

# The Prairie Enthusiasts Prescribed Burn Basic Training



PowerPoint 1 of 8

## INTRODUCTION

Estimated Time: 10 min.

## Summary:

Eight PowerPoints forming a pictorial aid  
for teaching **basic crew** training  
for prescribed burning  
in the Midwest  
to audiences with no experience.

This program meets *The Prairie Enthusiasts* Burn Polices 2014.



# **Sources for this program, gratefully acknowledged:**

## **Chippewa Savanna Chapter of The Prairie Enthusiasts (TPE)**

Kathy Ruggles, Jess Carstens, Mark Leach, John Thomas

## **International Crane Foundation (ICF)**

Jeb Barzen, Anne Lacy, Andy Gossens , ICF

Jim Shurts, Madison Audubon Society

Bruce Henderson, Wisconsin DNR

## **Northern Illinois Prescribed Burn Co-op**

Ryan Getz, Jo Daviess Conservation Foundation (JDCF)

Emily Lubcke, The Galena Territory Association (GTA)

Frances Rivoire, Jo Daviess Cons. Foundation Board President

Ed Strenski, Northwest Illinois Prairie Enthusiasts (NIPE)

## **Wisconsin Prescribed Fire Council**

## Suggested Itinerary:

1) Introduction /Welcome	10 min.
2) Fire Ecology; Why Burn?	45 min.
3) Fire Influences	1.0 hr.
4) Burn Techniques	1.0 hr.

### LUNCH

5) Safety	30 min.
6) Crew Assignments	45 min.
7) Burn Plans	30 min.
8) Equipment Overview	30 min.
<u>+equipment practical</u>	<u>30 min.</u>
Total	6.0 hr.

(Possible field burn scheduled another day)

Please silence phones.



Thank you.

TIME FOR DONUTS

# The Prairie Enthusiasts Prescribed Burn Basic Training

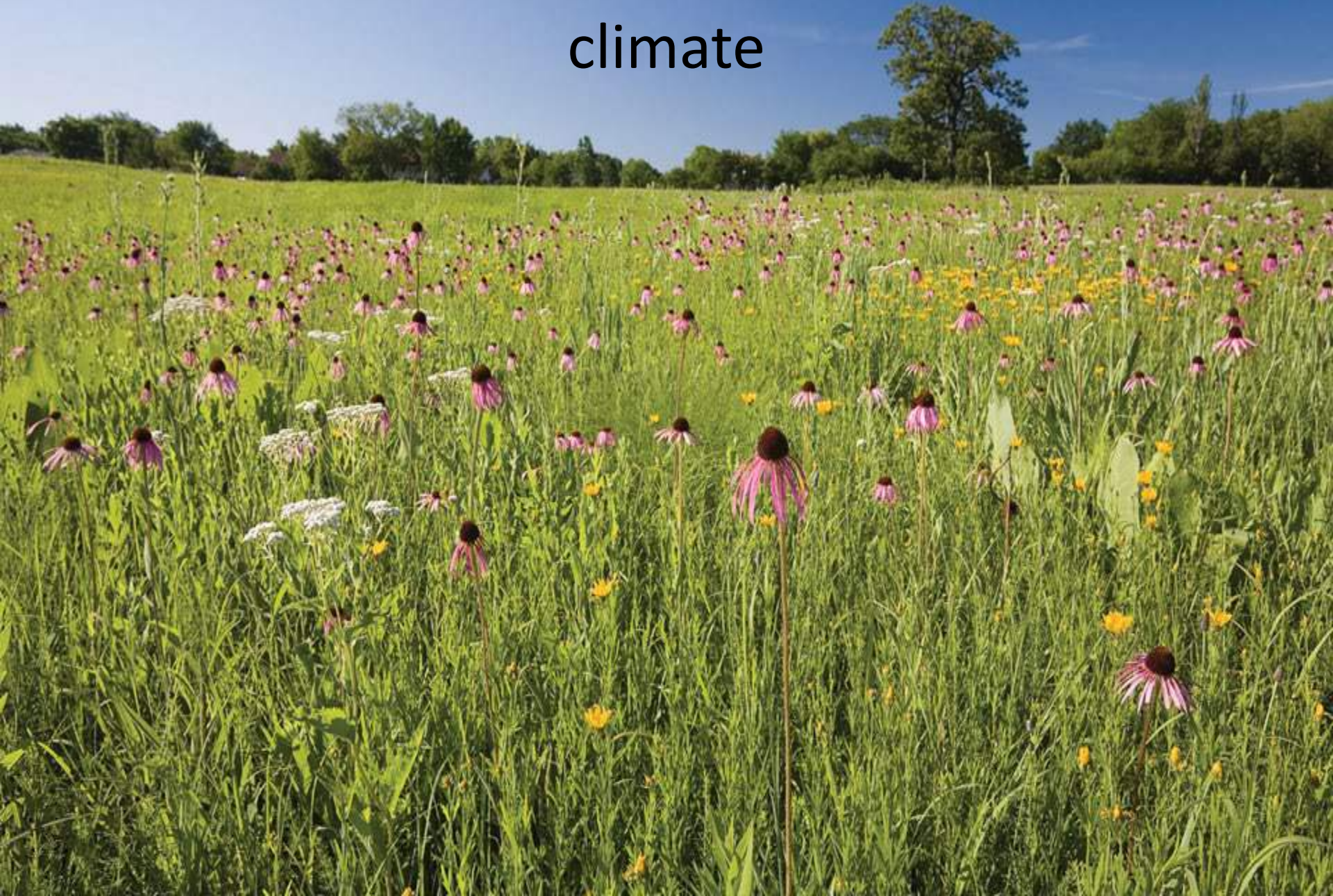
PowerPoint 2 of 8

## FIRE ECOLOGY WHY BURN?



Estimated time: 45 min.

