



US Forest Service  
Humboldt-Toiyabe  
National Forest

**Prescribed Burning  
Overview**

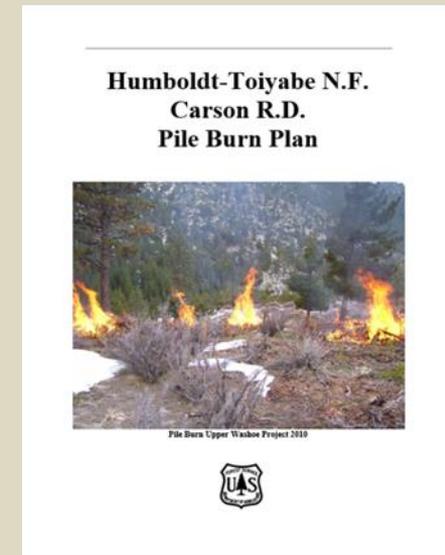
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October 14, 2021



# The Benefits of Prescribed Fire

*More prescribed fires mean fewer extreme wildfires.*

- The right fire at the right place at the right time...
- Reduces hazardous fuels, protecting communities from extreme fires.
- Minimizes the spread of insects and disease.
- Removes unwanted species that threaten species native to an ecosystem.
- Provides forage for game.
- Improves habitat for threatened and endangered species.
- Recycles nutrients back to the soil.
- Promotes growth of trees, wildflowers, and other plants.



Project Name: Carson R.D. Pile Burn		Unit Name: Pile Burn	
Fuel Model SH2			
C. Environmental Prescription	Acceptable Prescription Range		
	Low Fire Intensity	Desired Fire Intensity	High Fire Intensity
Temperature (°F)	0-69	0-69	0-69
Relative humidity (%)	>74%*	25-74%*	15-24%*
Mid-flame wind speed	0-12	0-12	10-12
Wind direction (azimuth)	Any	Any	Any
1-hr fuel moisture (%)	>14	9-13	7-8
10-hr fuel moisture (%)	>15*	10-14*	8-9*
100-hr fuel moisture (%)	>16	12-15	10-11

# Why and When the Forest Service Uses Prescribed Fire

- **Location/Access** – There are project areas that are not accessible to large equipment. Personnel on foot can easily access the area to burn slash piles.
- **Appropriate Treatment Method** – Specialists determine what type of treatment is most appropriate based on vegetation and location. This may or may not be prescribed fire.
- **Cost** – There are times prescribed burning is the most cost appropriate and efficient way of treating the forest.

Prescribed fire is a single tool that may be used to manage hazardous fuels. Specialists determine what the most appropriate tool may be based on many factors. Other treatment options are evaluated for their effectiveness, cost, and feasibility, and often prescribed fire is the least desirable tool to use. There are times and projects where prescribed fire is the most efficient way of achieving hazardous fuel reductions goals.

# PRE-TREATMENT ACTIONS

- Some activities may be needed prior to implementing prescribed fire to meet the purpose and need
- Pre-treatment would vary by vegetation type, objectives, and existing conditions
  - These pre-treatment activities would be described in the burn plan for each prescribed fire unit
- Hand thinning, slashing, piling, pile burning
- Enhancement of natural or existing features
  - Constructed fireline – hand or mechanical
- Limited mechanical chipping and mastication



# APPLYING PRESCRIBED FIRE

- Understory Burning
  - A controlled burn of fuels below the forest canopy, intended to remove hazardous fuels from the forest environment
    - Used to mimic naturally occurring wildfire
    - Large areas of land treated at a time



# APPLYING PRESCRIBED FIRE

- Broadcast Burning
  - A controlled burn of fuels where there is no forest canopy present
  - Primarily used in grasslands, shrublands, or woodlands
    - Used to mimic naturally occurring wildfire
    - Large areas of land treated at a time



# APPLYING PRESCRIBED FIRE

- Pile Burning
  - The burning of fuels that have previously been arranged into slash piles, intended to remove hazardous fuels from the forest or rangeland environment
  - Used to treat activity slash created by other forest practices



# Other Methods of Fuels Reduction



Logging, Chipping, Mastication, AirCurtain Burners...

