

Idaho Department of Environmental Quality

Prescribed Fire Negotiated Rulemaking

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Purpose of Prescribed Fire Negotiated Rulemaking

DEQ initiated this rulemaking to update the rules applicable to prescribed burning to ensure that smoke from this type of burning is properly managed and public health is protected. With the increase in the use of prescribed fire, the management of smoke from it is becoming more important.



Prescribed Fire



Image: <http://www.forestry.ok.gov/rxfire-preparation>

Idaho Department of Environmental Quality



Benefits of Prescribed Fire

- Fire Safety
- Improvement of forage opportunities and nutrient cycling
- Forest resiliency
- Restore forests
- Maintain wildlife habitat and forest structure



Fire Safety

- Idaho has a large forest product industry, some of which is located near communities
 - Harvest activity leads to large amount of slash
 - Idaho requires slash be “treated”
- If left untreated, high levels of slash could contribute to large, catastrophic wildfires
- In addition, there is significant overgrowth of forests that puts us in danger of catastrophic wildfires
- Treatment options can include: mechanical, chemical, and prescribed burning



Improving Forage Opportunities

- Increases amount of readily available forage
- Clears areas to allow for animals to graze in open spaces to decrease threat of predation

Nutrient Cycling

- Fire speeds decomposition to provide nutrients



Forest Resiliency

- Control disease
- Resiliency to drought
- Resiliency to climate change



Forest Restoration

- Restores forests to a naturally diverse, healthy, and resilient landscape

Maintain Habitat and Structure



Idaho Forests

There are over 21 million acres of forested land in Idaho providing wildlife habitat, recreational areas, and over \$2 billion in forest product industry revenue (2017).

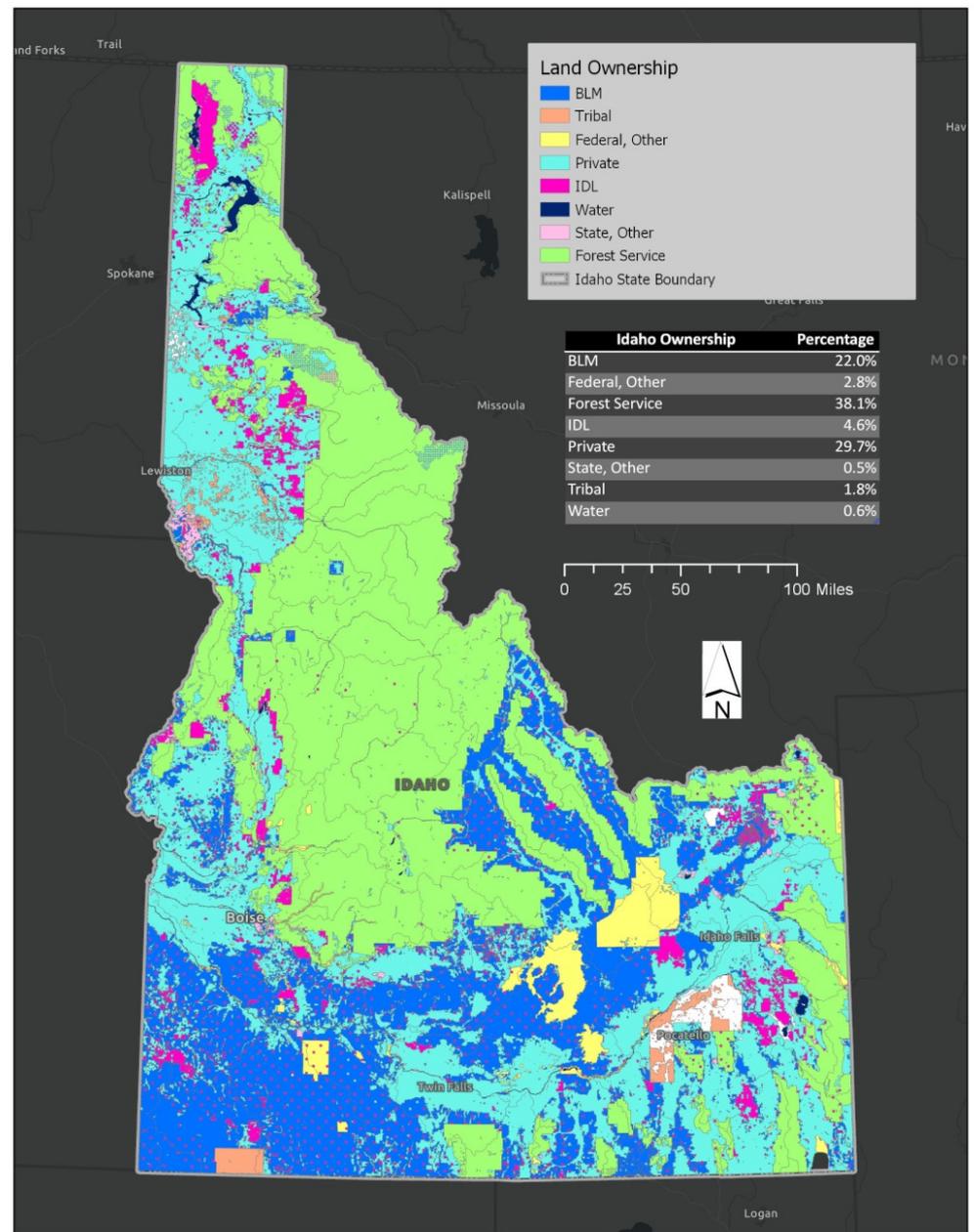


Idaho Rangeland

There is approximately 22 million acres of rangeland. 66% of this land is “public land” – owned and managed by federal and state governments for the good of the general public. Valuable for livestock production, wildlife habitat, and recreation.