# Fire dependent communities in a forest climate














# Historical Natural Fire Regimes

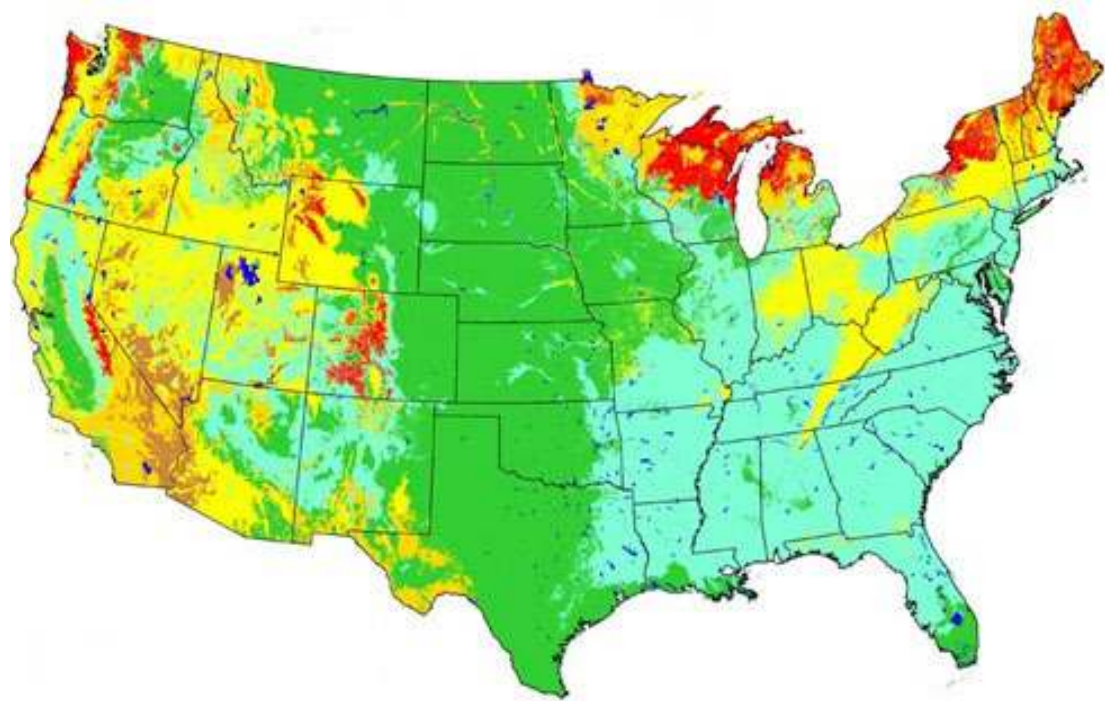
Version 2000

LEGEND	
	I: 0 – 35 yr. frequency, Low Severity
	II: 0 – 35 yr. frequency, Stand Replacement Severity
	III: 35 – 100+ yr. frequency, Mixed Severity
	IV: 35 – 100+ yr. frequency, Stand Replacement Severity
	V: 200+ yr. frequency, Stand Replacement Severity
	Barren
	Water

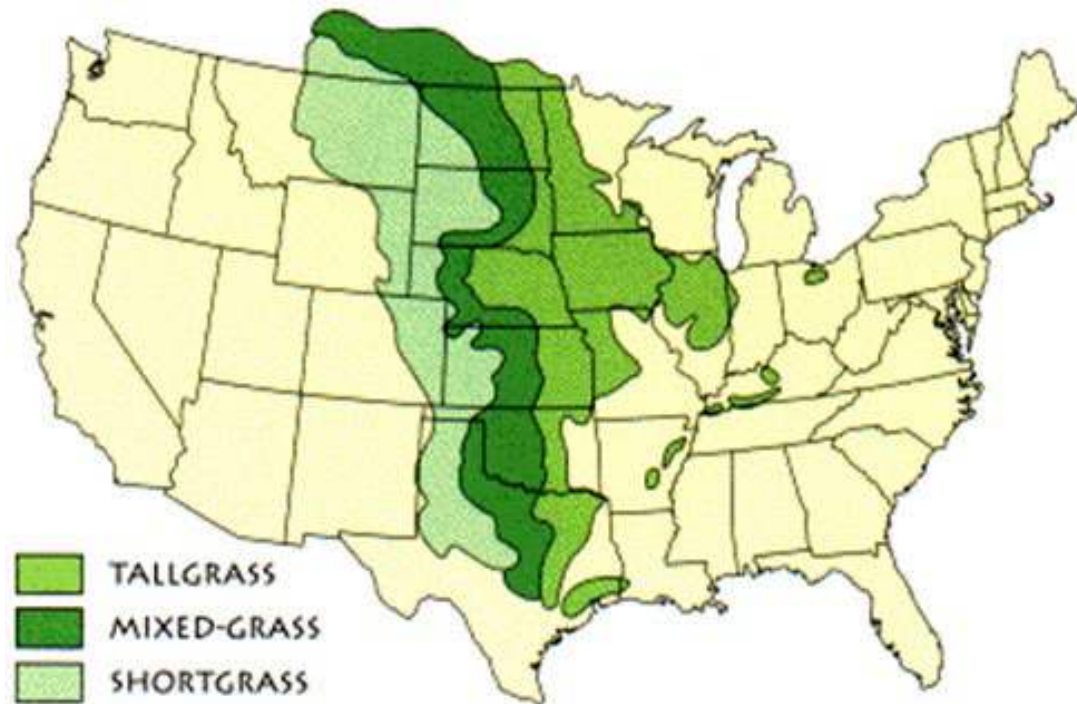
U.S. Fish & Wildlife Service



## Historical Natural Fire Regime



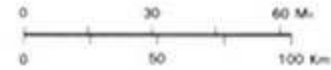
## Historical Extent of Prairie



# EARLY VEGETATION OF WISCONSIN

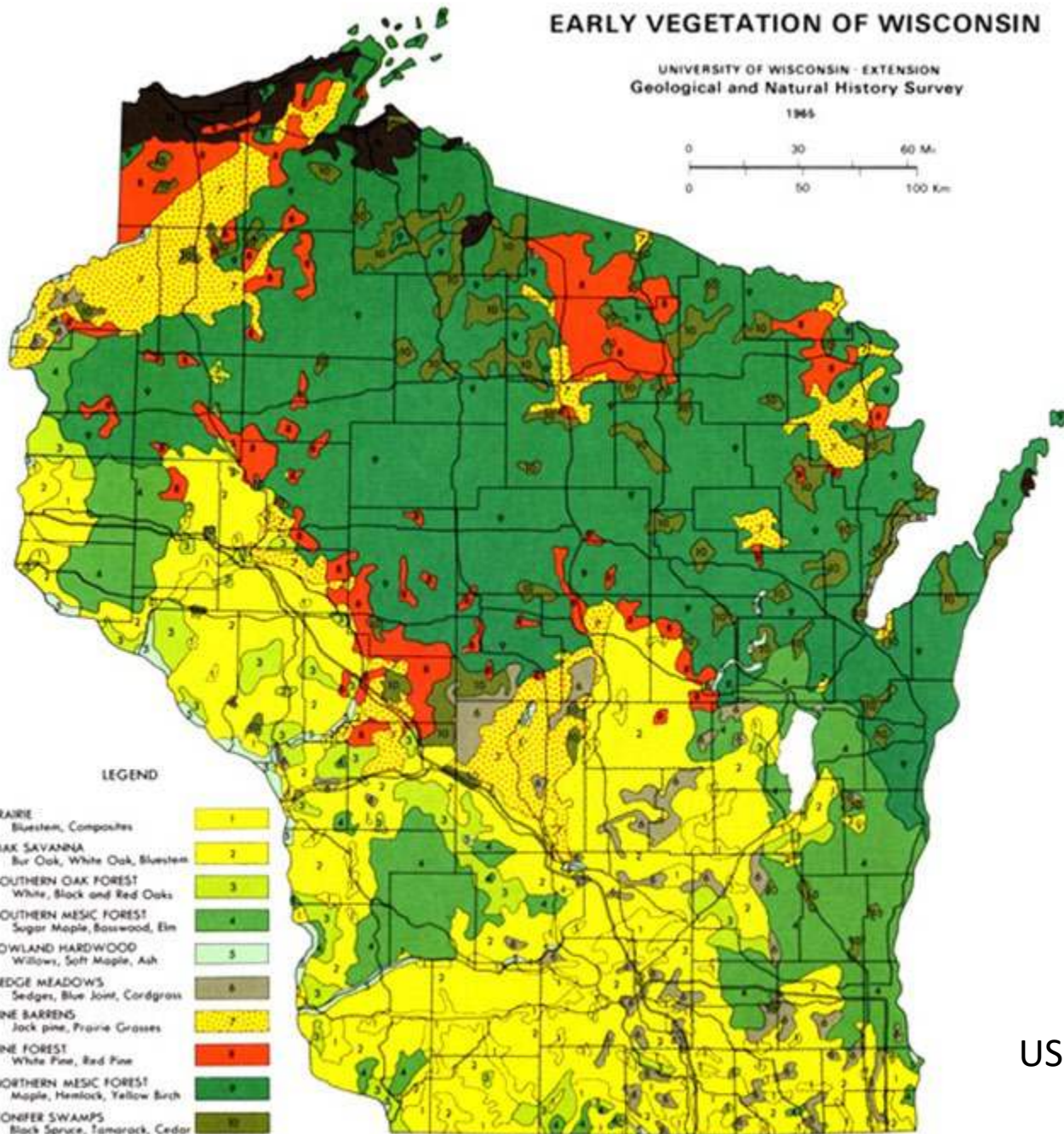
UNIVERSITY OF WISCONSIN - EXTENSION  
Geological and Natural History Survey