# Prescribed Fire in the Forest Service

- The Forest Service manages prescribed fire to benefit natural resources and reduce the risk of unwanted wildfires in the future.
- Specialists write burn plans for prescribed fires – these plans identify the best conditions under which a prescribed fire can be completed *safely* and with the *best ecological results*.
- Burn plans consider:
  - Temperature
  - Humidity
  - Winds
  - Moisture of the vegetation
  - Smoke dispersal
- Prescribed Fire Specialists compare conditions on the ground to those outlined in the burn plan before deciding whether to burn on a given day.

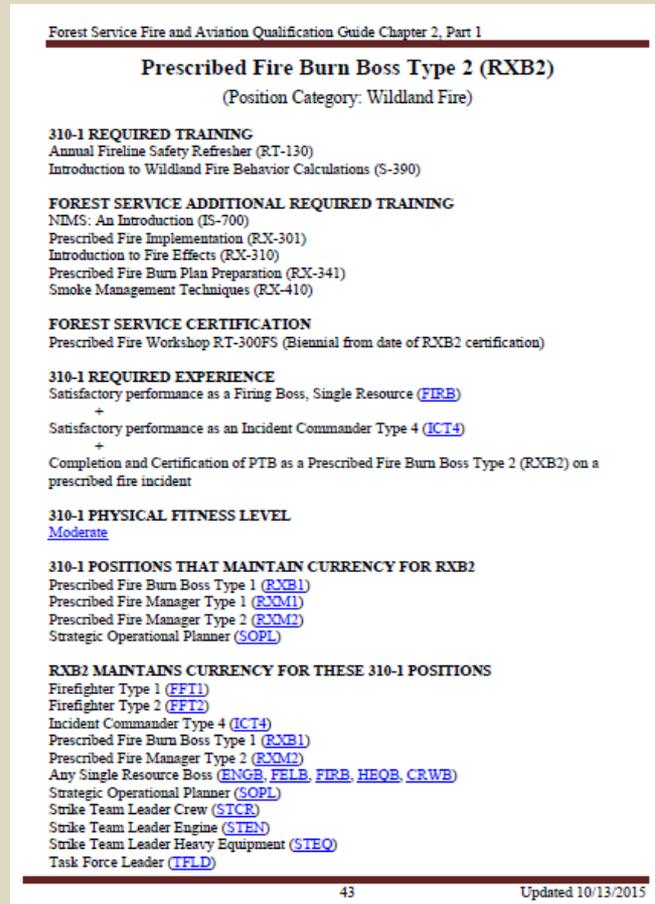
NWS Spot Forecast Monitor



National Weather Service, Spot Request Page, November 3, 2016

# Forest Service Prescribed Fire Requirements

- The FS adheres to the Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484).
  - Provides standards, guidance, and unified direction to all Federal agencies for prescribed fire planning and implementation.
- The PMS 484 acts as the minimum requirements.
  - Individual Federal agencies have additional, more stringent requirements: National Environmental Policy Act (NEPA), National Historical Preservation Act (NHPA), Endangered Species Act (ESA), etc...
- This product is available electronically from the NWCG Web site at <http://www.nwcg.gov>



- FS Prescribed Fire personnel undergo rigorous field and classroom training to achieve and maintain qualifications for planning and implementing prescribed fire.

# THE FUTURE OF MANAGEMENT

- As the scale of wildfire grows, the scale of management actions to anticipate and mitigate fire effects must expand accordingly and efforts must be coordinated at a scale large enough to make a difference.
- Implementing management action, such as increasing the amount of low to moderate intensity burning consistent with the natural fire regime in these fire-adapted ecosystems is one way to increase resiliency of vegetation and habitats to withstand future wildfire or other stressors.

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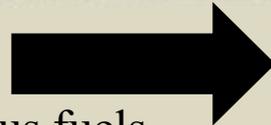
## **Pyrosilviculture Needed for Landscape Resilience of Dry Western United States Forests**

M P. North,<sup>◦</sup> R A. York, B M. Collins, M D. Hurteau,<sup>◦</sup> G M. Jones,<sup>◦</sup>  
E E. Knapp, L. Kobziar,<sup>◦</sup> H. McCann,<sup>◦</sup> M D. Meyer, S L. Stephens,  
R E. Tompkins,<sup>◦</sup> and C L. Tubbesing<sup>◦</sup>

