

# Air Quality Regulations on Burning

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New Mexico  
Environment Department

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# Why an SMP?

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- Clean Air Act (U.S. Congress)
  - Specifies Air Quality Standards for Pollutants to protect human health
  - Specifies that visibility needs to be improved in certain pristine areas (includes Pecos Wilderness)
- Regional Haze Rule (U.S. EPA)
- New Mexico Air Quality Requirements
  - Air Quality Control Act (statute)
  - New Mexico Administrative Code (regulation)

# SMP Benefits

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- Comply with Current Requirements (US & NM)
- Protect Air Quality (Pollutants & Visibility)
- Recognize the role of fire
  - Part of Ecosystem Health
  - Tool to promote Land Management Objectives
    - Public Lands
    - Private Lands
    - Agricultural Purposes

# What are the Objectives?

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- ❑ Equitable among all the different burners, while flexible so as to recognize differences & the nature of fire
- ❑ Ease & Clarity of Implementation and Administration (esp. between Open Burn & SMP)
- ❑ Represent Best Available Technology & Science
- ❑ Equity between Smoke & Other Sources of air pollution

# How the SMP Was Developed

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- Over a six-month period, involving stakeholders with fire and/or air quality expertise, representing:
  - Federal & State land managers
  - Private land owners (ranching & agriculture)
  - Tribes
  - Environmental and public health interests
- Using SMPs from other states and Policy guidance from EPA and WRAP

# What is and is not allowed to be burned?

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## ❑ Not allowed:

- Treated wood such as railroad ties, plywood, particle board, etc.
- Garbage including household waste

## ❑ Allowed:

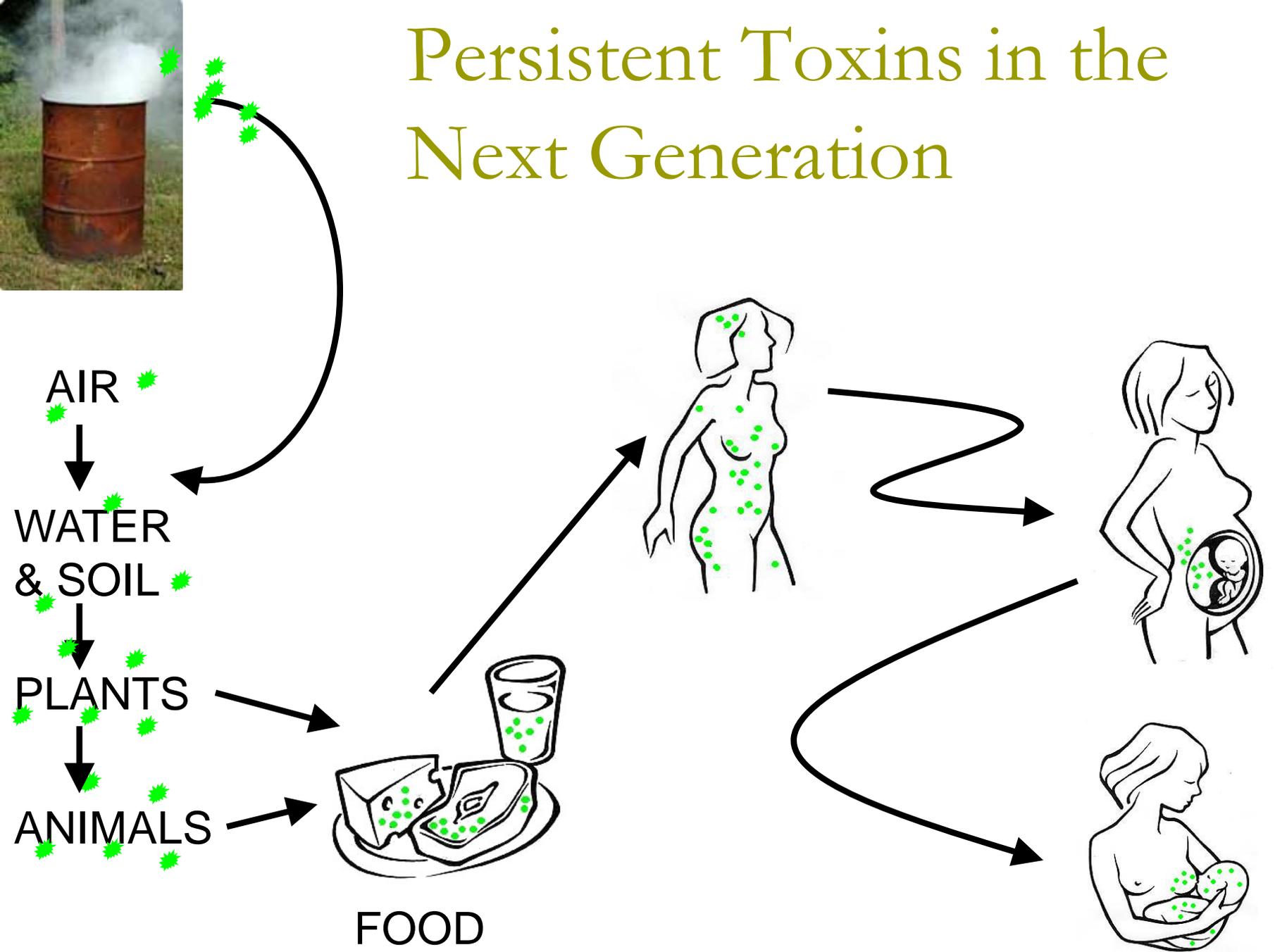
- Vegetative material: Untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, shavings, grass, grass clippings, leaves, conifer needles, bushes, shrubs, clippings from bushes and shrubs, and agricultural plant residue

