

Prescribed Fire Techniques

Prescribed Fire in Wisconsin



Photo Credit: Olivia Horton-Pacana





Objectives

- Types of Fire
- Ignition Techniques
- Holding Techniques
- Mop-up



Prescribed Fire Techniques



Three Important Types of Fire

- Backing Fire
- Flanking Fire
- Head Fire

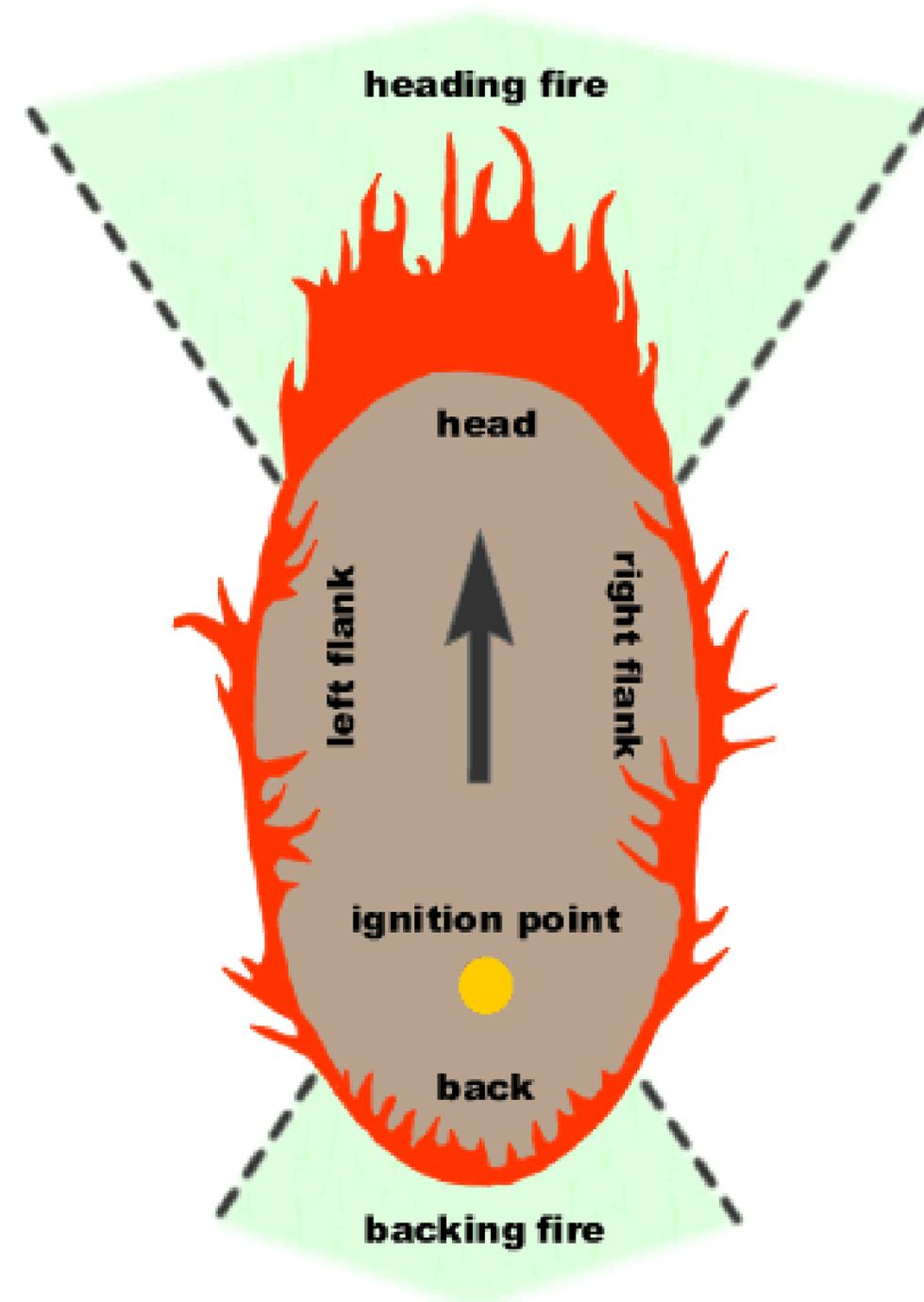


Diagram Credit: learnline.cdu.edu

Prescribed Fire Techniques



Backing Fire

- Lit against the wind
- Low intensity
- Longer residence time
- Lower flame lengths
- How we start every prescribed fire