# The Results of Forest Service Pile Burning:



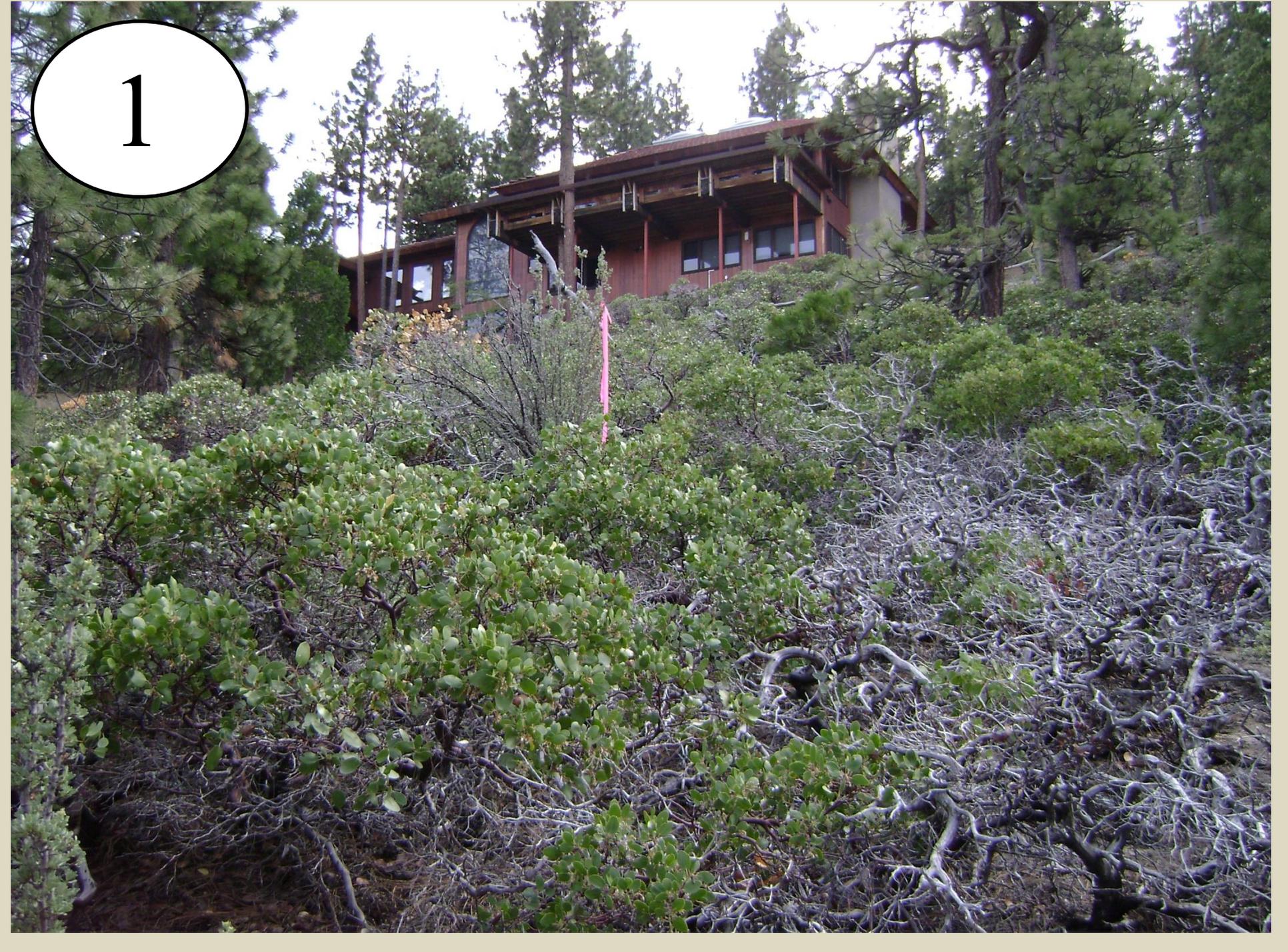
Pre-treatment of hazardous fuels on Forest Service land directly adjacent to private property. Very dense manzanita that's 5+ feet tall, acting as a ladder fuel to the higher tree canopy.



Same site, following hazardous fuels reduction project implemented on Forest Service lands. Manzanita was cut with chainsaws, slash was hand piled, and then piles were burned during an appropriate burn window.



1



2



3

