

# Managing Fire and Smoke on a Landscape Scale



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**Fire and smoke are inevitable.**  
**Fire managers aim to balance  
forest health with human health.**






# Policy and where we stand today ...

## Three general options in fire management

- Suppression (Unplanned)
- Multiple Objective/Resource Benefit (Unplanned)
- Prescribed Fire (Planned)



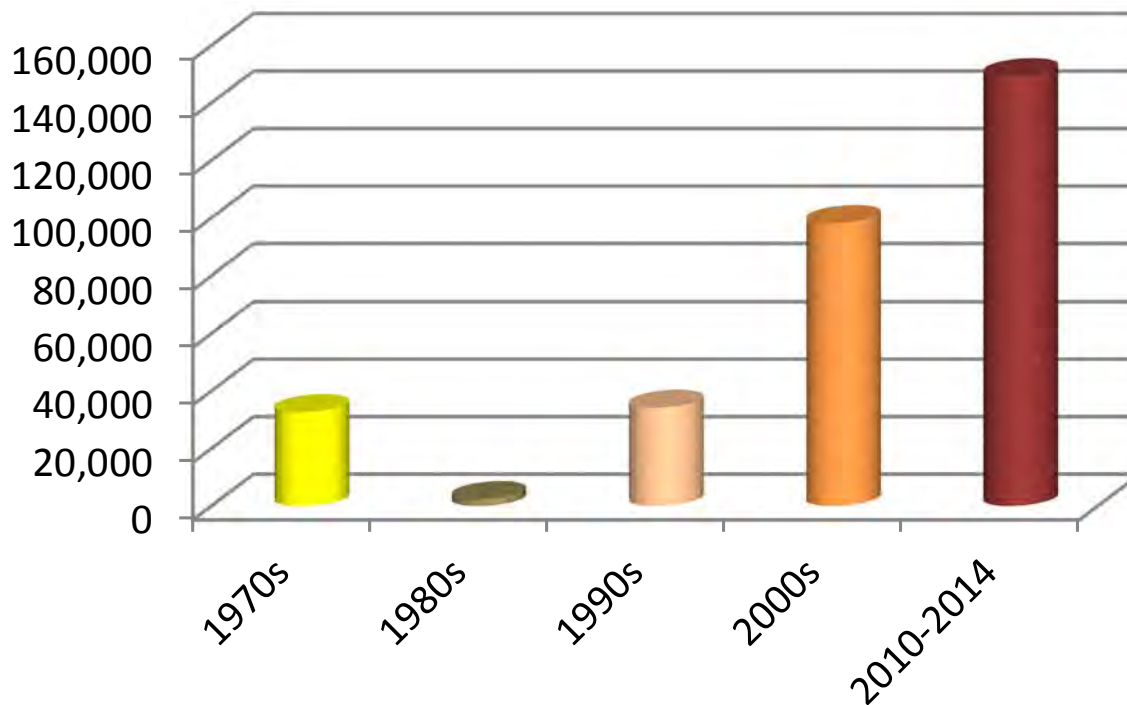
# Wildfires 1970 - 2014



Acres Burned  
within the Admin

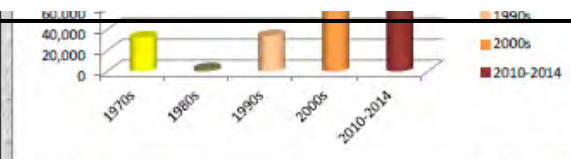
Wildfires 1970 - 2014  
Santa Fe National Forest

## Acres Burned within Admin Bdy



### Acres Burned within the Admin Boundary

Years	Acres
1970s	32,672
1980s	2,397
1990s	34,201
2000s	98,196
2010-2014	149,309
<b>TOTAL</b>	<b>316,775</b>