1965



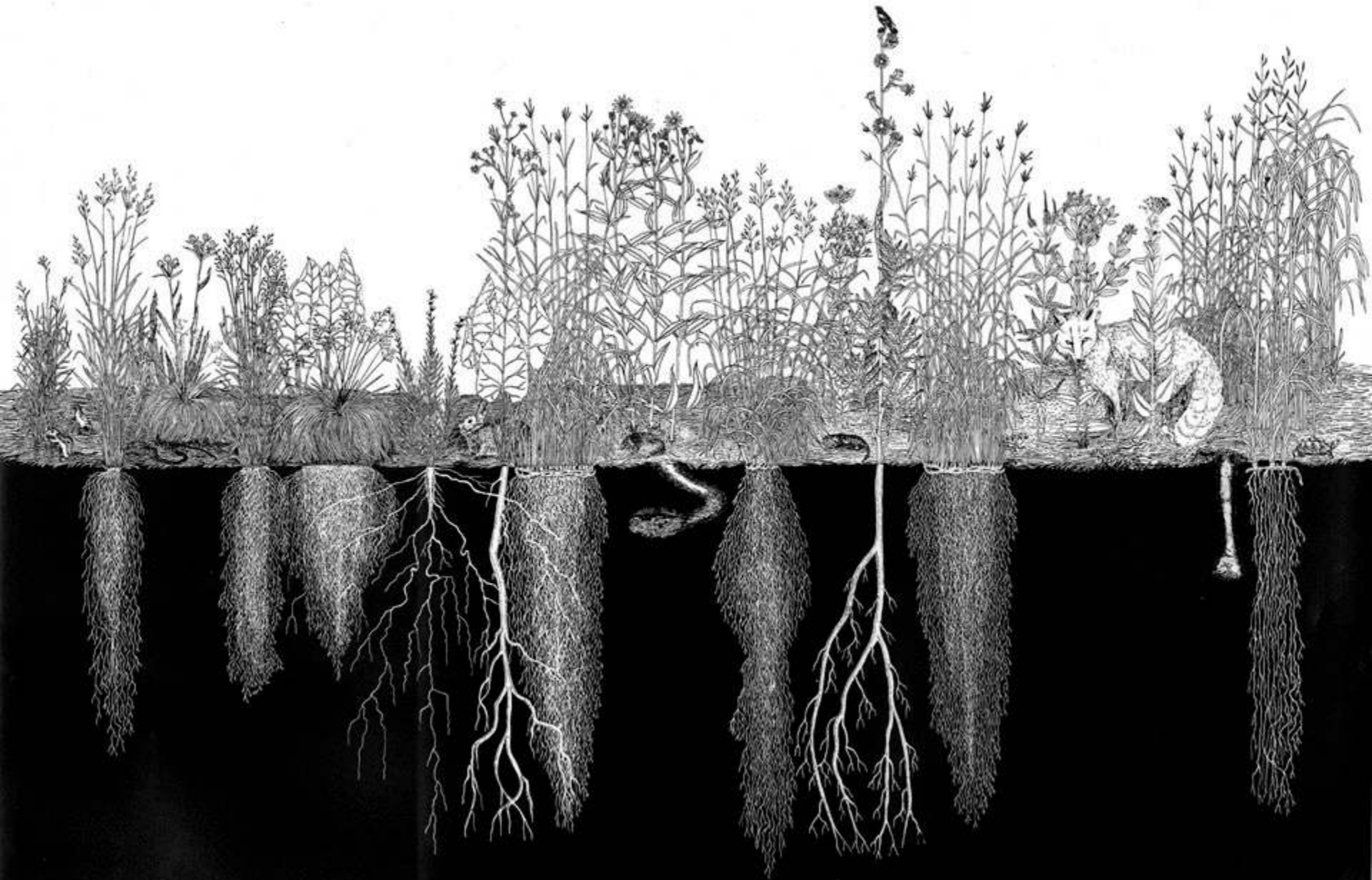
## LEGEND

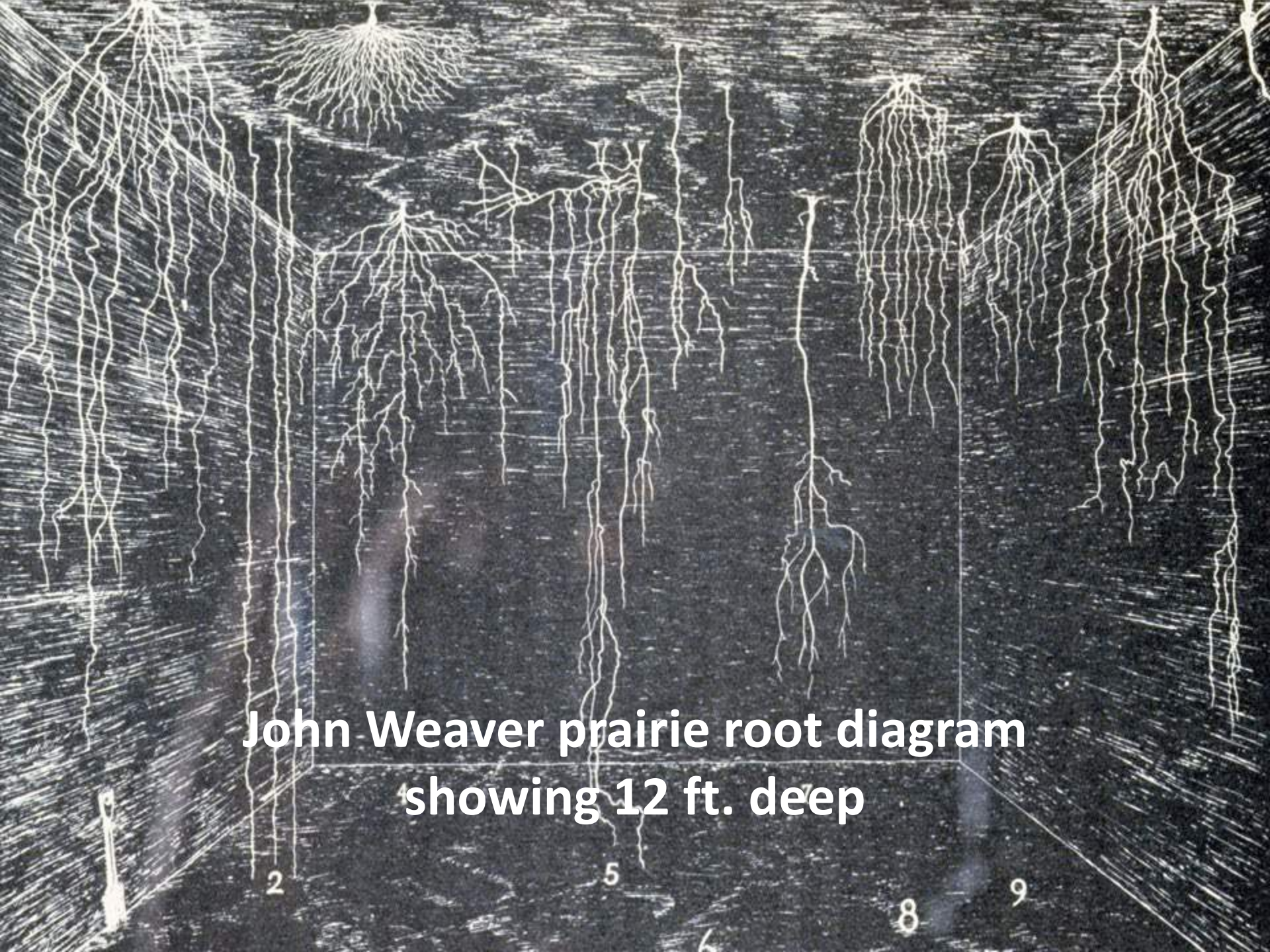
PRAIRIE Bluestem, Composites	1
OAK SAVANNA Bur Oak, White Oak, Bluestem	2
SOUTHERN OAK FOREST White, Black and Red Oaks	3
SOUTHERN MESIC FOREST Sugar Maple, Basswood, Elm	4
LOWLAND HARDWOOD Willows, Soft Maple, Ash	5
SEDGE MEADOWS Sedges, Blue Joint, Cordgrass	6
PINE BARRENS Jack pine, Prairie Grasses	7
PINE FOREST White Pine, Red Pine	8
NORTHERN MESIC FOREST Maple, Hemlock, Yellow Birch	9
CONIFER SWAMPS Black Spruce, Tamarack, Cedar	10
BOREAL FOREST Balsam Fir, White Spruce	11



From  
US Geological  
Survey

# *Prairie Roots Go Deep*





**John Weaver prairie root diagram  
showing 12 ft. deep**





# *Prairie Plants can be long-Lived*



# *What does fire do for prairie plants?*



- Kills & suppresses shrubs & trees
- Removes dead plant litter & thatch
- Releases mineral nutrients back to soil
- Stimulates flowering & seed production

What happens to the animals?







Meadowlark



Bobolink



TPE logo symbol

Red-bellied woodpecker



Red-headed woodpecker



