

GREAT BASIN UNIFIED APCD

APPLICATION TO APPROVE SMOKE MANAGEMENT PLAN

In accordance with the Smoke Management Program for the Great Basin Unified Air Pollution Control District (Air District), this Smoke Management Plan (SMP) serves as an application for SMP approval to comply with Air District Rule 411.C. This SMP application is to be completed by the applicant and submitted to the Air District for review and approval at least 30 days prior to performing the proposed prescribed burn. This SMP application consists of a Project Description page and two sections – A and B. **ALL APPLICANTS MUST COMPLETE THE PROJECT DESCRIPTION PAGE (page 3).** Both sections A and B of the SMP (**pages 5-9**) may need to be completed depending on the burn's potential to impact smoke sensitive areas and the size of the burn. Once approved by the Air District, this SMP serves as a conditional approval to burn.

General Information and Requirements regarding this SMP are provided on **pages 1 and 2**. Terms used in this form have the same meaning as those defined in the Air District's Rule 101 or the California Code of Regulations (CCR), Title 17, Section 80101. Where differences occur, the Air District's definitions apply. **Emission Factors** to assist with calculating burn particulate matter emissions are provided on **pages 11 and 12**. Contact the Air District at (760) 872-8211 if you have questions or need assistance with making these calculations.

The **District Review (page 2)** is for Air District use only, but must be kept intact with the Project Description. The **Project Description** section (**pages 3 and 4**) requests general information and identifies conditions for all prescribed burn projects. It identifies the applicant and relevant contact information, who the land owner is, the project name, project location, burn size, purpose of the burn, type of fuel to be burned, and estimated emissions from the burn. It provides a checklist of additional sections of the SMP that may be filled out and attached. Finally, it requests the preparer's signature, the name of the applicant or authorized representative, and the applicant or authorized representative's signature.

Section A (pages 5-7) must be completed and attached to the Project Description page if the burn has the potential to result in impacts to smoke sensitive areas. Smoke sensitive areas are defined as "populated areas and other areas where the Air District determines that smoke and air pollutants can adversely affect public health or welfare." Such areas can include, but are not limited to, towns and villages, campgrounds, trails, populated recreational areas, hospitals, nursing homes, schools, roads, airports, public events, shopping centers, and Class I Areas (areas that are mandatory visibility protection areas designated pursuant to section 169A of the federal Clean Air Act). Class I Areas in, or near, the Great Unified APCD include; South Sierra Wilderness, John Muir Wilderness, Ansel Adams Wilderness, Mokelumne Wilderness, Yosemite National Park, Kings Canyon National Park, and Sequoia National Park.

Section B (pages 8 and 9) must be completed and attached to the Project Description page if the burn will be greater than 100 acres or will produce more than ten tons of particulate matter. Section B identifies meteorological conditions necessary for ignition, contingency actions that will be taken if smoke impacts begin to occur from the burn, and information on consideration and use of alternatives to burning. A **Post-Burn Evaluation** form is provided on **page 10**. This form is to be used for burns greater than 250 acres or for burns that result in impacts to smoke sensitive areas. It should be filled out after the burn, as appropriate.

Information may need to be extracted from the project burn plan (if available) to supplement the SMP. Air District review of the burn plan is for informational purposes only. When the burn plan is reviewed, the Air District assumes no approval authority or liability for approving the burn plan. The applicant is responsible for assuring firefighter and public safety, which is not the intent of the information included on this form.

General Information and Requirements

SMP Conditions Must Be Met on the Day of the Burn (CCR § 80160(j))

The land manager or his/her designee conducting a prescribed burn is required to ensure that all conditions and requirements stated in the smoke management plan are met on the day of the burn event and prior to ignition. Ignition of a burn project will not occur unless the Air District has authorized the burn for the day of the burn. [Note: CCR § 80120(e) and Air District Rule 411.B.2 provide that the Air District may, by special permit, authorize agricultural burning, including prescribed burning, on days designated by the ARB as no-burn days if the denial of such permit would threaten imminent and substantial economic loss.]

