage**—In the absence of significant surface winds, especially during night and early morning hours, residual smoke will settle and drift to lower elevations. This drift usually follows drainage patterns, even where elevation change is slight.

**Downwind**—Wind directions are expressed as flowing *from* one of sixteen cardinal points of compass (N, NNE, NE, ENE,...). If, for example, wind is from the west, then downwind from fire is to the east.

**Fuel Loading**—An estimate of the entire accumulation of vegetative matter on a given area, expressed in tons per acre.

**Head Fire**—A fire spreading with the wind.

**Ignite**—To set on fire.

**Inversion**—An increase of temperature with height in the atmosphere whereby vertical air movement is inhibited.

**Mass Ignition**—Igniting large areas in a very short time.

**Micrometer**—One millionth of a meter (also micron).

**Mixing Height**—The upper limit of a mixing layer of unstable air within which vigorous up and down movement of the atmosphere occurs. It is measured from the ground surface and is expressed in feet.

**Notification**—Informing the SC Forestry Commission of intent to burn outdoors and providing all requested information.

**Particulate Matter**—Any liquid or solid particles. “Total Suspended Particulates” (TSP), as used in air quality, are those particles suspended in or falling through the atmosphere. They generally range in size from 0.1 to 100 micrometers.

**Prescribed Fire**—Controlled application of fire to vegetative fuels (in either their natural or modified state, under planned weather and fuel moisture conditions, confining the fire to a predetermined area) to accomplish certain objectives including silviculture, wildlife habitat management, grazing, and fire hazard reduction.

**Residual Smoke**—Smoke produced after the initial fire has passed through the fuel.

**Smoke Sensitive Area (SSA)**—Any area downwind or down-drainage where smoke may be dangerous or offensive (i.e. roads, towns, chicken farms, etc.)

**Stable Layer of Air**—A layer of air having a temperature change (lapse rate) less than that of dry adiabatic air (approximately 5.5°F per 1,000 feet), thereby retarding either upward or downward mixing of smoke.

**Sunset**—Official time as published; from the Bureau of Standards.

**Three Year Rough**—A woodland understory that has a three-year buildup of litter and vegetation.

**Transport Wind Speed and Direction**—The average speed of the wind (knots) moving through the mixing layer, and the direction *from* which the wind is coming. When used in conjunction with the observed or forecasted surface wind, it is a smoke drift indicator. One knot equals approximately 1.15 miles per hour.

**Vegetative Debris**—The natural covering of tree leaves and needles, grasses, vines, twigs, and limbs normally involved in a fire.

**Ventilation Rate**—A rate indicating the capability of the lower atmosphere to diffuse and disperse smoke. It is determined by multiplying the mixing height times the transport wind speed.

# **Memorandum of Understanding**

between the  
South Carolina Department of Health and Environmental Control  
Bureau of Air Quality  
and the  
South Carolina Forestry Commission

The agreement is made and entered into the first day of July, 1985, by and between the S.C. Department of Health and Environmental Control, Air Quality (hereinafter referred to as DHEC) and the S.C. Forestry Commission (hereinafter referred to as the Commission).

Whereas DHEC and the Commission, because of mutual concerns relating to vegetative debris burning related to forestry, wildlife, and agriculture, desire to enter into an agreement for the purpose of accomplishing mutual objectives and for cooperation in protecting lives, quality of life and property of the citizens of South Carolina.

Now, therefore, in consideration of the mutual benefits to each party hereto, the parties agree as follows:

1. The Commission assumes the responsibility to coordinate a smoke management program involving vegetative debris burning related to forestry, wildlife, and agriculture.
2. The Commission assumes the responsibility for complaints and investigations of vegetative debris burning related to forestry, wildlife, and agriculture. Noted air quality regulatory violations will be referred to DHEC.
3. The Commission takes an active role in training for, coordinating, and encouraging the use of The Smoke Management Guidelines within the forestry, wildlife, and agricultural communities.
4. The Commission will enforce Precautions Law and require that parties obtain authorization as prescribed by law.
5. The Commission will continue to keep Burning Authorization and Smoke Management records.
6. DHEC shall retain the duty and authority to implement and enforce Air Pollution Regulation 62.2. Under this authority and by this agreement, DHEC relegates the administration of forestry, wildlife, and agricultural burning and resulting emissions to the Commission.
7. DHEC shall promptly notify the Commission of any circumstances, such as an Air Pollution Episode, which would require special action regarding open burning.
8. DHEC shall have the authority to propose and adopt amendments to Air Pollution Control Regulation 62.2; however DHEC shall consult and work with the Commission in identifying provisions of the existing regulations which require amendments and in developing new regulations concerning emissions from open burning.