# Fire Effects on Invertebrates

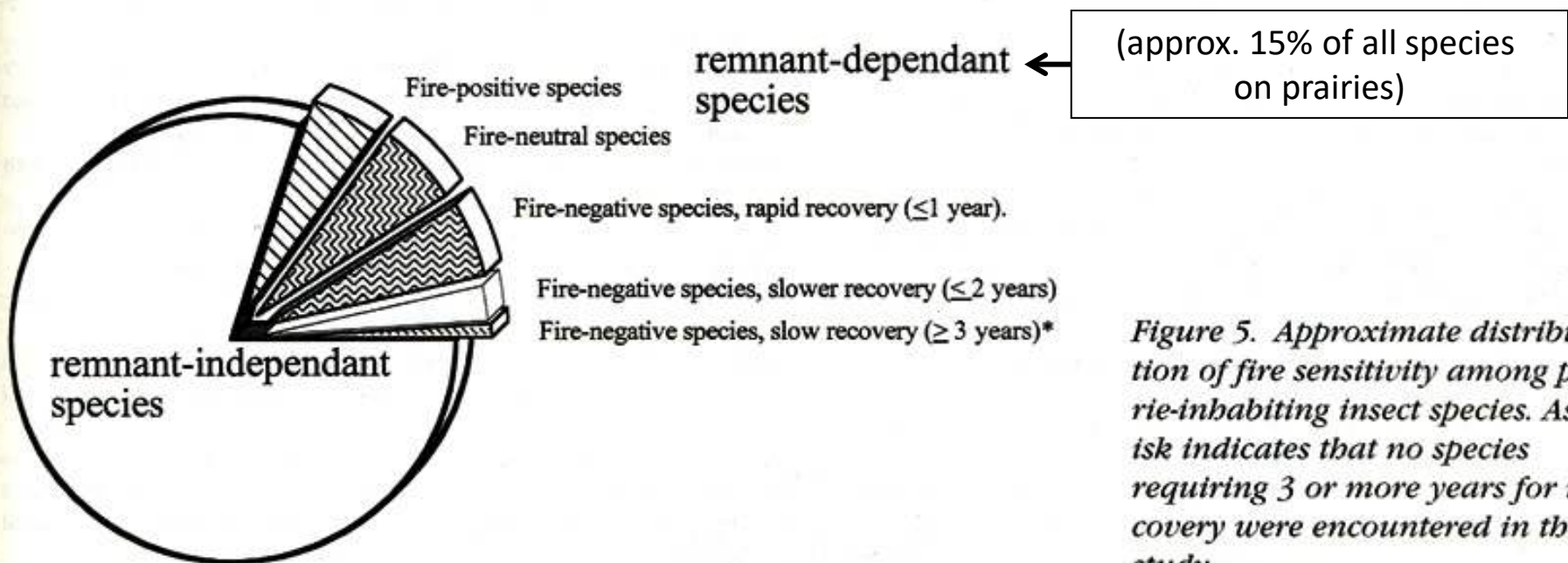
(Midwest prairies and savannas)



# Overall Response to Fire of Prairie Associated Species (Panzer 2002)

**Data strongest on:** Hemiptera, Homoptera, Lepidoptera, and Orthoptera

**Data weakest on:** Diptera, Hymenoptera, and Coleoptera





Gary Shackelford

## Monarch (*Danaus plexippus*)

2 generations or more per year

Does not overwinter here

Migratory

Nectars on prairie flora

= Fire Tolerant



Wisconsinbutterflies.org

## Leonard's Skipper (*Hesperia leonardus*)

1 generation per year

Overwinters on grass blades

1 week adult lifespan

Will be egg, larva, or pupa 11.5 months of the year

= Fire Sensitive

# Big Picture

- Some species benefit
- Some species unaffected
- Some species harmed\*

- \* Critical management questions are
  - mechanism of recovery
  - how fast they recover

# Refugia



Refugia

Burn Unit

Gradual ignition may permit small animals to escape fire more readily than large continuous flame fronts



Burns should not be conducted because we like fire. Some life is damaged by fire.