Conditions of Vegetative Material to be Burned (CCR §§ 80160 (m – p))

Material should be:

- ◆ in a condition that will minimize the smoke emitted during combustion when feasible, considering fire safety and other factors
- ◆ piled where possible, unless good silvicultural practices or ecological goals dictate otherwise
- ◆ prepared so that it will burn with a minimum of smoke

Description of Burn Types

Forest Management Burning is the use of open fires, as part of a forest management practice, to remove forest debris or for forest management practices which include timber operations, silvicultural practices, or forest protection practices.

Range Improvement Burning is the use of outdoor fires to:

- ◆ remove vegetation for wildlife or game habitat
- ◆ remove vegetation for livestock habitat
- ◆ remove vegetation for the initial establishment of an agricultural practice on previously uncultivated land

Wildland Vegetation Management Burning is the use of prescribed burning conducted by a public agency, or through a cooperative agreement with a private manager or contract involving a public agency, to burn land predominantly covered with chaparral (as defined in Title 14, CCR §1561.1), trees, grass, or standing brush.

Determination of Smoke Sensitive Areas

Smoke sensitive areas are defined as “populated areas and other areas where the Air Pollution Control Officer (APCO) determines that smoke and air pollutants can adversely affect public health or welfare.” Such areas can include, but are not limited to, towns and villages, campgrounds, trails, populated recreational areas, hospitals, nursing homes, schools, roads, airports, public events, shopping centers, and Class I Areas (areas that are mandatory visibility protection areas designated pursuant to section 169A of the federal Clean Air Act. If a burn is near a populated area, has potential for substantial emissions, has a long duration, or has the potential for poor smoke dispersion, a smoke sensitive area could be impacted and Section A of the SMP should be completed. Burners may obtain Air District assistance in determining if Section A should be completed.

Procedures to Report Public Smoke Complaints to the Air District (CCR § 80160(l))

1. The applicant shall immediately report any air quality smoke complaints received about this burn project to the Air District. A phone call to the District during normal seasonal business hours will suffice. During non-business hours a fax or voicemail message will suffice [(760) 872-6109 (fax), 872-8211 (voice)].
2. The complaint report shall include the following: the location of the smoke impact, a short description of the smoke behavior including wind direction and speed, visibility, and public safety impacts if available

from the complainant.

- 3. The applicant shall inform the complainant that he or she may also contact the District directly and shall provide the District name, telephone number and address.
- 4. The applicant shall, in coordination with the Air District, seek resolution for all complaints, as necessary.

Natural Ignition on a No-burn Day (CCR § 80160(h))

When a natural ignition occurs on a no-burn day, the initial “go/no-go” decision to manage the fire for resource benefit will be a “no-go” unless:

- 1. After consultation with your Air District, the Air District decides, for smoke management purposes, that the burn can be managed for resource benefit; or
- 2. For periods of less than 24 hours, a reasonable effort has been made to contact the Air District, or if the Air District is not available, the Air Resources Board (ARB); or
- 3. After 24 hours, the Air District has been contacted, or if the Air District is not available, the ARB has been contacted and concurs that the burn can be managed for resource benefit. A “no-go” decision does not necessarily mean that the fire must be extinguished, but that the fire cannot be considered as a prescribed fire.

Holidays and Sundays Are No Burn Days for Prescribed Burning in the Great Basin Unified APCD (District Rule 411.C.17)

Prescribed burning is not allowed on Sundays, the last Saturday in April, or legal holidays, except for multi-day burns that cannot be reasonably treated on other days.

FOR GREAT BASIN UAPCD REVIEW
(For District Use Only)

___ I have reviewed and approved this SMP as a conditional approval, which expires on _____.

___ This burn project is greater than 250 acres and/or is a multi-day burn which requires ARB consultation prior to final approval pursuant to CCR § 80160(g).