# **Health & Environmental Control Department**

## **61—62.2 Prohibition of Open Burning**

Open burning is prohibited except as provided below:

- A. Open burning of leaves, tree branches, or yard trimmings originating on the premises of private residences and burned on those premises.
- B. Open burning in connection with the preparation of food for immediate consumption.
- C. Campfires and fires used solely for recreational purposes, ceremonial purposes, or human warmth.
- D. Fires purposely set to forest lands for specific management practices in accordance with guidelines acceptable to the Department and as administered by the South Carolina Forestry Commission. Such management practices shall include:
  1. Prescribed burning under existing standards for various management objectives; and
  2. Site preparation burning for purposes of clearing an area for regeneration.
- E. Fires purposely set for agricultural control of diseases, weeds, pests, and for other specific agricultural purposes in accordance with practices acceptable to the Department of Health and Environmental Control.
- F. Open burning of trees, brush, grass, and other vegetable matter for game management purposes in accordance with practices acceptable to the Department of Health and Environmental Control.
- G. Open burning in areas other than predominantly residential for the purpose of land clearing or right-of-way maintenance. This will be exempt only if the following minimum conditions are followed:
  1. The location of the burning must be a sufficient distance but not less than 1000 feet from public roadways and all residential, commercial and industrial sites not a party of the contiguous property on which the burning is conducted;
  2. Winds during the time of the burning must be away from any area in which the ambient air may be significantly affected by smoke from the burning if the area contains a public roadway or a residential, commercial, or industrial site;
  3. The amount of dirt on the material being burned must be minimized;
  4. No heavy oils, asphaltic materials, items containing natural or synthetic rubber, or any materials other than plant growth may be burned;
  5. The initial burning must be started between the hours of 9:00 A.M. and 3:00 P.M.; no combustible material may be added to the fire between 3:00 P.M. of one day and 9:00 A.M. the following day;
  6. No more than two piles 30' x 30' or equivalent may be burned within a six-acre area at any one time; and
  7. In the case of land clearing, all salvageable timber and pulpwood must be removed.
- H. Fires set for the purpose of training public firefighting personnel when authorized by the appropriate government entity, and fires set by a private industry as a part of an organized program of drills for the training of firefighting personnel. These will be exempt only if the drills are solely for the purpose of firefighting training and the duration of the burning is held to the minimum required for such purposes. Prior approval is required only for sites which are not established training sites.
- I. Open burning of household trash on the premises of and originating from private residences where services for the disposal of such materials are not available. The location of such burning must be at

least 500 feet from any inhabited building.

- J. Open burning on the property where it occurs of construction waste from building and construction operations will be exempt only if the following conditions are met:
  1. The location of the burning is at least 500 feet from any occupied structure other than a dwelling or structure located on the property on which the burning is conducted;
  2. Heavy oils, asphaltic materials, items containing natural or synthetic rubber, or any trade wastes which produce smoke in excess of forty (40) percent opacity are not burned; and
  3. The burning is conducted only between the hours of 9:00 A.M. and 3:00 P.M.
- K. Open burning in remote or specified area:
  1. Of trade waste provided the burning is conducted in accordance with Paragraph G of this regulation. Such burning must be of a non-recurring nature.
  2. For non-recurring unusual circumstances.
  3. For experimental burning for purposes of data-gathering and research.

However prior approval for these types of burning (in subparagraph K above) must be obtained from the Department.

Open burning may be conducted in certain situations if no undesirable levels are or will be created. The authority to conduct open burning under this Regulation does not exempt or excuse the person responsible for the burning from the consequences of or damages or injuries resulting from the burning and does not exempt or excuse anyone from complying with other applicable laws and with ordinances, regulations, and orders of government entities having jurisdiction, even though the burning is otherwise conducted in compliance with this Regulation.

The Department reserves the right to impose other or different restrictions and exemptions on open burning in addition to those enumerated above, whenever in the judgment of the Department such is necessary to realize the purpose of this Regulation.