Prescribed Fire Techniques



Flanking Fire

- Fire is parallel to the wind
- Medium flame lengths
- Medium intensity
- Medium residence time

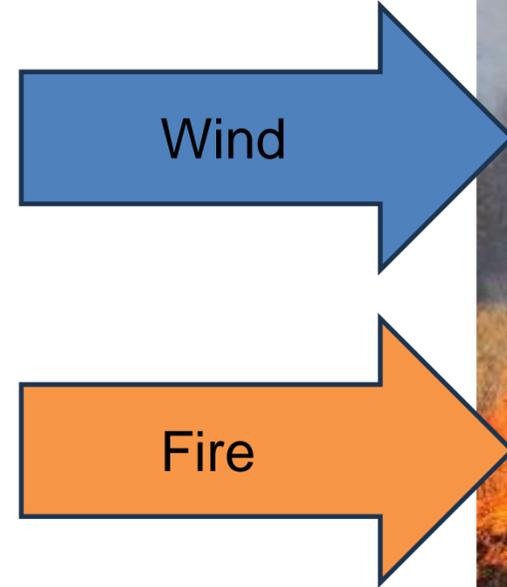


Prescribed Fire Techniques



Head Fire

- Lit with the wind
- High flame lengths
- High intensity
- Low residency time



Prescribed Fire Techniques



Ignition Techniques

- Test Fire
- Ring Fire
- Interior Ignition



Prescribed Fire Techniques



Test Fire

- Done at the beginning of every burn
- Performed at the most downwind corner of unit
- Helps determine if fire behavior is appropriate for the day
- Make sure to see all 3 types of fire before proceeding too far



Prescribed Fire Techniques



Ring Fire Technique

- Most common way to approach a unit
- Two crews start at the most downwind point (where test fire occurs)
- Crews proceed in opposite directions, around perimeter of the unit
- Crews will meet somewhere on the upwind side of the unit