Date ARB Notified: _____ Date ARB approval received: _____

Smoke from this fire is expected to impact the following non-attainment or maintenance areas:

Conditions of Approval:

Signature: _____

Date: _____

Name: _____

SMP Project Description
 (Complete This Page for ALL PRESCRIBED BURNS)¹

<p>1.1 Project Name: _____</p>	<p>Project Location: Report at least one of the following location descriptions and attach a map indicating the project location.</p> <p>1.8a Legal: T ___ R ___ S ___ M&B ___</p> <p>1.8b Lat/Long: Latitude ___ (deg.) ___ (min) ___ (sec) Longitude ___ (deg.) ___ (min) ___ (sec)</p> <p>1.8c UTM: Zone: ___ N ___ m, E ___ m</p>
<p>1.2 Applicant Name: _____</p>	
<p>1.3 Applicant Address:</p> <p>Street: _____</p> <p>City: _____</p> <p>State: _____ Zip: _____</p>	
<p>1.4 Applicant/Field Contact:</p>	<p>1.9 Project Elevation (feet above msl) Upper: _____ Lower: _____</p>
<p>1.5 24-hour Phone/Pager: _____</p>	<p>1.10 Land Owner</p> <p>Name: _____</p> <p>Street: _____</p> <p>City: _____ State: _____ Zip: _____</p>
<p>1.6 Project Location (Counties): _____</p>	
<p>1.7 Nearest Town(s): _____</p>	

- 1.11 Anticipated Time of Year for Burn (Month/Year): _____
- 1.12a Is the Primary Purpose of the Burn for Fire Hazard Reduction? _____
- 1.12b Burn Type (Check one): _____ Forest Management: _____ Range Improvement
 _____ Wildland Vegetation Management _____ Natural Ignition
- 1.13 For Range Improvement Burns Check Vegetation Management Objective:
 _____ Wildlife or Game Habitat Improvement _____ Livestock Habitat Improvement
 _____ Initial Establishment of an Agricultural Practice on Previously Uncultivated Land
- 1.14 Vegetation Type (Percentage): _____ Brush _____ Grass _____ Timber Litter _____ Timber Slash
 _____ Other (Describe): _____
- 1.15 Vegetation Condition: _____ Machine Pile Burn _____ Hand Pile Burn _____ Understory
 _____ Landing Pile Burn _____ Broadcast
- 1.16 Project Area: _____ (acres)
- 1.17 Number of Piles: _____
- 1.18 Average Pile Size: _____
- 1.19 Total Project Fuel Loading: _____ (tons vegetation)
- 1.20 Particulate Matter Emissions: _____ (tons PM10)
 (Use Emissions Factors Tables on pages 7-8 for assistance with emissions calculation)
- 1.21 Emission Factor Table Used or EPA-Approved Calculation Method: _____
- 1.22 Preferred Ignition Hours for the Fire: _____
- 1.22 Expected Burn Duration (ignition to complete extinction):
 Total Time: _____ (hours or days)
- 1.23 Fuel Drying Time and Conditions prior to ignition: _____
- 1.24 Limitations on Pile Size, Pile Number, and/or Acreage Limitations to Minimize Smoke (complete as appropriate): _____

It is the responsibility of the applicant to ensure that conditions of the SMP are met on the day of the burn. The applicant will obtain authorization to burn from the Air District contact listed below

¹ If your burn is less than 1 acre with less than one ton particulate matter emissions, and your burn will not impact any smoke sensitive areas, you may complete only this page. Attach appropriate SMP sections for all other burns.

no more than 24 hours prior to ignition.2

1.26 Air District: Great Basin Unified APCD	1.28 Contact:
1.27 Address: 157 Short Street	1.29 24-hour Telephone: (760) 872-8211
Bishop, California 93514	1.30 Fax: (760) 872-6109
	1.31 Email: greatbasin@qnet.com

The applicant will report public smoke complaints to the Air District per the procedures described in the General Information section of this SMP on page 1.