Always ask why we are burning, and prescribe your burns to accomplish your goal. Avoid burning unless you understand what you are burning for.

Specifics of when and why burn (or not) are generally land manager/burn boss responsibility.

## **Common reasons for burning in the Midwest:**

- +Reintroduce a historical, ecological process
- +Control invasive species
- +Control woody growth
- +Stimulate native plants, especially seed development
- +Remove debris

## **Common reasons for not burning in the Midwest:**

- No native flora on site to benefit from the burn
- May *promote* invasive species
- May exacerbate woody growth (sprouts)
- May wound desirable trees
- May damage birds, insects, reptiles, amphibians



END PowerPoint 2 of 8  
FIRE ECOLOGY; WHY BURN?

# The Prairie Enthusiasts Prescribed Burn Basic Training

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## FIRE INFLUENCES

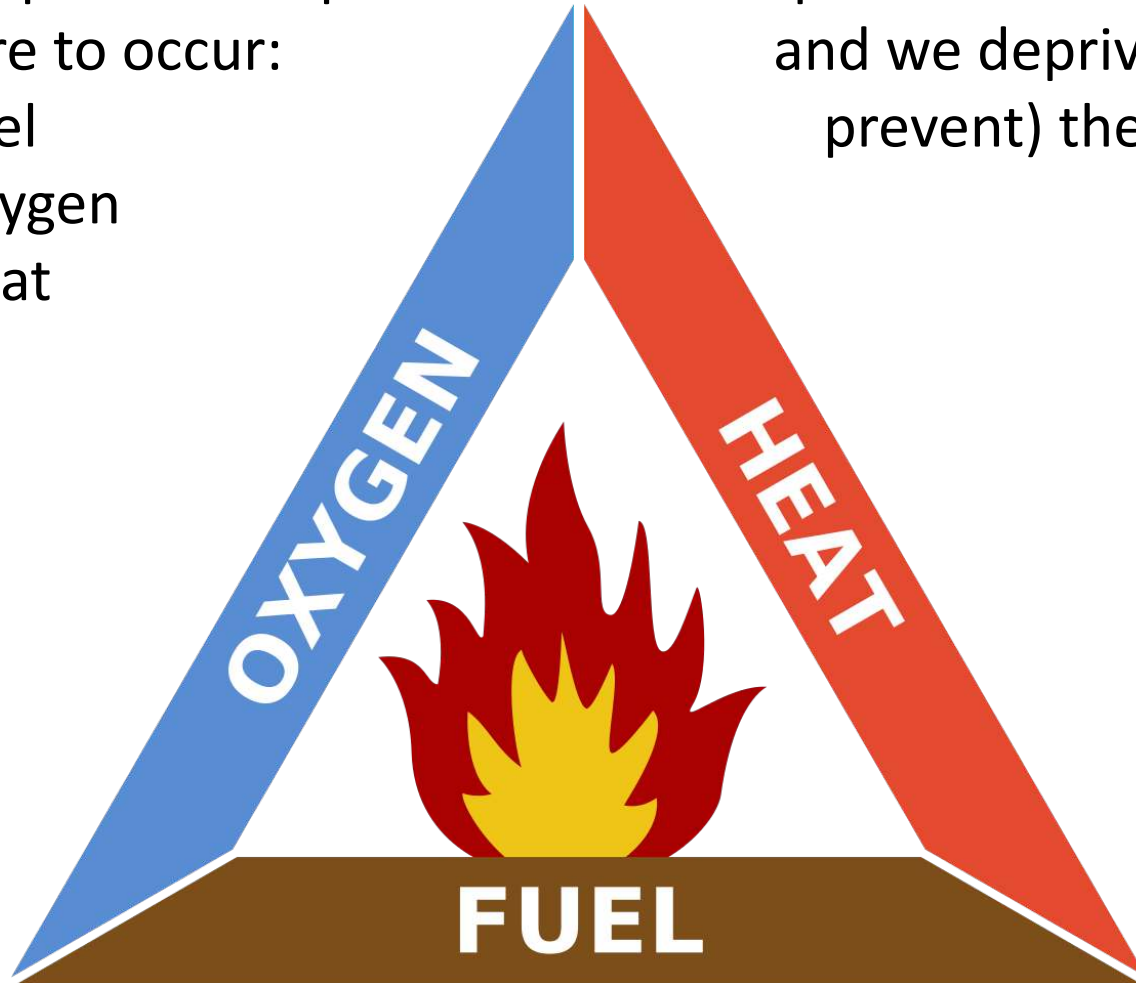
Estimated time: 1 hour

# *Fire Triangle*

3 components required  
for fire to occur:

- 1) Fuel
- 2) Oxygen
- 3) Heat

Deprive one of these  
and we deprive (or  
prevent) the fire.