Land Ownership in Idaho



State Land Management Perspective

- Josh Harvey, Idaho Department of Lands



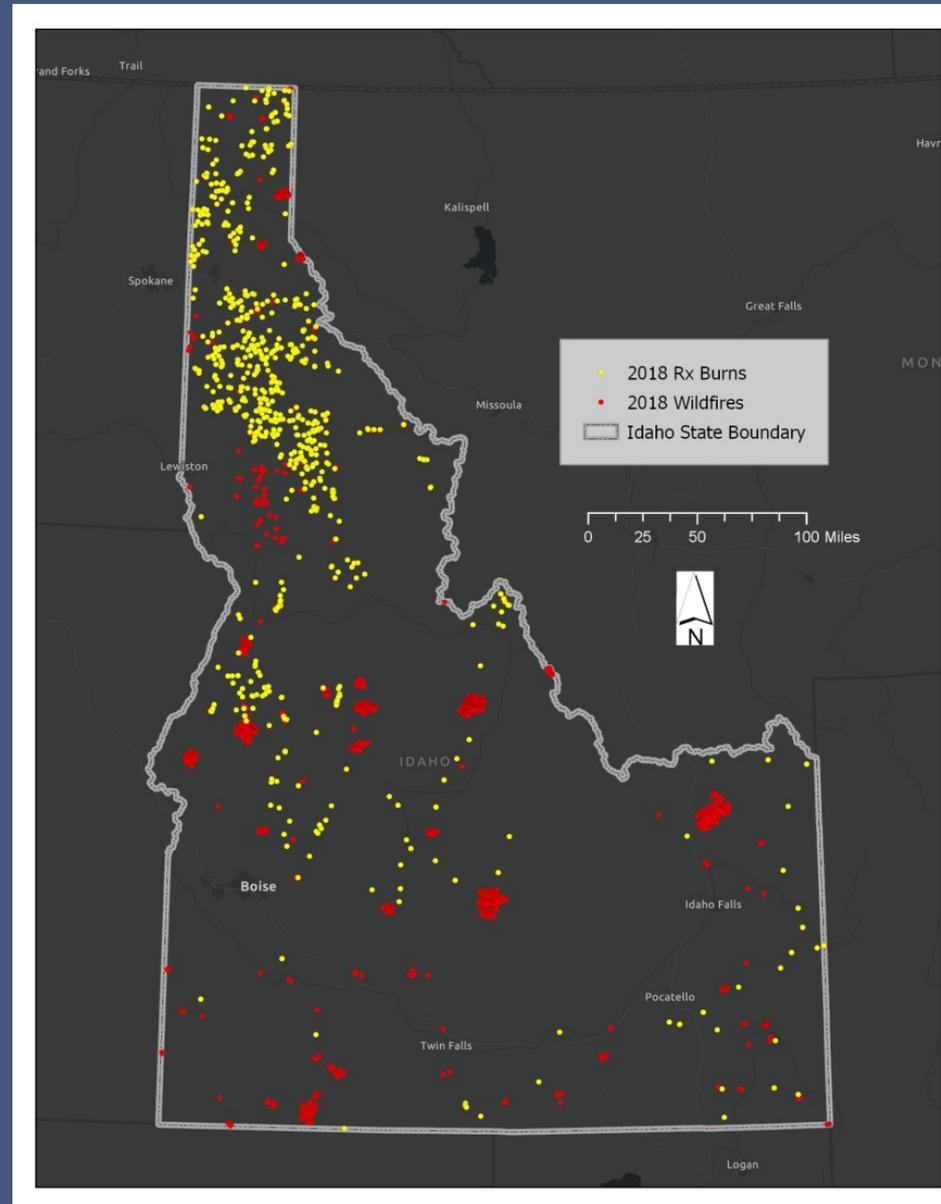
Federal Land Management Perspective

- Lonnie Newton, BLM
- Presentation!



Fires in Idaho

Prescribed
fire burned
a total of
62,808
acres in
2018.



Wildfire
burned
566,000
acres in
2018.