Check as Applicable:

- This burn could have an impact on smoke sensitive areas – I have filled out and attached all of Section A.**
- This burn could have an impact on smoke sensitive areas and Air District policies require that information on meteorological conditions for ignition and contingency planning be provided – I have filled out and attached line items B.1 and B.2 of Section B.**
- This burn is greater than 100 acres (or is estimated to produce greater than 10 tons of particulate matter) – I have filled out and attached all of Section B.**

Preparer’s Statement: To the best of my knowledge the information submitted in this application is complete and accurate.

SMP Preparation Date: _____

Preparer’s Name (print): _____

Title: _____

Preparer’s Phone: (_____) _____ - _____

Preparer’s Signature: _____ Date: _____

Name of Authorized Representative in Control of the Property,
if applicable (print): _____

Applicant or Authorized
Representative Signature: _____ Date: _____

SECTION A: AS REQUIRED BY TITLE 17 AND AIR DISTRICT POLICIES, THIS SECTION APPLIES TO ALL BURNS WITH THE POTENTIAL TO IMPACT SMOKE SENSITIVE AREAS (SSAs) *

A.1. Describe locations of SSAs and distances from burn site (miles) – (Also the attached Map#_____ shows SSAs)

A.2 The attached map# _____ provides smoke travel projections for: _____ Day _____ Night _____ Topographical considerations.

A.3 Has prescribed burning historically occurred in this area? _____ Yes _____ No
_____ Don't Know

A.4 If yes, were there impacts to smoke sensitive areas? _____ Yes _____ No
_____ Don't Know

A.5 If yes, please describe impacts:

A.6 For burns that will occur past daylight hours and/or for more than one day, please provide Air District contact information and a description of contact procedures that will be used to affirm that the burn project remains within the conditions specified in this SMP, and/or whether contingency actions are necessary. The applicant will follow any instructions by the Air District to communicate directly with ARB when necessary. Air District contact (or designee) _____

A.7a Telephone: (_____) _____ - _____

A.7b 24-hour Pager (_____) _____ - _____

A.7c Fax: (_____) _____ - _____

A.7d E-mail: _____

A.8 The applicant will use the frequency and method of contact described below:

The applicant will monitor the burn project for meteorological conditions and smoke behavior before, during, and after the burn using the following techniques and timing:

A.9 Weather Observation (Wind Direction, Wind Speed, and Temperature):

<u>Method</u>	<u>Details</u>
____ Belt Weather Kit	Location _____ Beginning _____ Interval _____ Ending _____
____ RAWS	Location _____ Beginning _____ Interval _____ Ending _____
____ Aircraft	Location _____ Beginning _____ Interval _____ Ending _____
____ Other	Location _____ Beginning _____ Interval _____ Ending _____
____ Additional Requirements:	_____

A.9 Smoke Behavior Observations:

<u>Method</u>	<u>Details</u>
____ Visual	Location _____ Beginning _____ Interval _____ Ending _____
____ Test Fire	Location _____ Beginning _____ Interval _____ Ending _____
____ Balloon	Location _____ Beginning _____ Interval _____ Ending _____
____ Aircraft	Location _____ Beginning _____ Interval _____ Ending _____
____ PM Monitoring Inst	Location _____ Beginning _____ Interval _____ Ending _____
____ Additional Requirements:	_____

A.11a The applicant shall begin public notification before the day of burning. The notification shall be on-going until the end of burning. Check which of the following procedures will be used to notify and educate the public about this burn project. ____Television ____Radio ____Newspaper ____Posters/flyers ____Telephone calls ____ Other (Explained in A.11b below)

A.11b The specifics of the notification procedure(s) checked above are as follows:

A.12 The applicant will place appropriate signage at or near burn sites to identify the burn project to the public as noted on the attached map#_____.

Adjacent Air Districts and neighboring state Air Districts which may potentially be impacted by smoke travel or which have previously been impacted by smoke from similar burn projects are listed below.