A written report or warning to a person of a violation at one site shall be considered adequate notice of the Regulation and subsequent observed violations at the same or different site will result in appropriate legal action.

**Effect of Amendment—**

The 1983 amendment, effective April 22, 1983, substantially revised this regulation.

The 1985 amendment, effective May 24, 1985, substantially rewrote this regulation.

# Prescribed Fire Plan

South Carolina Forestry Commission

County \_\_\_\_\_ Lat. & Long. \_\_\_\_\_ Photo # \_\_\_\_\_ Acres \_\_\_\_\_

Owner & Address \_\_\_\_\_

Phone # \_\_\_\_\_ Agent & Phone# \_\_\_\_\_

Burn Purpose & Objectives \_\_\_\_\_

Stand Description: overstory \_\_\_\_\_

understory \_\_\_\_\_

Fuels Description \_\_\_\_\_

Fuel Model # \_\_\_\_\_

Soil Type \_\_\_\_\_

Topography \_\_\_\_\_

Wind Direction \_\_\_\_\_ Wind Speed (20 ft.) \_\_\_\_\_ Rel. Hum. \_\_\_\_\_ Temp. \_\_\_\_\_

1 hr. Fuel Moist. \_\_\_\_\_ 10 Hr. Fuel Moist. \_\_\_\_\_ Drought Index \_\_\_\_\_

Months \_\_\_\_\_ Flame Length \_\_\_\_\_ Mid-Flame Wind Speed \_\_\_\_\_

Avail. Tons/Acre \_\_\_\_\_ Total Avail. Tons \_\_\_\_\_ Trans. Wind Dir. \_\_\_\_\_

Smoke Sens. Areas \_\_\_\_\_ Distance \_\_\_\_\_ Min. Category Day \_\_\_\_\_

Advance Preparation \_\_\_\_\_

Firing Technique \_\_\_\_\_

Personnel & Equip. \_\_\_\_\_

Patrol, Mopup, Escaped Fire Procedures \_\_\_\_\_

Special Precautions \_\_\_\_\_

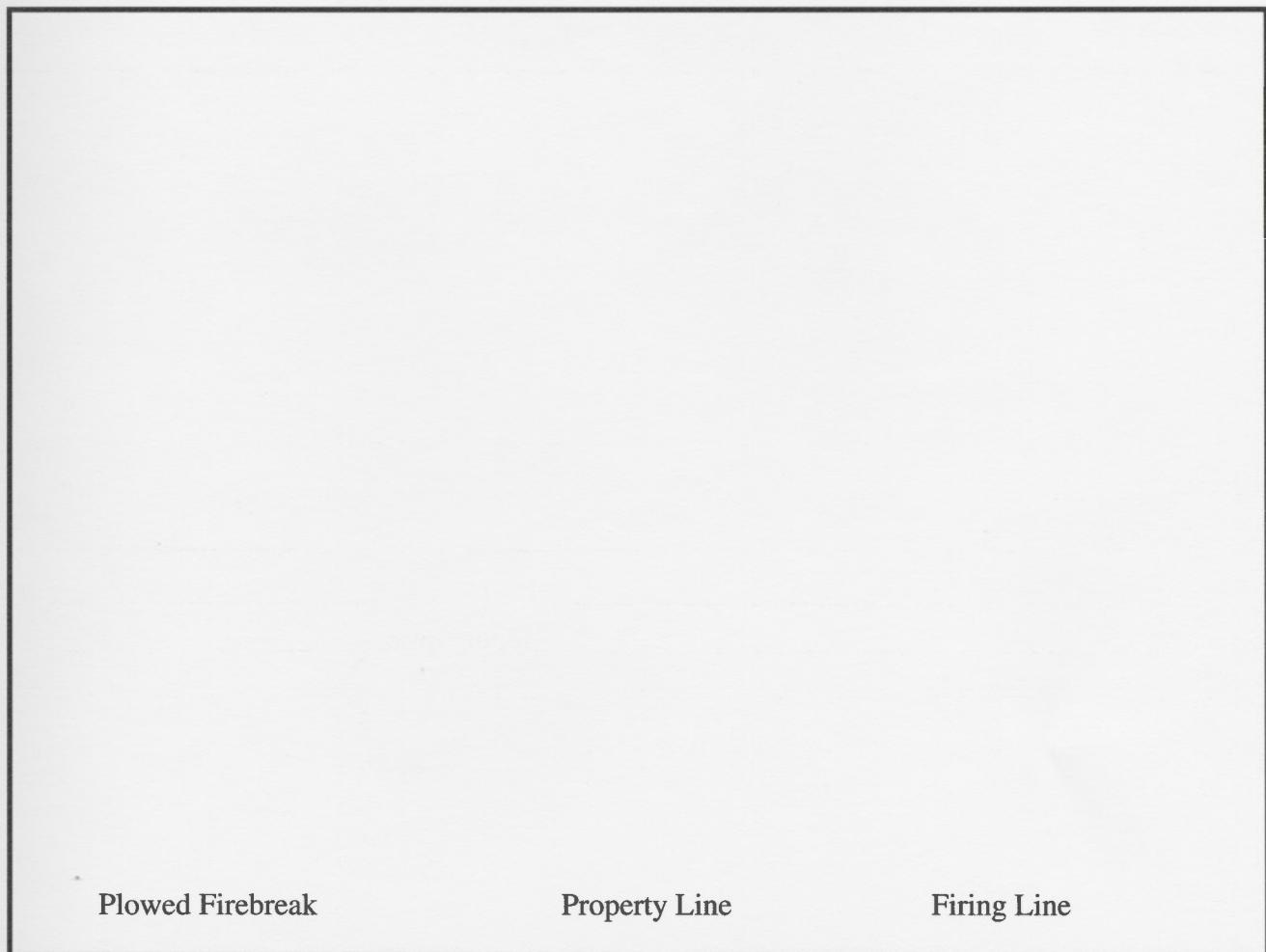
Adjacent Owners & RFD to inform \_\_\_\_\_

