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Forest Service
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Prescribed Fire in the White Mountain National Forest

Prescribed fire is a land management tool used across the nation. Historically conducted in the White Mountain National Forest to maintain wildlife habitat diversity, fire now helps land managers meet additional goals. Prescribed fire can effectively restore natural fire ecosystems, encourage new plant growth in forested stands, and reduce the risk or severity of future wildfires.

Prescribed fire maintains wildlife habitat.

What is prescribed fire?

Just as a doctor may prescribe a treatment for restoring or maintaining your health, land managers call upon a variety of "treatments" to promote vigorous forest ecosystems. Prescribed fire is a treatment used to achieve particular goals. Prescribed fire is intentional and controlled, and is used under very specific conditions to provide for the safest and most effective results.

Why is prescribed fire used in the White Mountain National Forest?

- **To create and maintain openings in the forest** to provide valuable wildlife habitat. These grassy and shrubby openings provide food and shelter for many wildlife species.

- **To encourage growth** of particular tree species by clearing competing plants and woody material from the forest floor. Red oak and eastern white pine take advantage of the seedbed and extra growing room created by controlled burning beneath the tree canopy.

- **To avoid wildfires** by burning off excess accumulations of woody material that could become fuel for wildfires.

- **To restore and maintain** natural ecosystem processes.

- **Prescribed fire** also allows us to stay prepared and trained for wildland fire-fighting, here and across the country.

Wildlife openings are burned periodically to maintain valuable grassy and shrubby habitat throughout the forest. Six weeks after the spring burn above, this opening was green and supporting a variety of plants, animals, and insects.

What is a Burn Plan?

Developed and customized for each site, Burn Plans spell out the specific requirements needed to burn the area. A Burn Plan contains:

- Objectives and map of the burn, with fire breaks identified.
- For safe and effective burning, specific thresholds for on-site conditions required before ignition:
  >Weather and winds
  >Moisture in woody material
  >Firefighters and equipment
- Monitoring and safety plans.
- Contingency plans.
- Smoke-sensitive areas.
- People and organizations to be contacted prior to ignition: local fire departments, state officials, town offices, and neighbors.

The crew reviews the Burn Plan and conducts a safety briefing prior to ignition.

Burn Plans include detailed requirements needed before a fire is lit. Burn Plans minimize the risk of a controlled fire becoming a wildfire.

Who does the burning?

Trained and equipped Forest Service staff plan, ignite, and monitor the fire in all phases of the prescribed burn. Partners from local towns and state agencies often assist.

Are local communities involved in the prescribed fire activities?

The Forest Service coordinates burn activities with fire personnel from local communities, organizations, state agencies, and other federal agencies. Our partners are integral members of the burn crew.

Gearing up before ignition. Drip torches containing a gasoline mix are used to ignite the prescribed fire.

Is prescribed fire safe?

On-site safety briefings occur before every burn to discuss potential hazards. Fires are ignited, contained, and monitored by personnel who are prepared to respond to fire emergencies. In the event that conditions change and the fire could threaten life or property, extra firefighters and equipment are called in to help suppress the fire.

What about the smoke?

A wind direction that disperses smoke away from populations is required prior to ignition. All potentially affected people and organizations are notified prior to the burn so they are aware of the source of smoke they may see.

When does the Forest Service plan to burn?

Spring offers a short window of time between snow-melt and green-up. It's not unusual to have patches of snow in the forest adjacent to wildlife openings as we burn them. Fall burning can occur, also, if conditions are right for safe and effective burning before the winter snows come.

Patches of snow adjacent to the burn area serve as a fire break to contain the fire.

Why does the Forest Service sometimes ignite prescribed fires even when the fire danger is rated "High" by State officials?

The State fire danger warnings encompass broad areas that often have more hazardous conditions than the small burn sites in the national forest. Burn sites in the national forest are often protected by microclimates and do not reach the high fire danger of other areas in the state. The wind, weather, moisture, and other site conditions on the particular acreage to be burned must meet the thresholds for controlled burning identified in the Burn Plan before a fire is ignited. State officials are informed and a burn proceeds only if on-site conditions continue to be right for safe and controlled burning.

Many wildlife openings are surrounded by cool, damp forests and maintain low fire danger even when other areas in the state are experiencing higher fire danger.

How is the fire kept under control?

Meeting the Burn Plan requirements prior to ignition is the first step to fire control. A small test burn is lit to monitor fire behavior, and if conditions are safe, the full burn is conducted. Fire breaks such as roads, trails, streams, or handline (trails dug to mineral soil) contain it. Firefighters patrol the fire boundary to watch for escaped flames. Hot spots are extinguished before a prescribed fire is deemed safe to leave. Frequent radio contact with Dispatch ensures that additional resources can be called in at any time.

