



# FORESTRY

## Leaflets

April 2019

FM-11

## Benefits of Prescribed Fire

Fire is a natural part of the environment and frequently occurs throughout North Carolina. Many of our forests require fire to remain healthy and thrive. Prescribed fire is the planned use of fire under predetermined weather and fuel parameters to obtain specific management objectives. It is an important, and often low-cost, forest management tool that may be appropriate to use throughout the life cycle of forests. Prescribed fire benefits forests and wildlife, and helps reduce the impact of wildfire hazards in North Carolina.

### Understory 'In-Stand' Burns

In existing forest stands, prescribed fire is used to consume the surface fuels and understory vegetation while minimizing fire impacts to overstory trees. Many plants and animals are able to survive these low-intensity burns. In-stand fires have different benefits depending on the burn objectives.

**Hazard reduction burning** reduces the understory shrubs, vines, woody debris, leaves and needles available to fuel hard-to-control wildfires by burning them in a planned manner.

- Usually performed in late fall or winter to take advantage of lower air temperatures, increased humidity and adequate soil moisture
- To reduce potential damage to the trees, manage fire intensity by burning when conditions produce the desired flame length

**Wildlife and silvicultural<sup>1</sup> burning** helps manage forestlands by mimicking low-intensity fires. Many species require frequent prescribed burns to establish and thrive.

- Often performed during the growing season to mimic natural fire occurrence
- Controls and inhibits competition from undesired plants
- Increases sunlight reaching the ground, promoting fresh growth of low-growing shrubs, native grasses and herbaceous plants for increased wildlife food and habitat
- Controls the spread of some tree diseases
- Maintains a park-like vista (appearance, recreation, etc.)
- Prepares seedbed for natural regeneration of native trees and seeding of understory plants
- Used to thin overgrown or thick stands to provide more growing space for healthier trees



<sup>1</sup> Silviculture includes the establishment, growth, composition, health and quality of forests to meet a variety of goals.



## Site Preparation Burns

**Site preparation burns**, also known as ‘site prep’ burns, occur after harvesting to assist with reforestation activities.

- Removes excessive woody debris and undesirable vegetation to allow for planting or natural regeneration of tree seedlings
- Low cost site preparation compared to other treatments
- Less invasive or damaging than mechanical site preparation
- May be conducted as a follow-up to an herbicide treatment prior to tree planting



## Managing Prescribed Fires Safely

**Trained and experienced** prescribed burners always:

- Make a plan (and have a backup plan):  
*A written burn plan is specific to each prescribed fire.*
- Know the weather:  
*Temperature, humidity, wind, etc. all affect fire behavior.*
- Establish fire breaks or lines:  
*Barriers like roads or streams help keep the fire contained.*
- Burn when conditions disperse smoke to reduce exposure:  
*Notify local authorities and neighbors.*
- Light a small test fire:  
*If the test fire goes well, the burn will proceed.*
- Ensure the fire remains safely within the fire lines:  
*Prescribed burners monitor and “mop-up” the fire line.*



Pre-burn native understory



Post-burn native understory response

**Always seek advice** from a forestry professional to determine if burning is suitable for your property.  
To learn more, contact your County Forest Ranger.

[ncforestservice.gov/contacts](https://ncforestservice.gov/contacts)