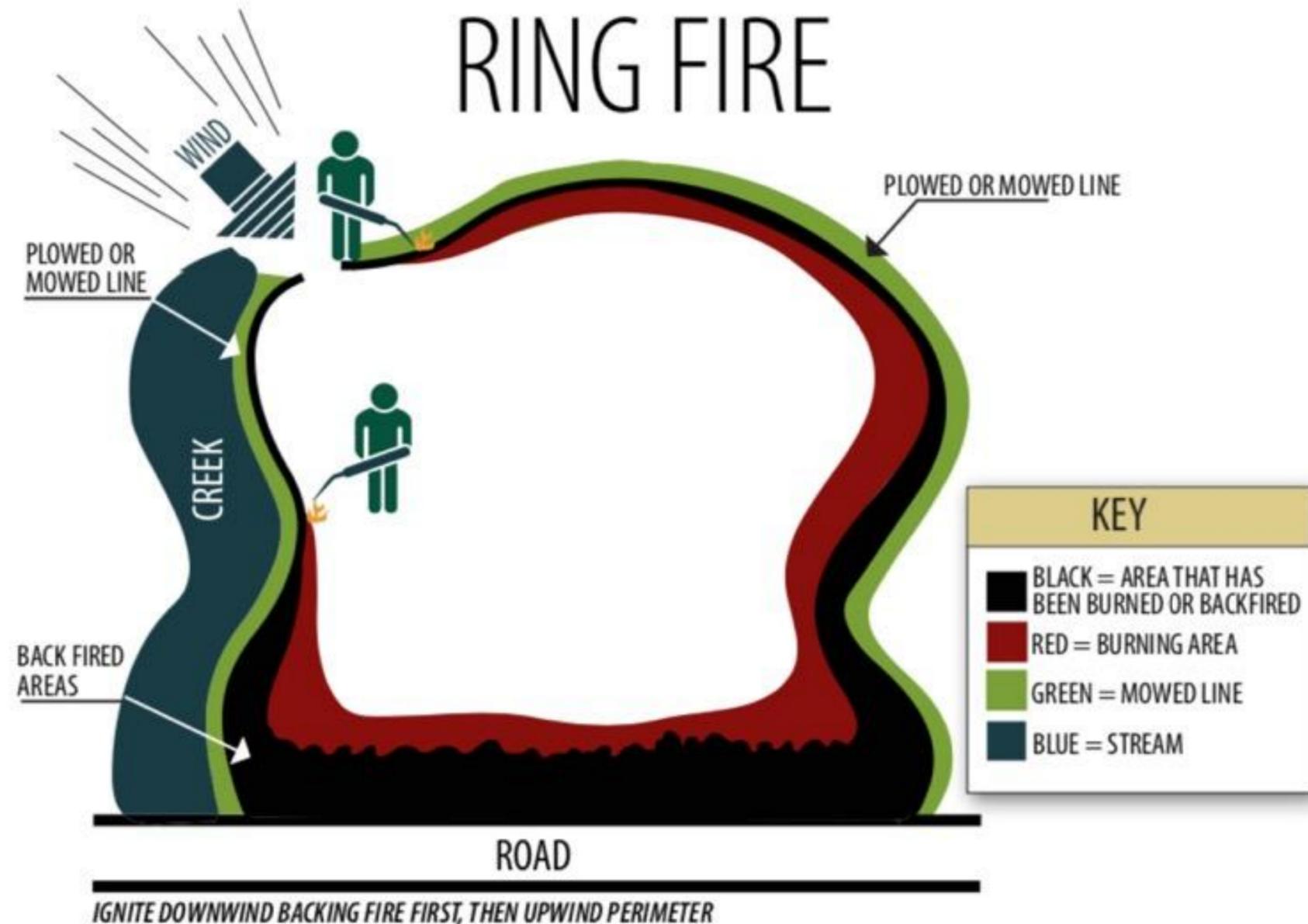


Photo Credit: iowadnr.gov

Prescribed Fire Techniques



Reasons for Interior Ignition

- Used to widen breaks/black while the fire is still backburning
 - Rule of Thumb: Do not widen over half of already established black
- Get fire going again where fuel is sparse or too green
- Help protect objects/areas within the unit

Prescribed Fire Techniques



Interior Ignition Techniques

1. Dot/Point Ignition

- a. Use drip torch to drop “spots” of fire while walking parallel to the black already created
- b. Will create all 3 types of fire
- c. Creates a mosaic of intensities



Photo Credit: WPFC

Prescribed Fire Techniques



Interior Ignition Techniques

2. Flanking Fire Strips

- a. Pull flanking fire off of the black already created
- b. Can be useful in pulling fire down slope
- c. Can be helpful in keeping smoke off roads/houses



Prescribed Fire Techniques



Interior Ignition Techniques

3. Head Fire Strips

- a. Igniting continuous parallel strips to downwind black
- b. Width is dependent on blackline width and fuels



Prescribed Fire Techniques



Interior Ignition Techniques

4. Protecting areas or objects
 - a. Protecting refugia, buildings, even hazardous trees
 - b. Act as though that area or object has its own boundaries, and create sufficient black
 - c. Time burning around these areas carefully with perimeter ignition



Prescribed Fire Techniques



Navigating Hills/Slopes

- Fire wants to run uphill
- Can be a stronger influence than wind
- Make sure there's black at the top of the hill before lighting fire further down



Photo Credit: Zach Pacana

Prescribed Fire Techniques

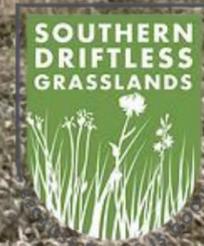


Holding Techniques

- Any action used to contain a fire within the defined boundary of a burn unit.
 - ATVs/Pumps
 - Wet Lines
 - Hand Tools
 - Back Cans
 - Spotters



Prescribed Fire Techniques



Mop up

- This starts once the perimeter of the burn unit has been rung
- Secure the edges: make sure everything within 50-100ft of a break is cold
- Look up, down, and all around



Prescribed Fire Techniques



Mop up

- By Wisconsin law, someone must remain on the premises until all fire is extinguished
 - Someone needs to stay behind if logs are smoldering or fire is still active

Questions?