Prescribed Fire In Idaho

Total Acres Proposed (Statewide)	130,458 acres
Total Acres Completed (Statewide)	62,808 acres
Total Acres Approved but not Completed (Statewide)	67,650 acres

North Idaho	36,399
South Idaho	26,409

Natural Fuels*	26,761 acres	242 burns completed
Activity Fuels**	36,047 acres	925 burns completed

BLM	865
DF Development	5,558
Hancock	901
IDL	11,377
Inland Empire	289
Molpus	1,306
Potlatch	9,155
Stimson	2,981
UI	42
US Fish & Wildlife	2,411
USFS	27,923

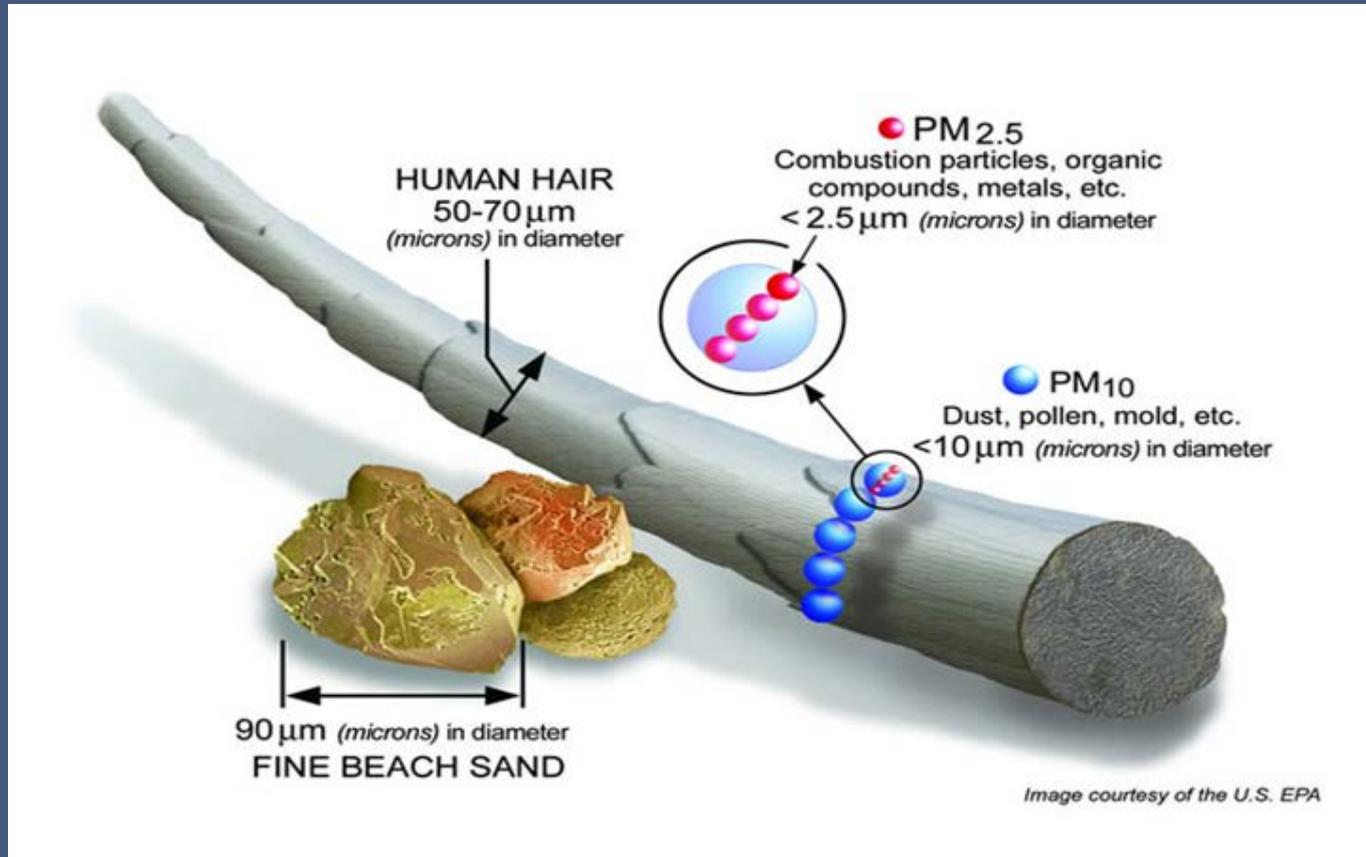
*(broadcast, understory, range, wildlife habitat)

** (dozer, hand piles, jackpot, landings, mechanical, right of way)



PM2.5 Pollution

annual: $12 \mu\text{g}/\text{m}^3$
24-hr: $35 \mu\text{g}/\text{m}^3$



Emissions in Idaho

In 2017, wildfires produced **111,000** tons of PM 2.5 emissions.

In 2017, prescribed fire activity produced **17,607** tons of PM 2.5 emissions.

The crop residue burning program reported **1,275** tons of PM 2.5 emissions produced from burning 36,737 acres outside of reservation boundaries in 2017.

In contrast, also in 2017, mobile and industrial sources produced **4,875** tons of PM 2.5 emissions.



Potential for Other Unaccounted Burning

- Over 2 million acres of forested land are owned by ~34,000 private families
- Possible case scenario – 167,190 tons of material burned but not accounted for



Why do we need to manage smoke from prescribed fire?