# Why is burning garbage prohibited?

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- Household Waste (burn barrels)
  - Based on serious concerns about health effects of dioxins, PCBs, other persistent toxins
  - These toxins disperse widely, get in food supply, accumulate in people over lifetime, fetal exposure causes developmental problems
  - One burn barrel produces as much dioxin as modern solid waste incinerator serving thousands of households

# Persistent Toxins in the Next Generation



# Ash from Trash Burning: Can be a concentrated source of toxins

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- ❑ Persistent toxins & metals: about 1/3 stays in ash = concentrated source
- ❑ Children play in ash, hands to mouth
- ❑ Ash on vegetable gardens = high concentration in food
- ❑ Ash gets into stock pond = toxins get into livestock, food

# Why does the State regulate burning of vegetation?

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## □ Public Health

- Components of smoke are harmful, especially to sensitive groups
- Notification requirements allow people to take care of their own health

## □ Visibility

- Smoke contributes to hazy skies
- Regulations encourage use of emission reduction techniques and alternatives to burning

# What the program is NOT

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- ❑ Concerned with Fire Safety
  - That is addressed elsewhere: local fire departments, county, State Forestry, federal land managers, etc.
- ❑ Regulating the Use of Fire
  - Rather, the SMP regulates SMOKE and its control and management to the maximum extent feasible
- ❑ Perfect
  - SMP represents best current compromise on many conflicting issues for the greatest overall good

# Requirements for burning <10 acres or 1000 cubic feet of piles

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- ❑ Burning up to 10 acres or 1,000 cubic feet piled material per day of vegetation
  - Must be 300' from nearest occupied residence
  - Can only burn from 1 hour after sunrise to 1 hour before sunset
  - Fire must be extinguished by 1 hour before sunset
  - Must notify local fire authority; if >1 acre or <100 cu ft notify neighbors w/in ¼ mile
  - Must be in attendance at all times
  - Material must be as dry as is practical
  - Burner must consider alternatives to burning

# Requirements for burning >10 acres or 1000 cubic feet of piles

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- ❑ Burn registration, notification & tracking
- ❑ Consider alternatives to fire and use of emission reduction techniques
- ❑ Use of weather to promote smoke dispersion
- ❑ Visual monitoring of smoke
- ❑ Notification of the public of some burns
- ❑ Smoke Management Education

# Open Burning vs. Smoke Management Regulations

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Amount burned per day determines which regulation applies:

- ❑ Open Burning: 10 acres or less (if piles, 1,000 cu. ft. or less of pile volume)
- ❑ Smoke Management: more than 10 acres or 1,000 cu. ft. OR if burner opts
  - SMP has 2 levels: smaller vs. larger amount burned per day

# SMP Thresholds: SMP I

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- More than Open Burning AND less than 1 ton of emissions per day
- From 1000 to 5000 cubic feet of total pile volume per day



# SMP I Applies *if* you burn this much per day:

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- Convert acreages and pile volumes to total emissions (< 1Ton):
  - Field Crops 11-64 Acres
  - Shrub Land 11-33 Acres
  - Forest 11-22 Acres
  - Grass 11-99 Acres
  - Piled Material 1001 – 4999 cu. ft.

# SMP Thresholds: SMP II

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- Emissions equal to or greater than 1 ton per day
- Pile volume equal to or greater than 5000 cubic feet per day



# SMP II Applies *if* you burn this much or more per day:

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- Convert acreages and pile volumes to total emissions (> 1 Ton):
  - Field Crops  $\geq$  65 Acres
  - Shrub Land  $\geq$  34 Acres
  - Forest  $\geq$  23 Acres
  - Grass  $\geq$  100 Acres
  - Piled Material  $\geq$  5000 cu. ft.