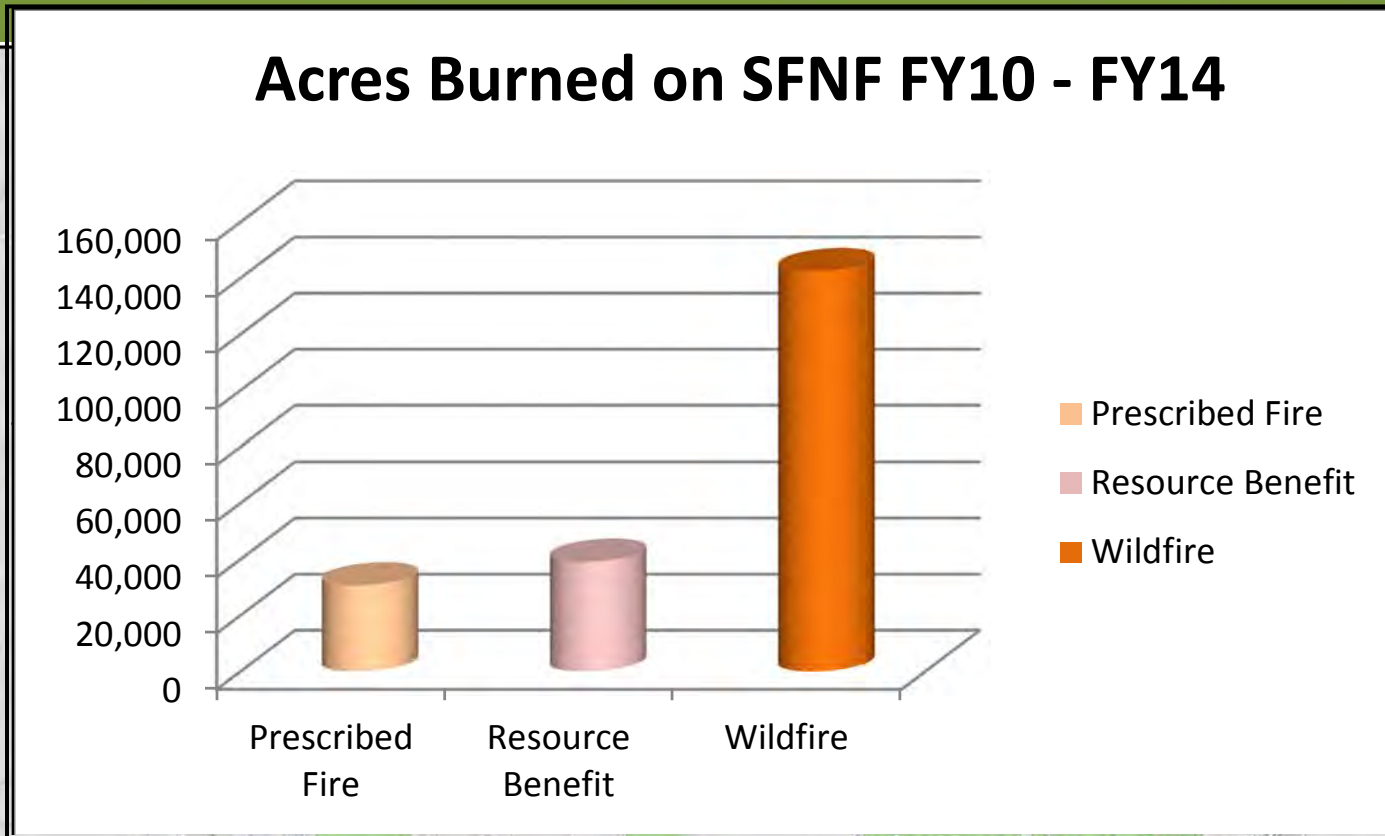


Miles  
1:760,000

Acres may be double counted.  
The data used to create this map is intended for broad-scale planning purposes. The Forest Service provides no warranty regarding its accuracy or use for other purposes.  
UTM Zone 13 NAD83. Map Produced 10/27/2014, 90GIS JL+12



# Wildfire, Resource Benefit, and Prescribed Fires 2010 – 2014



### Acres Burned on SFNF FY10-FY14

Prescribed Fire	30,676
Resource Benefit	39,103
Wildfire	142,466

# Fire Costs & Fire Management Strategies

## Wildfire Suppression:

### Las Conchas Fire (156,593 acres)

- Full Cost: \$138 million to \$232 million
- Approximately \$882 to \$1,485 per acre (Walter & Chermak 2013)