- Reduce Emissions
- National Ambient Air Quality Standards (NAAQS)
- Non-Attainment Areas
- Public Health Risk of Smoke



Clean Air Act and NAAQS

EPA is required to set National Ambient Air Quality standards (NAAQS) for wide-spread pollutants from numerous and diverse sources considered harmful to public health and the environment

NAAQS were established to protect public health

Particulate matter is the pollutant of most concern

Responsibility is delegated to the states

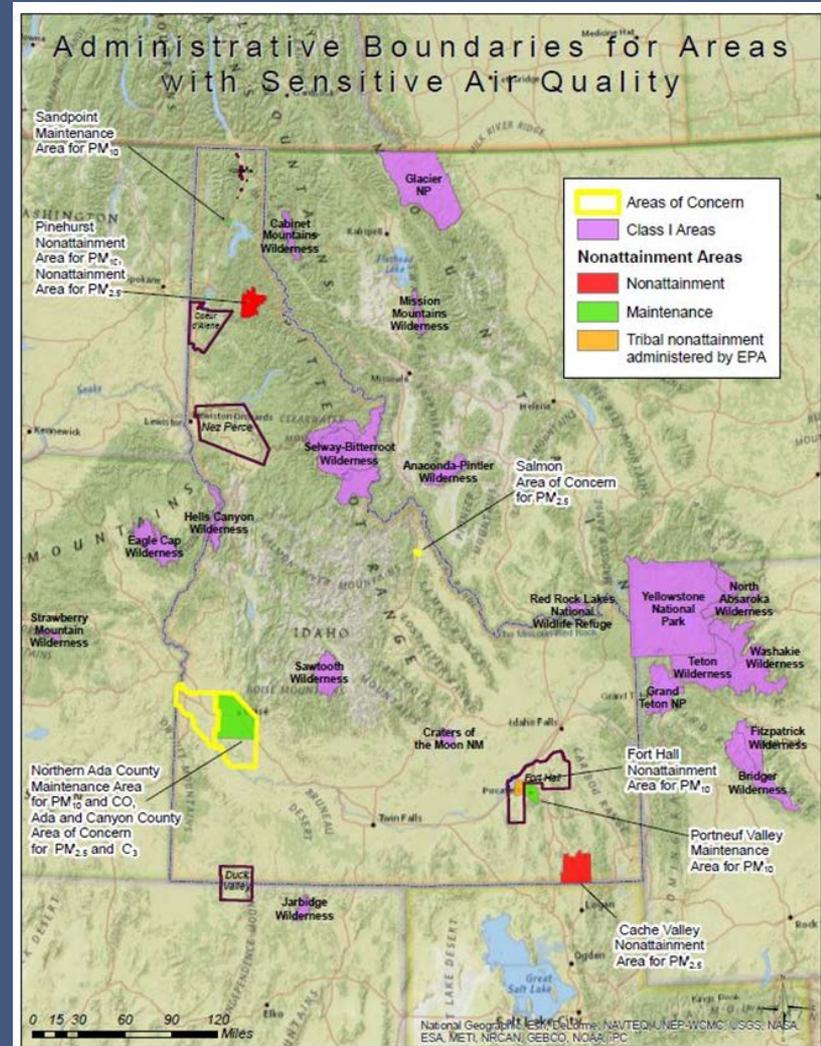
- develop plans
- develop rules



NAAQS and Non-Attainment

Protecting the NAAQS protects public health.

Violating these standards can lead to a non-attainment designation.



DEQ Authorities

- Idaho Code 39-105(3)(d)
 - Safeguard air quality and limit and control the emission of air contaminants
- Clean Air Act
 - All federal agencies are required to comply with Clean Air Act regulations
 - States are given responsibility of developing plans and implementing rules



IDAPA 58.01.01. 614

- 614 - PRESCRIBED BURNING. The use of open outdoor fires to obtain the objectives of prescribed fire management burning is an allowable form of open burning when the provisions of Section 614 are met.



How do Idaho's air quality rules define prescribed fire?

IDAPA 58.01.01.006.91

- “The controlled application of fire to wildland fuels in either their natural or modified state under such conditions of weather, fuel moisture, soil moisture, etc., as will allow the fire to be confined to a predetermined area and at the same time produce the intensity of heat and rate of spread required to accomplish planned objectives, including:



How do Idaho's air quality rules define prescribed fire?

Cont.

- Fire hazard reduction;
- The control of pests, insects, or diseases;
- The promotion of range forage improvements;
- The perpetuation of natural ecosystems;
- The disposal of woody debris resulting from a logging operating, the clearing of right of way, a land clearing operating, or a driftwood collection system;
- The preparation of planting and seeding sites for forest regeneration; and
- Other accepted natural resource management purposes”



IDAPA 58.01.01. 614.01

Burning Permits or Prescribed Fire Plans

- 614.01
 - A. Whenever a burning permit or prescribed fire plan is required by the Department of Lands, U.S.D.A. Forest Service, or any other state or federal agency responsible for land management, any person who conducts or allows prescribed burning shall meet all permit and/or plan conditions and terms which control smoke.
 - B. The Department will seek interagency agreements to assure permits or plans issued by agencies referred to in Subsection 614.01.a. provide adequate consideration for controlling smoke from prescribed burning.