# FUEL

Grass/Sedge

Oak Leaves

Brush

Cattails

# Grass

Brome

Prairie

2 ft. flames

10 ft. flames



# Oak Woods

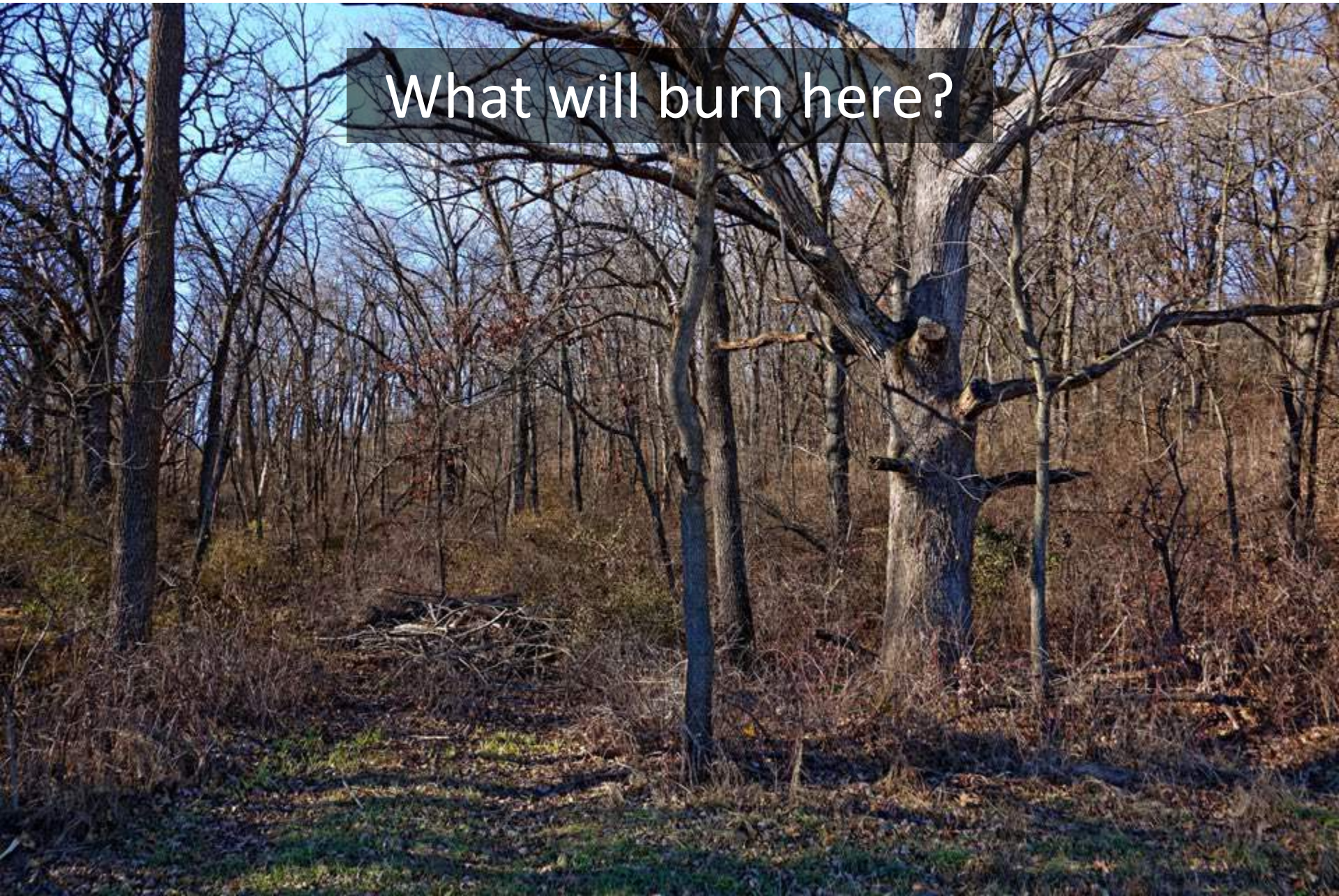


# Oak leaves – typical flames



# Oak Woods

What will burn here?



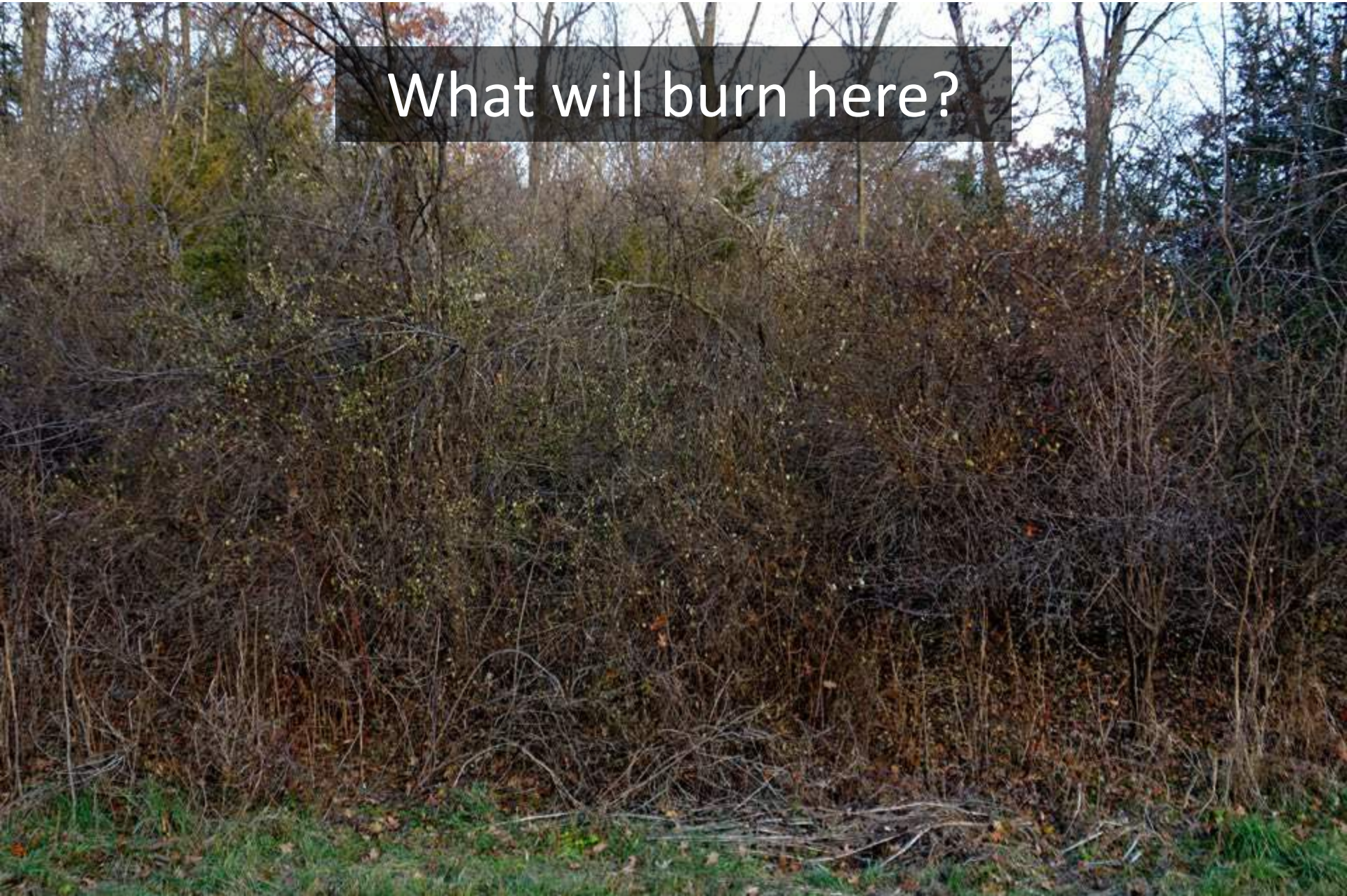
# Oak Woods

What will burn here?



# Brush

What will burn here?



# Cattail Wetland

What will burn here?



# Fuel Loading – Light Fuels



# Fuel Loading – Heavy Fuels



## A few more Fuel terms

Ground fuels: able to burn under the surface of the ground, like peat soils, tree roots, deep duff.