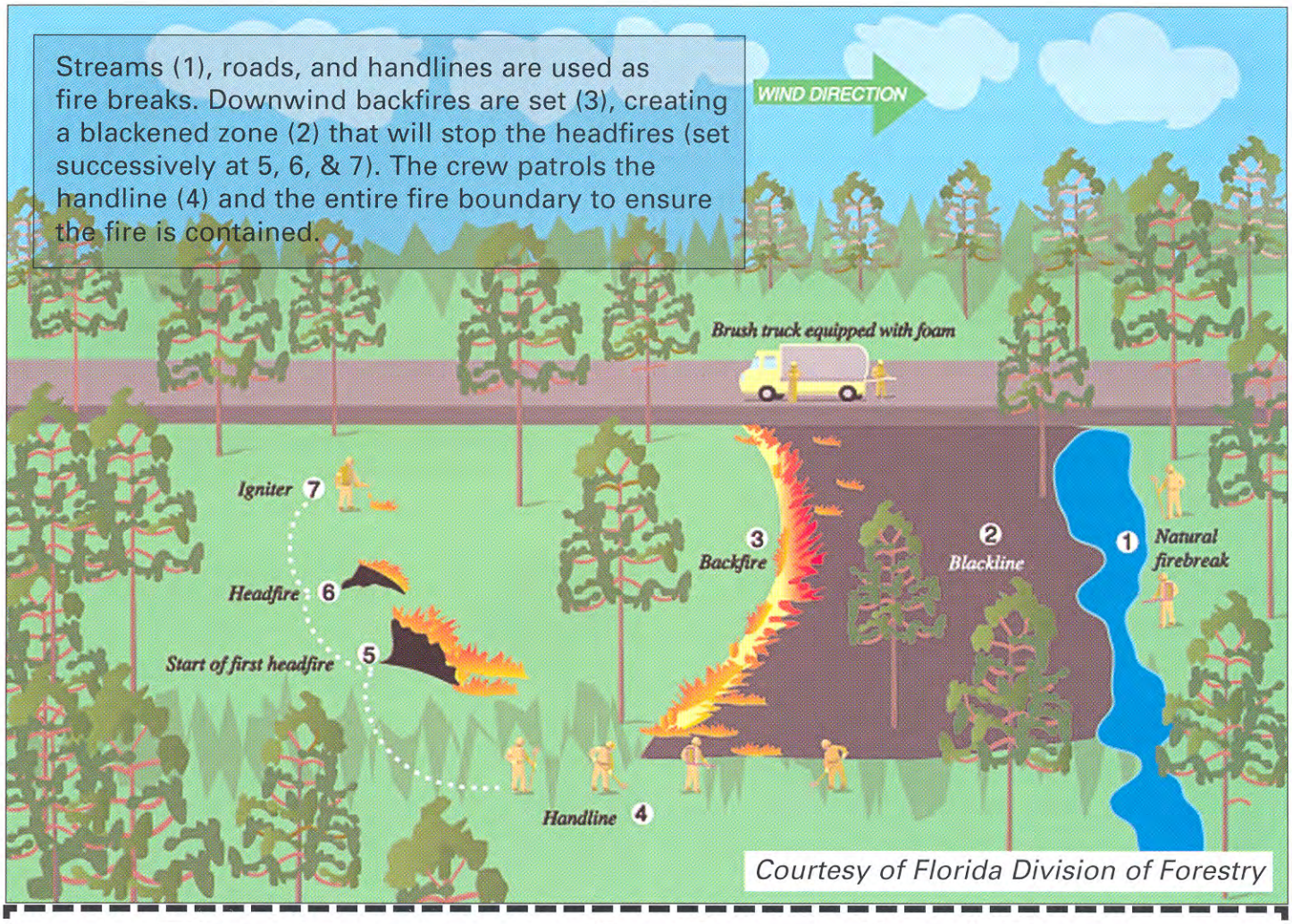
Specially-equipped engines and four-wheelers are used to patrol and contain the fire.

Burn areas range in size from less than one acre up to about 50 acres.

Can prescribed fire cause large-scale wildfires in our eastern forests?

The northern hardwood forest that predominates our landscape today is resistant to fire, and our moist northeastern climate further reduces the risk of large-scale wildfire. It's natural to wonder if we are at risk of catastrophic wildfires as seen in the West. Historical large fires in New England were ignited either by lightning or human carelessness, and fed by the large accumulations of dead woody material left behind by hurricanes and improper turn-of-the-century logging practices. Such practices do not occur with today's forest management, and large-scale wildfires are unlikely.

Improper logging practices, human carelessness, and lightning caused large-scale wildfires in the White Mountain National Forest in the early 1900s.



Courtesy of Florida Division of Forestry

The Anatomy of a Prescribed Burn

- **Fire breaks:** Streams, roads, and handlines (trails cleared to mineral soil) encircle the burn area to keep the fire contained.
- **Pre-burn Debriefing:** The crew walks the burn area to discuss expected fire behavior, hazards, and safety plans.
- **Weather:** Relative humidity, temperature, and winds are monitored before and throughout the burn.
- **Test Burn:** If sites are within prescription, a small test burn is ignited to monitor fire behavior.
- **Ignition:** Backfires are set first, followed by the headfires.
- **Holding Crew:** Firefighters patrol the boundary. They stay alert for changes in fire behavior, smoke dispersal, and weather. They look for hot spots and use handtools, back-pack pumps, and hose from the engine to suppress any spot fires.
- **Post-burn Debriefing:** Fire behavior, effectiveness, and safety are reviewed.
- **Mop-up:** Hot spots are suppressed until the fire is "dead-out."
- **Monitoring:** Monitoring before and after the burn allows land managers to measure environmental response to the fire, and to determine if ecological goals have been met.

Defining Fire Management

Fire Control
The suppression of wildfire to protect life and property.

Wildland Fire Use
The management of naturally-ignited wildland fires to meet ecological goals in predefined areas.

Prescribed Fire
Fire ignited by land managers under specific conditions to meet specific objectives.

Underburn
Prescribed fire ignited within a forested stand, with the intent of removing competing vegetation and creating a seedbed to encourage regeneration of particular tree species.

Hazardous Fuel Reduction
Prescribed fire used to burn off excess accumulations of woody material to reduce the risk or severity of future wildfires.

Underburning in oak and pine forests promotes seedling growth beneath the canopy of mature trees. Bethel Citizen Photo

For more information, contact the Fire Management Specialist at a local Forest Service Office.

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www.fs.fed.us/r9/white **www.firewise.org** **www.fireplan.org** **www.nffpc.org**

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