IDAPA 58.01.01. 614.02

Smoke Management Plans for Prescribed Burning

- 614.02
 - A. Whenever a permit or plan is not required by the Department of Lands, U.S.D.A. Forest Service, or any other state or federal agency responsible for land management, any person who conducts or allows prescribed burning shall meet all conditions set forth in a Smoke Management Plan for Prescribed Burning.
 - B. The Department will develop and put into effect a Smoke Management Plan for Prescribed Burning consistent with the purpose of Sections 600 through 616.



Questions from the prior slides?

- Benefits to fire
- Other perspectives
- Burning in Idaho
- Current regulations and Rules



Health Impacts of Smoke

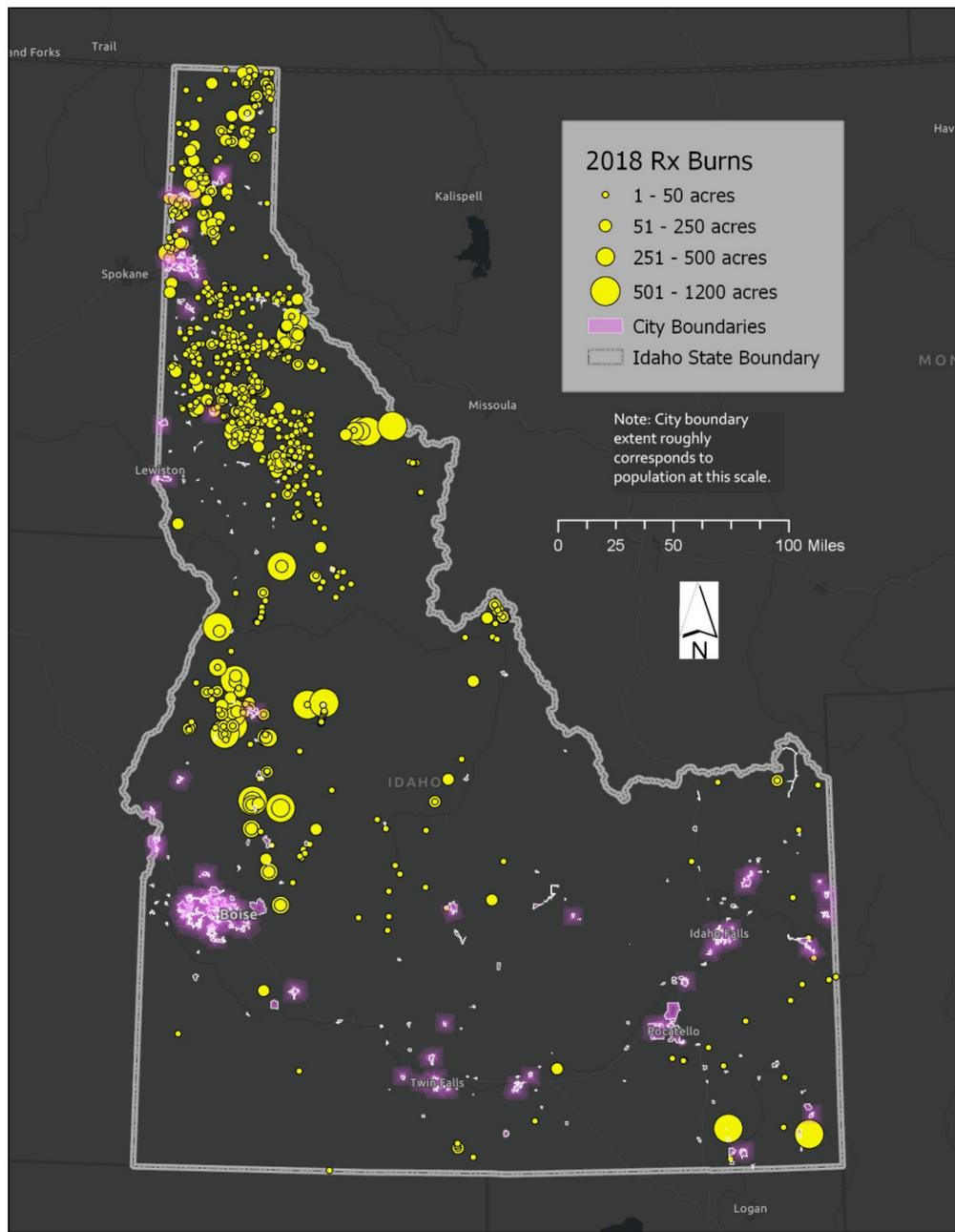
Particles less than 2.5 micrometers or less are of concern.