Prepared by: \_\_\_\_\_ Approved by: \_\_\_\_\_

Date: \_\_\_\_\_ Date: \_\_\_\_\_

## Prescribed Fire Plan

Tract



Plowed Firebreak

Property Line

Firing Line

Pre-Burn Checklist: Weather Update \_\_\_\_\_ Notify Dispatch \_\_\_\_\_ Inform Others \_\_\_\_\_

Smoke Signs \_\_\_\_\_ Smoke Management Compliance \_\_\_\_\_ Escaped Fire Plan \_\_\_\_\_

Plan & Map Review \_\_\_\_\_ Safety Brief \_\_\_\_\_ Firebreak Inspect \_\_\_\_\_ Test Fire \_\_\_\_\_

Conducted by: \_\_\_\_\_ Date: \_\_\_\_\_

Evaluation: Wind Dir. \_\_\_\_\_ Wind Speed (20 ft.) \_\_\_\_\_ RH \_\_\_\_\_ Temp. \_\_\_\_\_ Cat.Day \_\_\_\_\_

%Fuel Burned \_\_\_\_\_ %Crown Scorch \_\_\_\_\_ %Stem Kill \_\_\_\_\_ Fire Escape? \_\_\_\_\_

Smoke Dispersal \_\_\_\_\_ Drought Index \_\_\_\_\_ Objectives Met? \_\_\_\_\_

Problems, Plan Variances, Remarks \_\_\_\_\_

Conducted by: \_\_\_\_\_ Date: \_\_\_\_\_

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Fuel Type	Total Tons per Acre*		
	Low	Medium	High
Pine Litter	3	8	14
Hardwood Litter	3	5	7
Pine/Hardwood Litter	3	6	8
Wiregrass	2	3	5
Grass/Brush	2	4	8
Palmetto/Gallberry	5	10	15
Marsh Grass	4	10	15
Bay	10	15	20
Slash in Place	8	12	16
Windrows/Piles	10	15	20

\*Reduce to available tons as fuel conditions warrant.

Fuel Type	Total Tons per Acre*		
	Low	Medium	High
Pine Litter	3	8	14
Hardwood Litter	3	5	7
Pine/Hardwood Litter	3	6	8
Wiregrass	2	3	5
Grass/Brush	2	4	8
Palmetto/Gallberry	5	10	15
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### Burning Limits: Tons Available Fuel

Distance to smoke sensitive area	Category Day				
	1	2	3	4	5
0—less than 1000 feet	0	0	0	0	0
1000ft.—less than 5 miles	0	360	1800	2880	3600
5 mi.—less than 10 mi.	0	720	3600	5760	7200
10 mi. or more	0	1440	no limit	no limit	no limit

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