A.13 Air District Name: _____

A.14 Contact: _____

A.15 Address: _____

A.16 24-hour Telephone: _____

A.17 Fax: _____

A.18 Air District Name: _____

A.19 Contact: _____

A.20 Address: _____

A.21 24-hour Telephone: _____

A.22 Fax: _____

23 Neighboring State Air District Name: _____

A.24 Contact: _____

A.25 Address: _____

A.26 24-hour _____

Telephone: _____

A.27 Fax: _____

*** See General Information on page 1 for determining if your burn has the potential to impact a smoke sensitive area.**

**** Visual smoke observation refers to observations made through the eyes of designated individuals.**

SECTION B: AS REQUIRED BY TITLE 17 AND AIR DISTRICT POLICIES, THIS SECTION APPLIES TO ALL BURN PROJECTS GREATER THAN 100 ACRES OR PRODUCING MORE THAN 10 TONS OF PARTICULATE MATTER

B.1. Meteorological Conditions for Ignition

Source of Meteorological Information: _____

Surface Wind Direction:

Ideal: _____ Acceptable Range: _____ (degrees)

Surface Wind Speed:

Ideal: _____ Maximum: _____ Minimum: _____ (mph)

Transport Wind Direction:

Ideal: _____ Acceptable Range: _____ (degrees)

Relative Humidity:

Ideal: _____ Maximum: _____ Minimum: _____ (%)

Target Mixing Height Parameters: _____

Acceptable Temperature Range: _____ (degrees)

Other Considerations to Assure Acceptable Smoke Dispersion:

B.2a Describe contingency actions/methods/procedures applicant will take in the event that serious smoke impacts begin to occur or meteorological conditions deviate from those specified in this SMP (for example: stop ignitions, initiate mop-up, conduct fire suppression – describe in detail):

B.2b Describe any applicable interior unit contingency cutoff lines (refer to map# ____ as appropriate):

B.3 An evaluation of alternatives to burning is described below:

_____ It is a part of the environmental documentation required for the burn project pursuant to the National Environmental Policy Act or the California Environmental Quality Act and is either attached to this SMP, is on file with the Air District, or is provided for as agreed to by the Air District. Document location:

_____ Neither a National Environmental Policy Act or the California Environmental Quality Act assessment of alternatives has been performed. Alternatives to reduce fuel load are described in section B.4 – B.9 below.

B.4 Alternatives Considered:

B.5 Alternatives Rejected and Reasons for Rejection:

B.6 Alternatives Used, and Tons of Vegetative Material Treated With Each Alternative:

B.7 Particulate Reduction for Each Alternative Used (tons):

B.8 Total Particulate Reductions from Alternatives Used:

B.9 If this project is greater than 250 acres or smoke impacts occur, the applicant will provide a completed Post Burn Evaluation Form (see page 11) to the Air District within 30 days of project completion.

B.10 For burns greater than 250 acres, Sections A.9 and A.10 describe the site monitoring requirements.

**Post-Burn Evaluation
For Burns Greater Than 250 Acres
or Burns For Which Complaints or Smoke Impacts Occurred***

Section A. General Information:

Date of Burn: _____ Burn Location: _____
Number of Acres Burned: _____ Estimated Actual PM Emissions: _____ (tons)
Burner Name: _____
Burner Address: _____
Burner Phone Number: _____
Burner Email: _____

- 1. Did the burn remain within the conditions specified in the Smoke Management Plan? _____
- 2. Were there any complaints or adverse smoke impacts? _____ If so, complete Section B below.
- 3. Lessons learned (Optional) (Provide attachment if desired):

Section B. For Burns That Had Smoke Impacts, Complete The Following:

- 1. Describe adverse smoke impacts below (add attachment if needed):

- 2. Were there any complaints from the public? _____ If so, how many and from whom:

- 3. What Air Districts were Notified (who, when, and at what phone number(s))?