The smaller particle, the easier it passes through the lungs into the bloodstream

Causes respiratory difficulty and aggravates existing lung and heart disease

Increased risk of hospital admissions and premature death in those with existing heart and lung disease





Smoke and Public Health



Smoke and Public Health

- All fire produces smoke and therefore dangerous PM2.5 emissions
- Smoke = pollution = public health risk
- DEQ's mission is to protect human health and the quality of Idaho's air, land, and water



Current State of Prescribed Fire in Idaho

- IDAPA
- Outdoor Burning Map
- MT/ID Airshed Group
- Fire Safety Season
- Gaps in knowledge



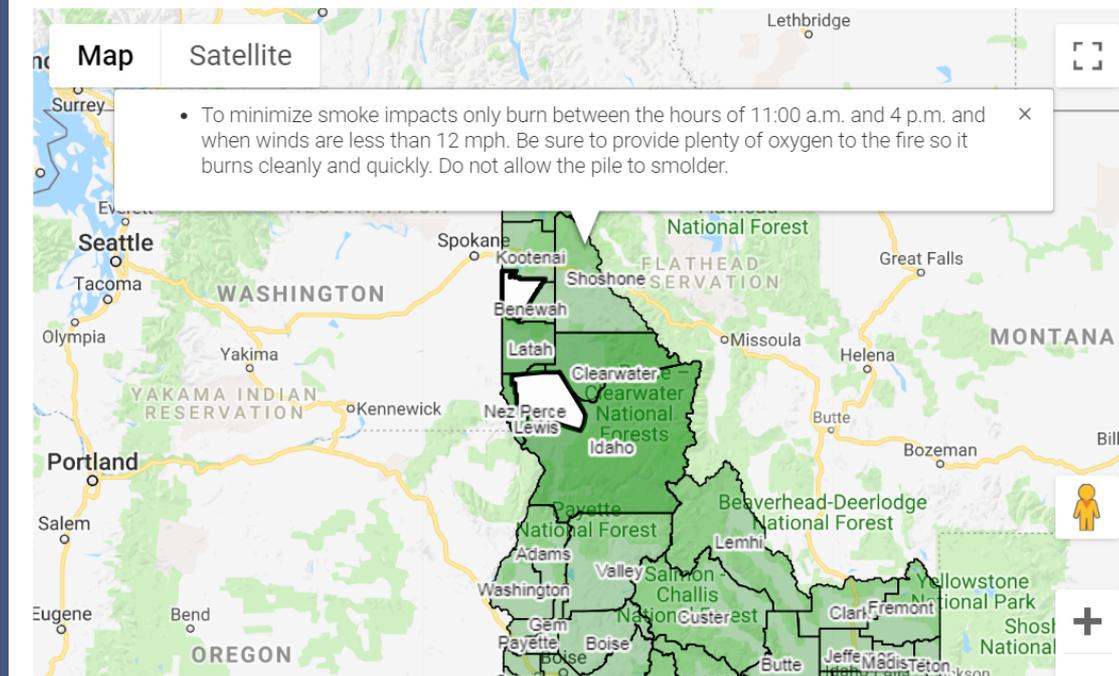
Outdoor Open Burning Map

Idaho DEQ Outdoor Open Burning Restrictions By County

Date Last Updated: 02/05/2019 8:47 AM

Boise Region ▾ Coeur d'Alene Region ▾ Idaho Falls Region ▾ Lewiston Region ▾ Pocatello Region ▾ Twin Falls Region ▾ Current Air Quality

Click on county of interest to view special messages.



- This map may contain burn information from multiple agencies. DEQ restrictions are in accordance with IDAPA 58.01.01.550-562, 600-624 or local outdoor open burning ordinances.
- It is your responsibility to ensure no additional burn restrictions are currently in place prior to burning.
- Contact your local fire district or sheriff's office prior to ignition. Visit the [Idaho Department of Lands](#) web site for fire safety burn restriction information.
- Advanced registration with DEQ is required before conducting crop residue burning. Visit [DEQ's Crop Residue Burning](#) to see requirements and apply for a permit.
- For daily updates on Air Quality Forecasts, Residential Wood Burning Conditions, Real-time Air Quality Conditions and Trends, please visit our [Daily AQ Forecast and Burn Conditions](#) page.