## Multiple Objective (Resource Benefit):

### Pino Fire (4,303 acres)

- Full Cost: approximately \$742,000
- \$172 per acre

## Prescribed Fire:

- Generally ranges from \$50 to \$100 per acre

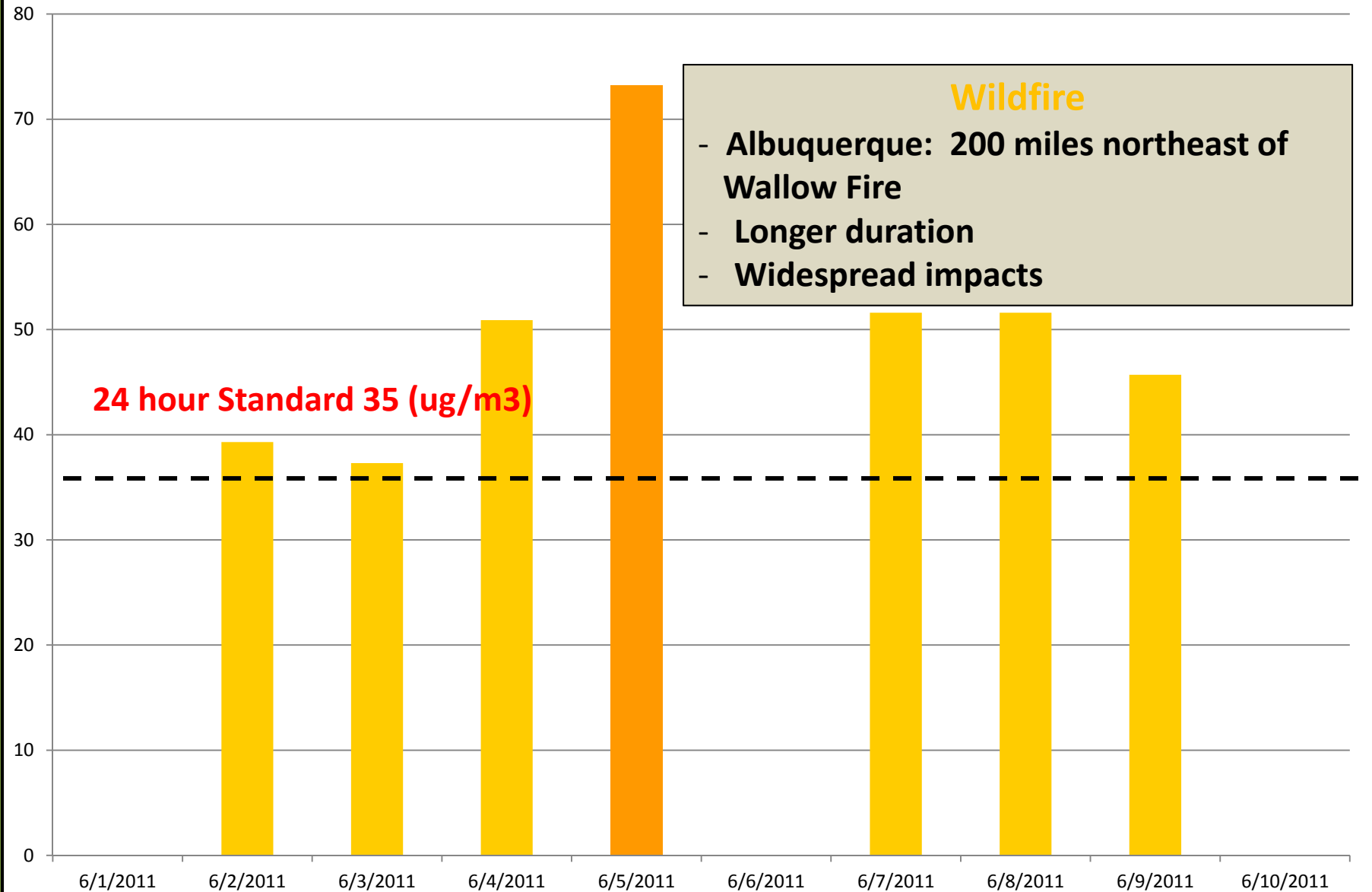
# EPA's Air Quality Index for PM 2.5 (24 hour average)

Category	Concentration PM 2.5 (ug/m <sup>3</sup> - 24 hr. avg.)
Good	0-12
Moderate	12.1-35.4
Unhealthy for Sensitive Groups	35.5-55.4
Unhealthy	55.5-150.4
Very Unhealthy Alert	150.5-250.4
Hazardous	250.5+