- 4. Lessons learned (add attachment if needed):

- 5. Attach all smoke observation and weather data collected before, during, and after the burn. See collection methods checked in sections A.9 and A.10 of the burn plan for relevant data.

* As required by title 17 and air district policies.

Table 1 PM-10 EMISSIONS CALCULATIONS FOR PILES

1. Choose the pile size most representative of the piles on your burn site.
2. Multiply the number of piles in your project with the corresponding "Tons of PM10/Pile" value to get the total PM-10 tonnage.

PM10 EMISSIONS FOR SPECIFIED PILE SIZES		
PILE SIZE (in feet)	Pile Tonnage	TONS OF PM10/PILE
4' diameter x 3' height	0.056	0.0005
5' diameter x 4' height	0.12	0.001
6' diameter x 5' height	0.21	0.002
8' diameter x 6' height	0.45	0.004
10' diameter x 6' height	0.71	0.007
12' diameter x 8' height	1.3	0.01
15' diameter x 8' height	2.1	0.02
20' diameter x 10' height	4.7	0.04
25' diameter x 10' height	7.4	0.07
50' diameter x 10' height	29	0.3
Pile Tonnage calculated using paraboloid volume formula ^a multiplied by 30 lbs/cu.ft, multiplied by 0.2 packing ratio ^b		
U.S. Forest Service's Conformity Handbook, Table 6 -- PM10 Emissions Factor of 19.0 pounds/ton of fuel burned - average pile and burn slash		
Revised 2/13/2001		

- a. Formula used for Paraboloid Volume (cu.ft.) = 3.1416 x [height x (diameter)²]/8 (see Reference b. below).
- b. USDA (2/1996). Forest Service General Technical Report. Report Number: PNW-GTR-364.

Table 2 PM 10 EMISSION CALCULATION FOR BURNING OF MULTIPLE FUEL TYPES^{1,2}

Section 80160 (b) of Subchapter 2 Smoke Management Guidelines for Agricultural and Prescribe Burning, Title 17, California Administrative Code states, "requires the submittal of smoke management plans for all burn projects greater than 10 acres in size or estimated to produce more than 1 ton of particulate matter". To determine what the particulate matter (PM 10) amount is of your burn project please use the equation below and review the following examples.

Information needed for PM 10 Calculations:

- a. VT = Vegetation type
- b. ACRES VT = Estimated number of acres for VT
- c. FL est. = Estimated fuel loading in VT TONS per ACRE
- d. EV = PM10 emission/ton of fuel

Calculating PM10 Emissions from Prescribed Burning of multiple vegetation types:

PM10 ton(s) emissions per VT = (number of acres VT) (FL tons per acre) (Emission Value (EV)) = _____ ton(s)/VT
 PM10 ton(s) emissions per VT = (number of acres VT) (FL tons per acre) (Emission Value (EV)) = _____ ton(s)/VT
Sum Total is the Estimated PM 10 for the project = _____ ton(s)/project