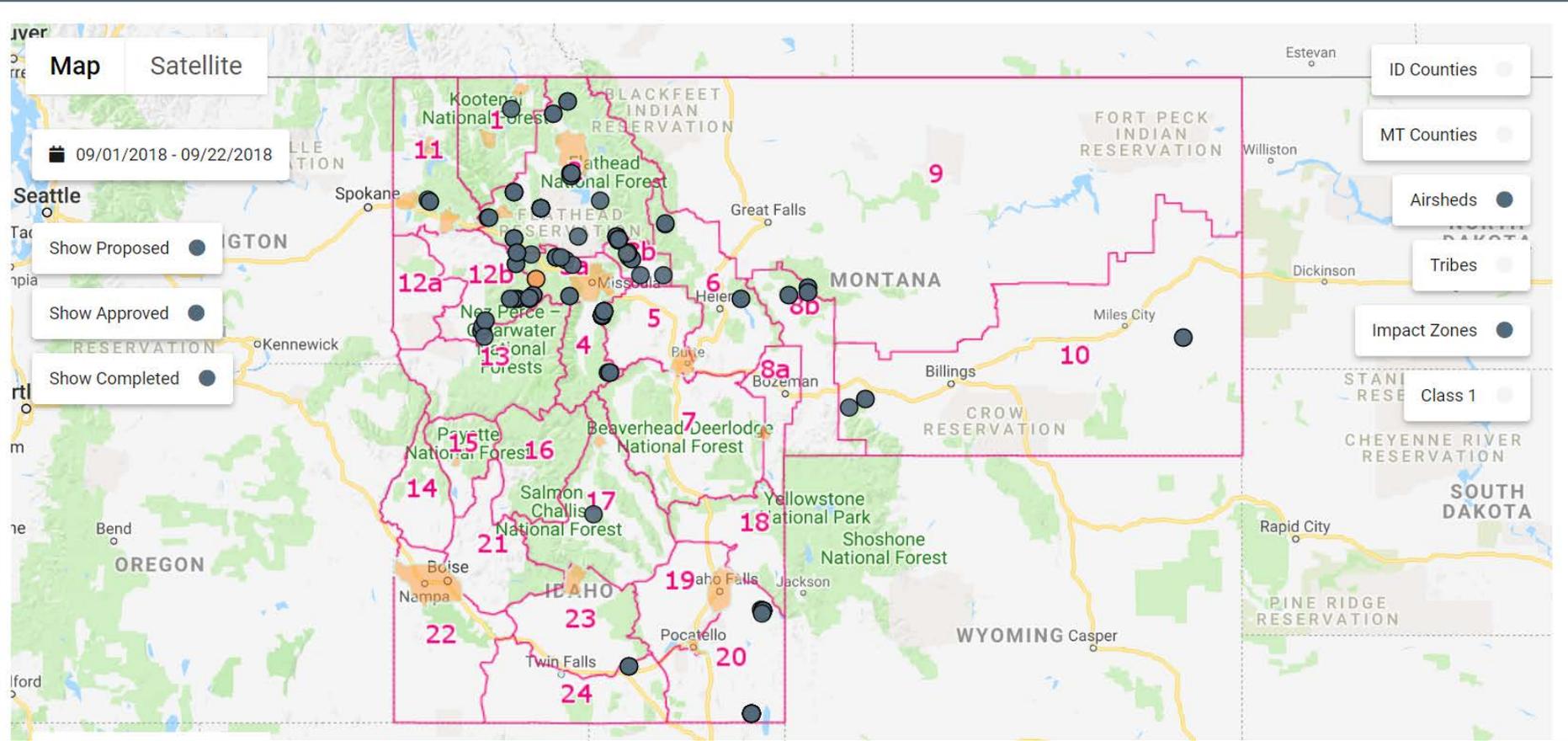


MT/ID Airshed Group

- Originally MT State Airshed Group – 1978
- North Idaho joined in 1990
- South Idaho joined in 1999
- “Major Burners”
 - Agencies
 - Companies
- Idaho DEQ
 - Smoke Program
 - Meteorologist
- Smoke Management Coordinator
 - Works for airshed group, funded by FS



MT/ID Airshed Group



MT/ID Airshed Group

Idaho DEQ Outdoor Open Burning Restrictions By County
 Date Last Updated: 02/04/2019 2:29 PM

Boise Region | Coeur d'Alene Region | Idaho Falls Region | Lewiston Region | Pocatello Region | Twin Falls Region | Current Air Quality

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Home » My Dispersions » goldcrown 10/25 (HYSPLIT)

Settings | Results | Notes

Full Dispersion Forecast | day0 - Oct 25, 2016

UAS Monitoring v4.1 | Help

Map is up-to-date. Disclaimer: Data are preliminary and provided for informational purposes only. See original sources for final values. Not for official use; use at own risk.

Latest NowCast

Grangeville
 Latest NowCast PM_{2.5}: 1.9 µg/m³
 Contains data through: 2019-02-04 12:00:00 PST
 Source: AIRNOW

NowCast Timeseries
 last 3 days
 Shown in local time

Grangeville
 Monitor ID: 160490002_01
 Source: AirNow
 Latest NowCast PM_{2.5}: 1.9 µg/m³
 Contains data through 2019-02-04 20:00:00 UTC
 Timezone: America/Los_Angeles
 QA/QC: by AirNow
 Show in Simple Interface

Pinehurst
 Monitor ID: 160790017_01
 Source: AirNow
 Latest NowCast PM_{2.5}: 2.7 µg/m³
 Contains data through 2019-02-04 20:00:00 UTC
 Timezone: America/Los_Angeles
 QA/QC: by AirNow
 Show in Simple Interface

St. Maries
 Monitor ID: 160900010_01
 Source: AirNow
 Latest NowCast PM_{2.5}: 6.4 µg/m³
 Contains data through 2019-02-04 20:00:00 UTC
 Timezone: America/Los_Angeles
 QA/QC: by AirNow
 Show in Simple Interface