→ 24 Hour Standard = 35 ug/m<sup>3</sup>

## Wallow Fire 2011

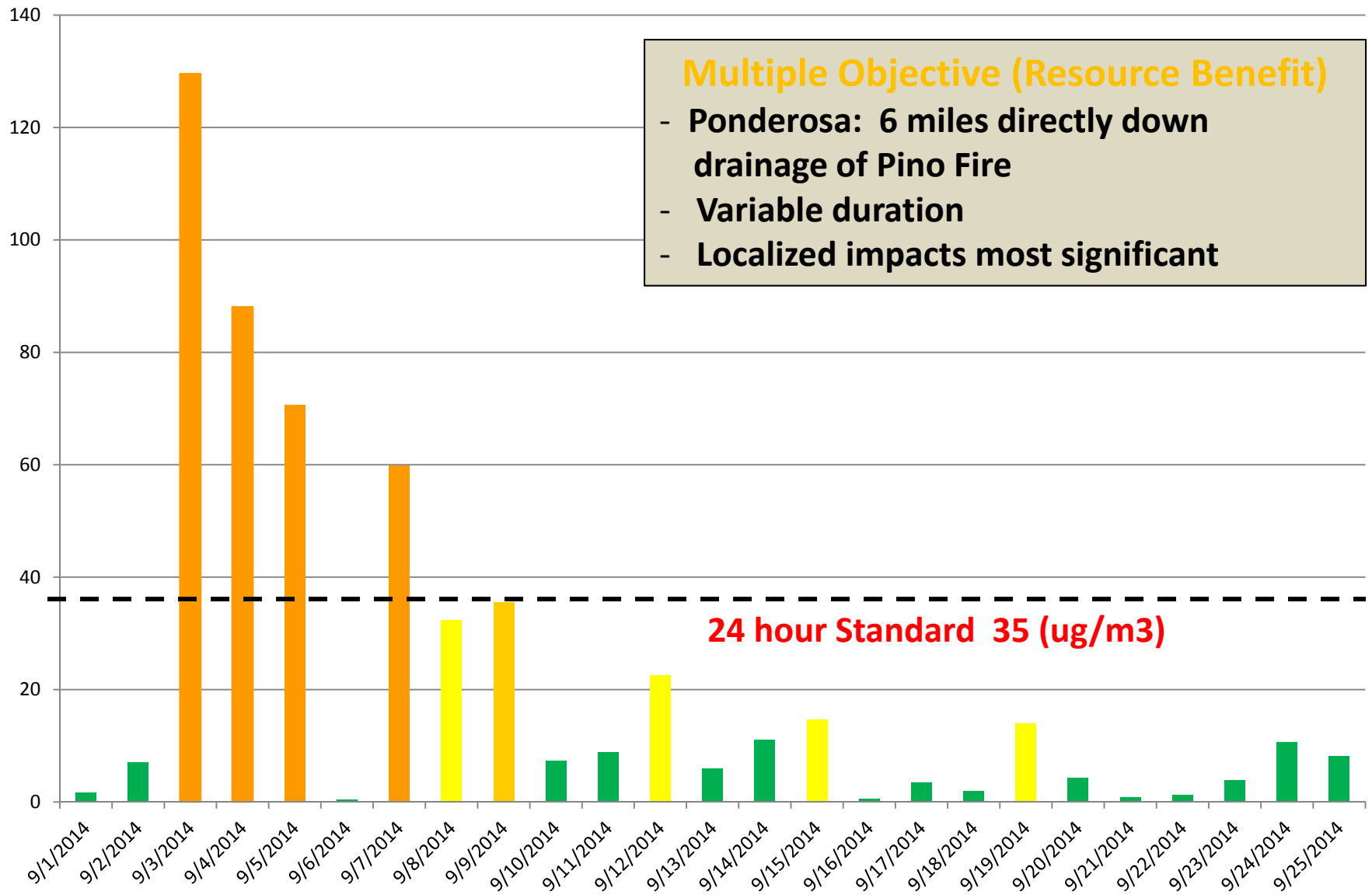
PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) concentrations in Albuquerque NM, 24hr Average