VEGETATION TYPE(S)	ACRES (VT) x	FL est. x	EV ¹	PM10 EMISSIONS (ton(s))
Basing Sage/Low Sage	(____) x	(____) x	(0.010) =	_____
Ceanothus	(____) x	(____) x	(0.010) =	_____
Chamise	(____) x	(____) x	(0.009) =	_____
Giant Sequoia	(____) x	(____) x	(0.007) =	_____
Grass/Forb	(____) x	(____) x	(0.007) =	_____
Hackberry Oak	(____) x	(____) x	(0.005) =	_____
Hardwood (Stocked)	(____) x	(____) x	(0.003) =	_____
Hardwood (Non-stocked)	(____) x	(____) x	(0.003) =	_____
Jeffrey Pine/Knobcone	(____) x	(____) x	(0.007) =	_____
Live Oak (Canyon)	(____) x	(____) x	(0.007) =	_____
Live Oak (Interior)	(____) x	(____) x	(0.007) =	_____
Lodgepole Pine	(____) x	(____) x	(0.007) =	_____
Manzanita (Productive Brush)	(____) x	(____) x	(0.009) =	_____
Mixed Chaparral/Montane	(____) x	(____) x	(0.008) =	_____
Mixed Conifer	(____) x	(____) x	(0.006) =	_____
Oak (Black)	(____) x	(____) x	(0.005) =	_____
Oak (Blue)	(____) x	(____) x	(0.003) =	_____
Oak (White)	(____) x	(____) x	(0.003) =	_____
Pinyon Pine	(____) x	(____) x	(0.007) =	_____
Ponderosa Pine, Gray Pine	(____) x	(____) x	(0.007) =	_____
Red Fir	(____) x	(____) x	(0.007) =	_____
Wet Meadow	(____) x	(____) x	(0.004) =	_____
Willow	(____) x	(____) x	(0.007) =	_____
Sum Total of the Estimated PM10 for the project in <u>tons/project</u>				= _____

1. See Table 3 on next page for values used to calculate EVs.
2. For vegetation types not listed, contact Air District for assistance with determining appropriate emission factors.

Table 3

EMISSION VALUES (EVs) FOR BURNING OF MULTIPLE VEGETATION TYPES*

Calculation of PM10 emission values = (% combustion) x (PM10 emission lbs/ton) x (1 ton/2000 lbs)*

VEGETATION	%Combustion	PM Emissions (lbs/ton fuel)	Conversion Factor	PM EMISSION VALUE (PM10 ions emissions/ton fuel)
Basing Sage/Low Sage	= (1.0) x	(20.17 lbs/ton)	x (1 ton/2000 lbs)	= 0.010
Ceanothus	= (1.0) x	(20.17 lbs/ton)	x (1 ton/2000 lbs)	= 0.010
Chamise	= (0.9) x	(20.17 lbs/ton)	x (1 ton/2000 lbs)	= 0.009
Giant Sequoia	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Grass/Forb	= (1.0) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Hackberry Oak	= (0.4) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.005
Hardwood (Stocked)	= (0.4) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.003
Hardwood (Non-stocked)	= (0.4) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.003
Jeffrey Pine/Knobcone	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Live Oak (Canyon)	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Live Oak (Interior)	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Lodgepole Pine	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Manzanita (Productive Brush)	= (0.9) x	(20.17 lbs/ton)	x (1 ton/2000 lbs)	= 0.009
Mixed Chaparral/Montane	= (0.8) x	(20.17 lbs/ton)	x (1 ton/2000 lbs)	= 0.008
Mixed Conifer	= (0.6) x	(20.5 lbs/ton)	x (1 ton/2000 lbs)	= 0.006
Oak (Black)	= (0.4) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.005
Oak (Blue)	= (0.4) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.003
Oak (White)	= (0.4) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.003
Pinyon Pine	= (0.6) x	(22 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Ponderosa Pine, Gray Pine	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Red Fir	= (0.6) x	(23.1 lbs/ton)	x (1 ton/2000 lbs)	= 0.007
Wet Meadow	= (0.6) x	(15 lbs/ton)	x (1 ton/2000 lbs)	= 0.004
Willow	= (0.6) x	(25 lbs/ton)	x (1 ton/2000 lbs)	= 0.007

* Percent combustion and PM10 emission factors for various fuel types derived from Table 8, Section 6, "Air Quality Conformity Handbook" from the USDA-Forest Service Air Resources / Fire Management Pacific Southwest Region dated November 1995.

** These are the vegetation's estimated emissions values(EV) from the vegetation type as determined above to be use when the burn operator provides the vegetation's fuel loading estimate per acre.

*** For additional information on emissions factors, see EPA document AP-42: "Compilation of Air Pollutant Emission Factors. Volume 1: Stationary Point and Area Sources," Fifth Edition, AP-42, January 1995, U.S. EPA. Table 2.5-5.