Hourly PM_{2.5} Values and NowCast Site: Pinehurst



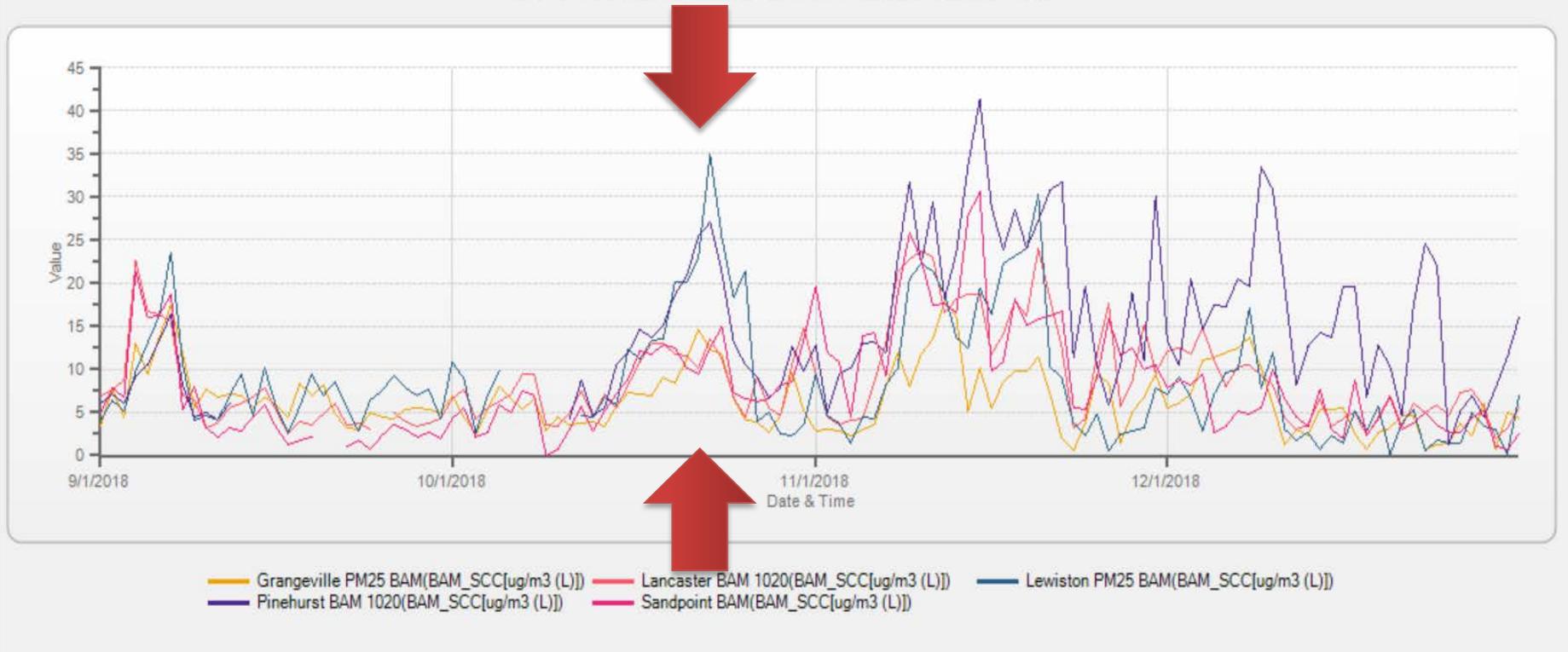
Not everyone is accounted for

- While most big industrial timber groups have joined the MIAG, small private family forest owners are not currently members
- Without permitting, registration, or some other type of system, we can't keep track of how much burning they are doing, when they are doing it, and how much emissions they are producing
- Impacts our ability to coordinate the airshed and approve burning in the MIAG



Air Quality

MultiStation: Periodically: 9/1/2018 01:00-1/1/2019 00:00 Type: AVG 1 Day



Reliance on fire safety permits

- Relying on the current fire safety permits doesn't provide adequate smoke management considerations
- Does not meet Best Smoke Management Pinciples criteria.



Let's take a small break
before we talk about the
requirements for a smoke
management plan.



Best Smoke Management Principles

- 1. Authorization to burn**
2. Minimizing air pollutant emissions
3. Burn plans
4. Public education and awareness
5. Coordination of area burning
6. Evaluation of smoke dispersion conditions
7. Confirmation of site specific conditions prior to ignition
- 8. Surveillance and Enforcement**
9. Program evaluation or audit
10. Alternative treatment options



What is prescribed fire and why is it necessary?

What is the issue?

Why should you care?

What should we do?

Sources

- Montana/Idaho Airshed Group
 - <https://mi.airshedgroup.org/>
- Idaho Department of Lands Fire Program Review (2017)
 - <https://www.idl.idaho.gov/fire/2017-fire-program-review.pdf>
- Idaho's Forest Products Industry 2018
 - https://www.uidaho.edu/-/media/Uidaho-Responsive/Files/cnr/PAG/fpi-reports/forest_products-industry_2018.pdf
- USFS Idaho Forest Health Highlights 2017
 - https://www.fs.fed.us/foresthealth/docs/fhh/ID_FHH_2017.pdf
- GoodFires
 - <https://goodfires.org/fire>
- BLM “Why do Prescribed Burning?”
 - https://www.blm.gov/or/resources/fire/prescribedburns/burn_bkgrnd.php
- UI Extension Forestry
 - <https://www.uidaho.edu/extension/forestry>
- UI Panhandle Area Family Forests
 - <https://www.uidaho.edu/extension/forestry/panhandle/forests>
- Wildfire Smoke: A Guide for Public Health Officials – EPA
 - https://www3.epa.gov/airnow/wildfire_may2016.pdf



Thank you

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