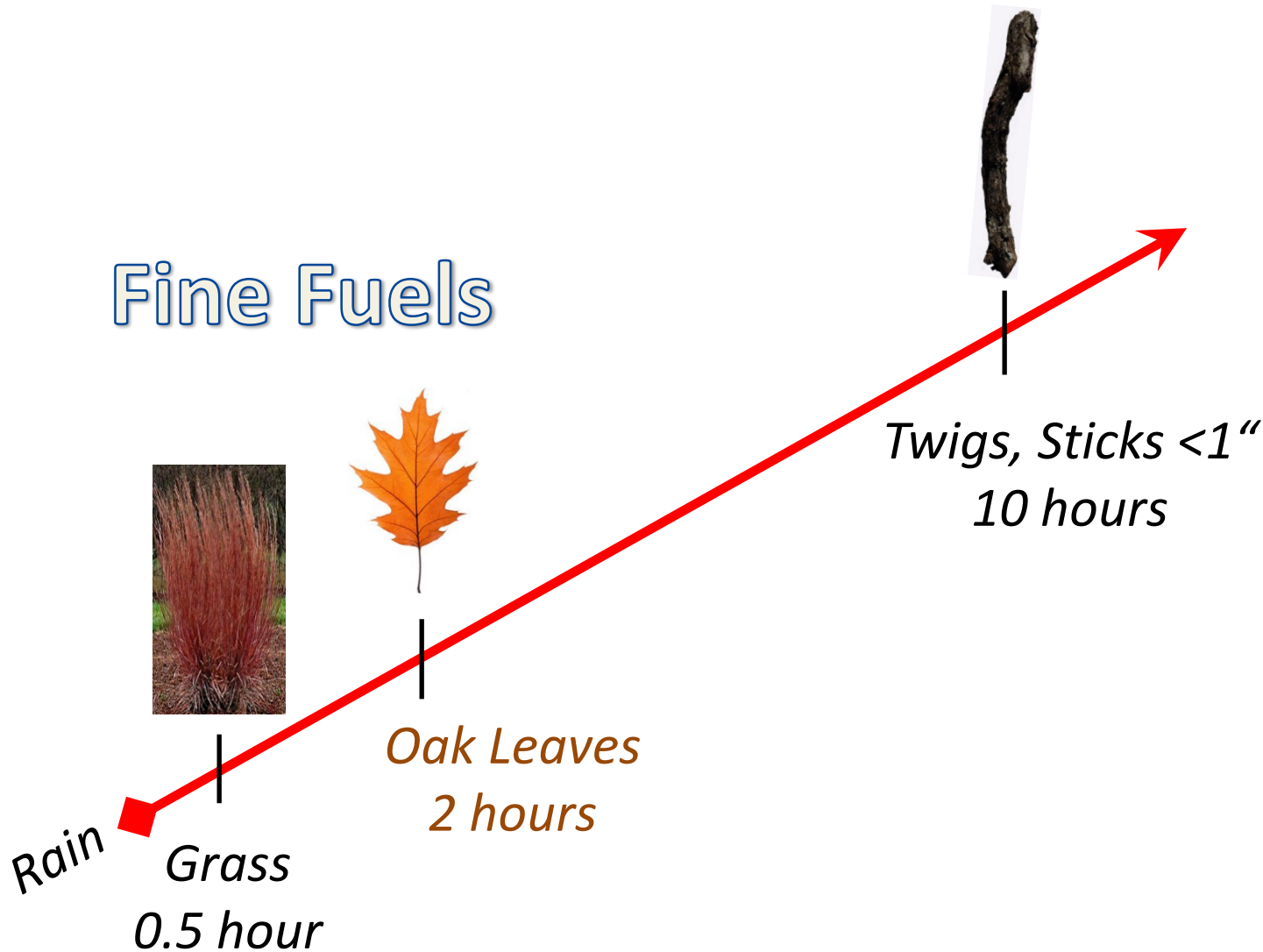
Surface fuels: on the ground surface, like grass, leaves, shrubs, rotten stumps.

Aerial fuels: above the ground including tree leaves, needles, branches, snags, tree crowns.

# 'Fuel Drying Time'

*Branches >1"  
100 hours +*

**Fine Fuels**

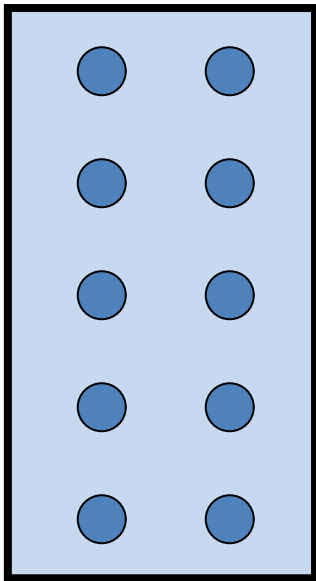


# Weather

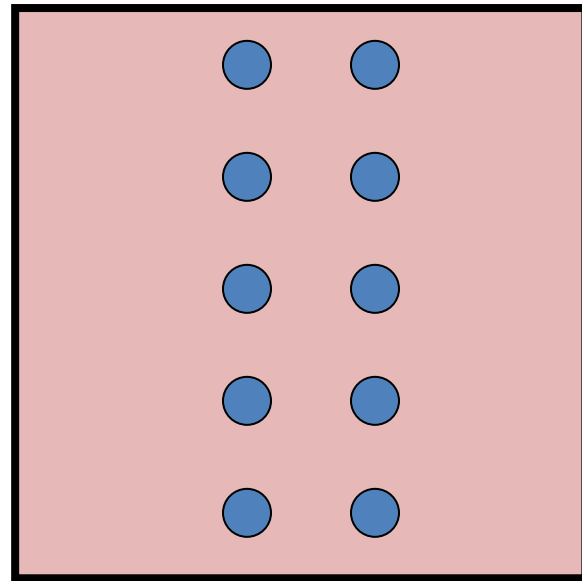
## Relative Humidity (RH)

- % of moisture in the air ***relative*** to total amount the air is capable of holding.
- Function of air temperature: Every 20<sup>o</sup> F. increase: RH drops by 50%.
- Very important! Determines moisture content in fuel.

The capacity of the air to hold water vapor  
is dependent on **air temperature**