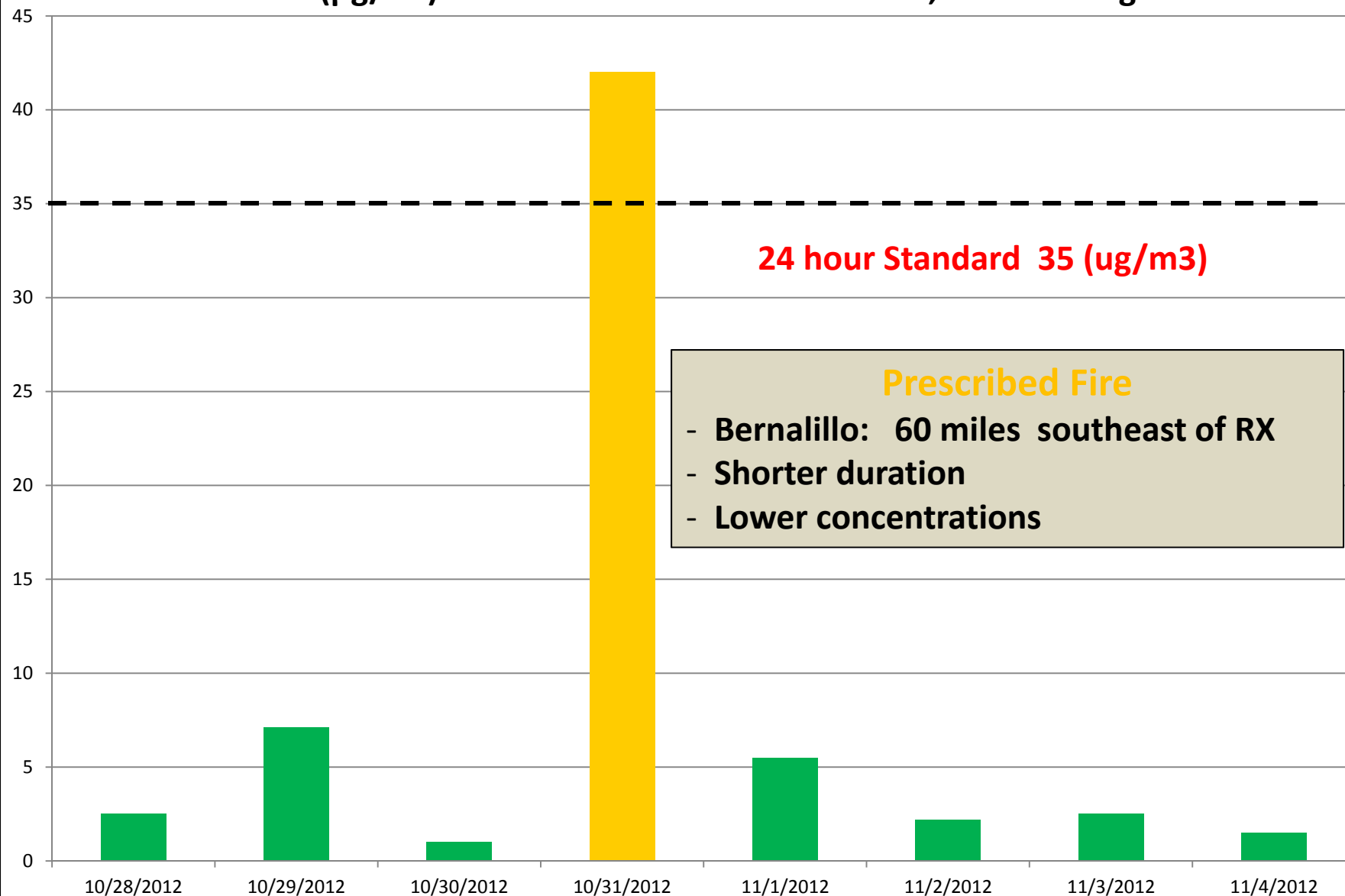
# Pino Fire 2014

## PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) concentrations in Ponderosa NM, 24-hr average




## Chaparral RX 2012

PM 2.5 ( $\mu\text{g}/\text{m}^3$ ) concentrations in Bernalillo NM, 24-hr average





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- **Wildfires, Resource Benefit/Multiple Objective, and Prescribed Fire can have significant impacts.**
  - **Wildfires can impact a larger area and typically over a longer periods of time.**
  - **Communities directly below fires will have the greatest impacts.**