# SMP I & II Requirements

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- ❑ Burn registration, notification & tracking
- ❑ Consideration of alternatives to fire and use of emission reduction techniques
- ❑ Use of weather to promote smoke dispersion
- ❑ Visual monitoring of smoke
- ❑ Notification of the public of some burns
- ❑ Smoke Management Education

# Registration

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- ❑ Permit-by-Rule: Burn okay if within SMP requirements
- ❑ Burner submits Registration Form beginning of year (and a minimum of two weeks in advance of the burn for SMP II, one day prior for SMP I)
- ❑ Simple form that captures information most burners already have
- ❑ State coordinate burns within airshed to ensure smoke is not excessive. Burners coordinate through Zone Smoke Management Plans

# Notification (SMP II only)

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- Burner submits notification information at least one (1) day prior to burn project
  - Burn project name
  - Burn project ID number (issued by the AQB)
  - Date of planned burn
  - The maximum acres, or pile volume, to be burned on that day
- Burner must notify AQB of each day of burning

# Tracking

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- All burners (both SMP I & II) submit simple tracking form no later than 2 weeks after the burn project is complete for the year
- Provides basis for Emissions Inventory, which will inform the SMP evaluation process and drive revisions.
- Also enables the development of an annual emission goal.

# Alternatives to Fire

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- ❑ Any method of removing or reducing fuels by mechanical, biological or chemical treatments. Would take the place of fire for at least 3 years
- ❑ SMP I: voluntary consideration of alternatives
- ❑ For SMP II: document and explain non-use of alternatives.

# Emission Reduction Techniques

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- ❑ Any burning techniques that reduce the actual amount of emissions produced from fire
- ❑ SMP I: Voluntary consideration of emission reduction techniques
- ❑ SMP II: Document and explain use of emission reduction techniques. One required unless waiver is obtained
- ❑ Examples include:
  - Burn in late winter before green up
  - Burn when target materials are dry
  - Remove some materials for other uses; e.g., firewood/chip or shred for mulch
  - Burn piles instead of broadcast
  - Rapid mop-up

# Smoke Dispersion

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- ❑ Using meteorological conditions to assess the ability to minimize smoke impacts
- ❑ SMP I: Ignition only between sunrise and sunset (or follow SMP II)
- ❑ SMP II: Determine ventilation index using National Weather Service fire weather forecast – burn only in “Good” to “Excellent” conditions.

# Smoke Dispersion

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<b>VENTILATION ADJECTIVE RATING</b>	<b>KNOT FEET</b>
EXCELLENT	> 150,000
VERY GOOD	100,000 – 149, 999
GOOD	60,000 – 99,999
FAIR	40,000 – 59,999
POOR	< 39,999

# Visual Monitoring

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- ❑ Observations and/or equipment that enable an assessment of air quality impacts of smoke from fires.
- ❑ SMP I: Voluntarily conduct visual monitoring; if less than 1 mile to smoke sensitive receptor, conduct visual monitoring and keep log book
- ❑ SMP II: Conduct visual monitoring and keep log book
- ❑ Visual monitoring forms on smoke web page

# Public Notification

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- ❑ Any method that communicates burn information to the burn community, to air regulators and to the general public
- ❑ SMP I: Public Notification if within 1 mile of population; notify local fire department
- ❑ SMP II: Public Notification if within 15 miles of population; notify local fire department

# Public Notification

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## EXAMPLES MAY INCLUDE:

Press releases

Signs in neighborhoods that could be affected

Mailings

Flyers with information

One-on-one contacts

Door hangers

Public meetings

Home Owner Associations

Website

# Smoke Management Education

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- AQB provides educational materials for burners review
  - Smoke impacts on air quality
  - Emission reduction techniques
  - Alternatives to fire
  - Visual monitoring
  - Training on using the SMP
- Brochures and web accessible
- Other training may be used to meet this requirement, for example RX-410

# Statewide Waivers

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- ❑ Statewide Waivers for burning under less than Good ventilation are in effect
- ❑ Must follow all requirements in the waivers for less than Good ventilation

# Contact Info

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- ❑ Hotline: (800) 224-7009
- ❑ Direct number: (505) 476-4330
- ❑ Website: <http://www.nmenv.state.nm.us/aqb>;  
follow link to smoke management program
- ❑ Email address: [NMENV.smoke@state.nm.us](mailto:NMENV.smoke@state.nm.us)
- ❑ Street Address: 1301 Siler Rd., Bldg. B, Santa Fe, NM 87507

Questions / Comments?