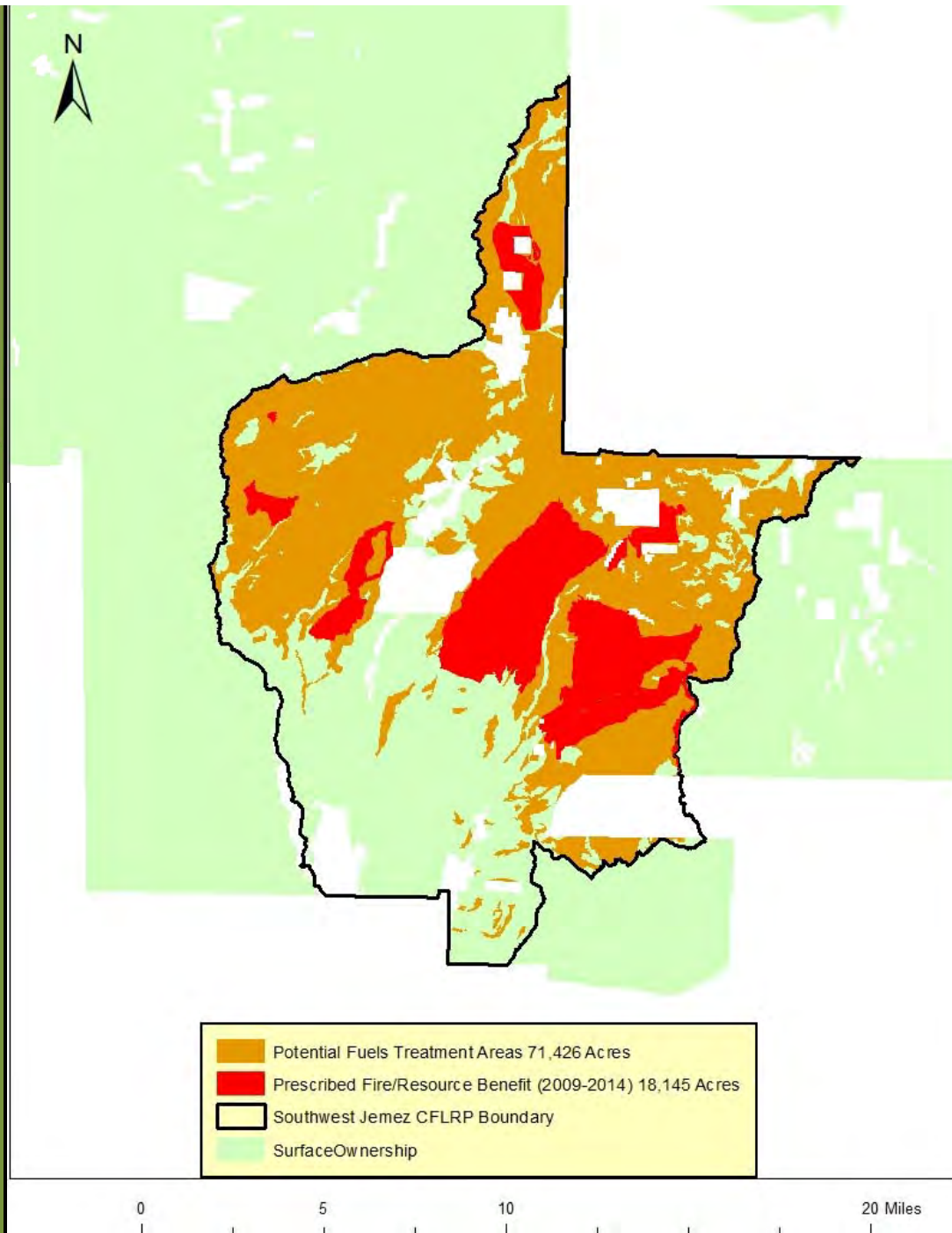
# What can we do?

- Education, outreach, and develop a fire culture
- Prescribed fire training
- Incident Management Teams for prescribed fire
- Provide relief options for affected individuals
- Consider rotation for burn areas
- Prioritize areas for treatment (watersheds, communities)



# Southwest Jemez Collaborative Forest Landscape Restoration Project (CFLRP)

Potential Fuels Treatment Acres	71,426
Prescribed Fire & Resource Benefit Acres 2009-2014	18,145



# Take Home Message

Overall idea:  
Manage fire to balance  
forest health with  
human health





Questions?