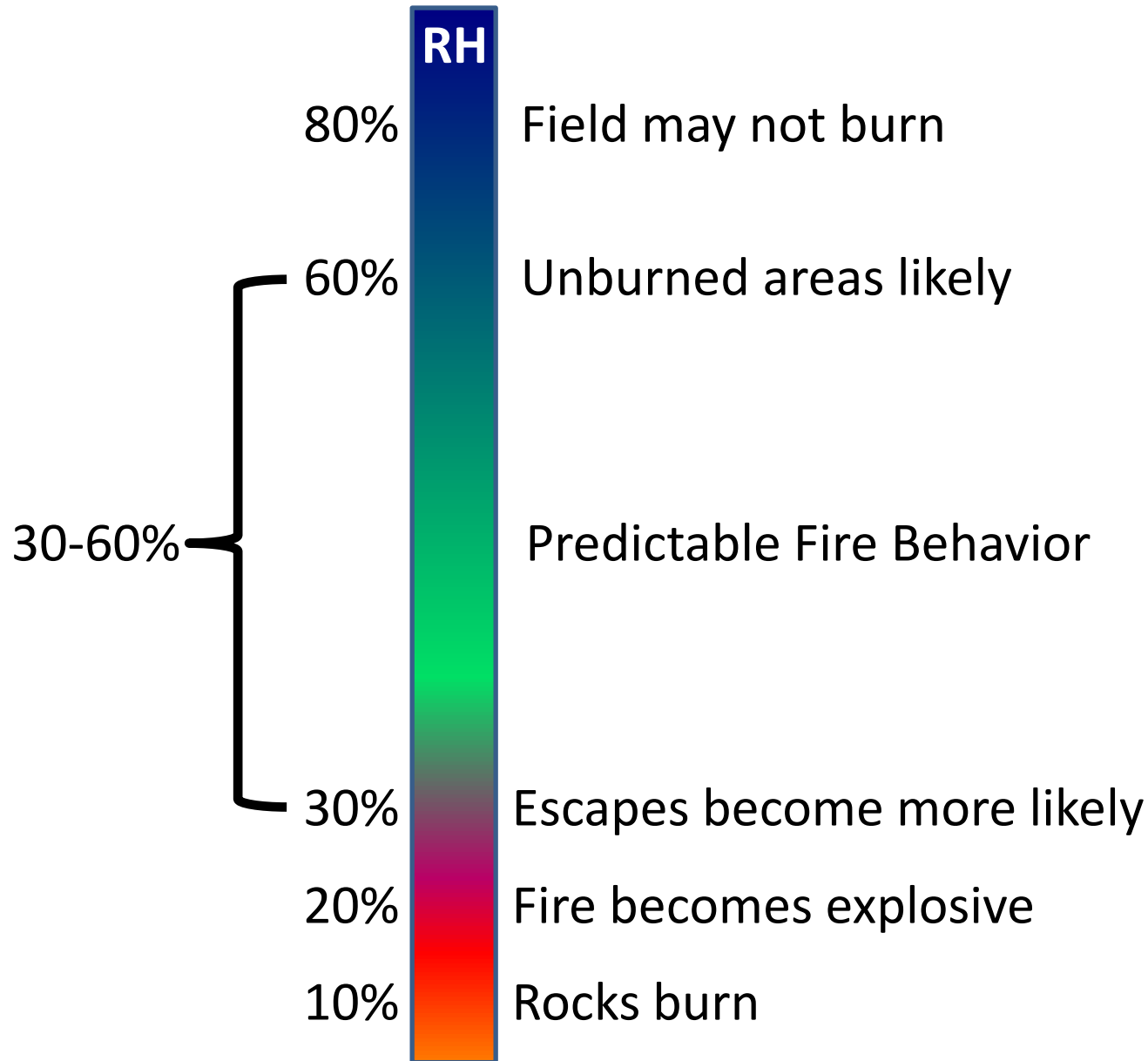


**30° F** (bag = 24 cm<sup>2</sup>)  
10 molecules of water  
100% RH



**50° F** (bag = 48 cm<sup>2</sup>)  
10 molecules of water  
50% RH

# Relative Humidity for burns



# Precipitation

## **Minimum Number of Days Since Last Significant Rain**

½ day in sands

1 day in prairie (dry to mesic soils)

2 days in savannas (dry to mesic soils)

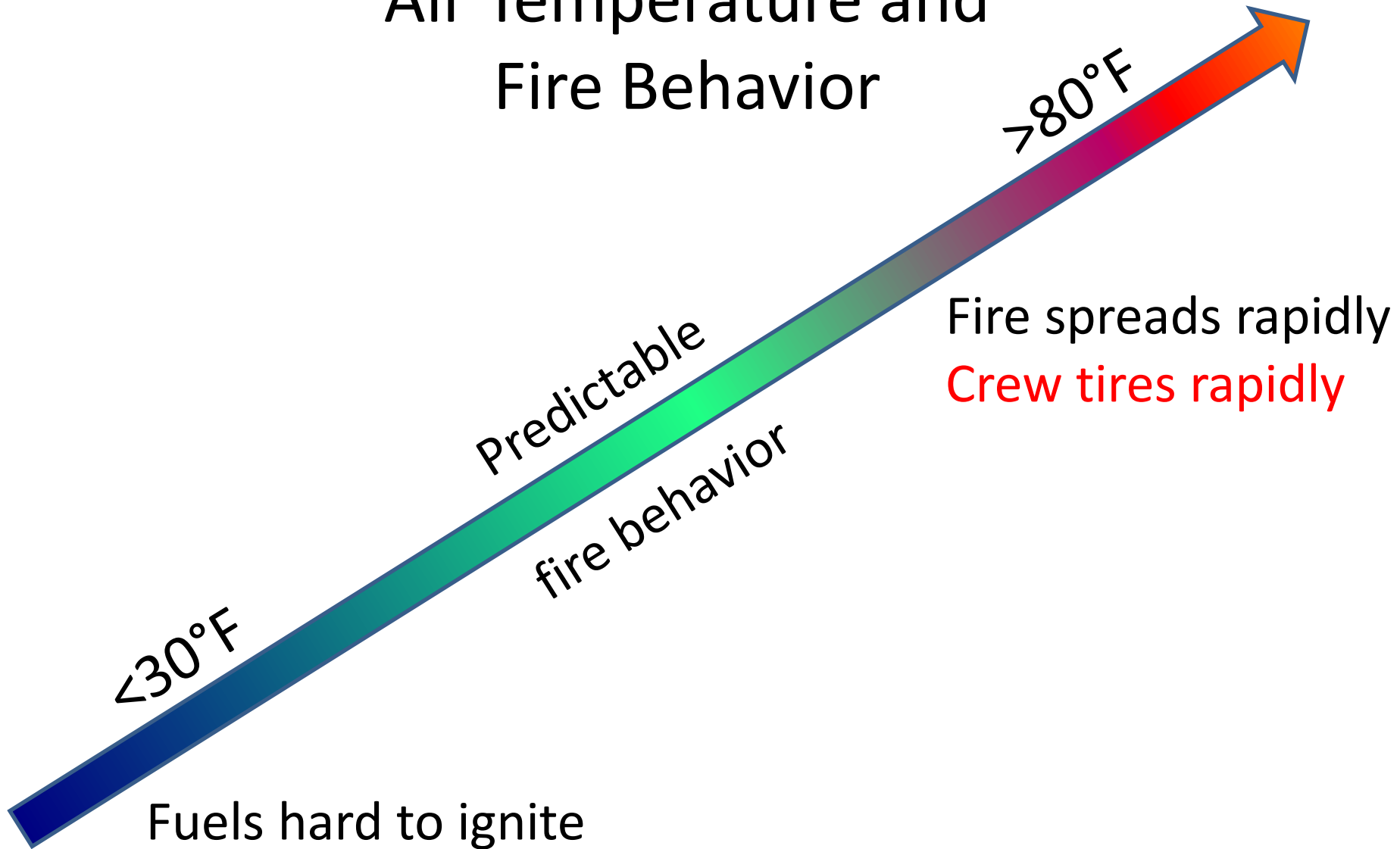
3 days in woods

# Temperature

## **As air temperature rises:**

- Fuels heat up
- Fuels lose moisture to surrounding air
- Can be 50 F° difference in fuel temperature between sun and shade
- Impacts crew comfort

# Air Temperature and Fire Behavior



# Wind Speed

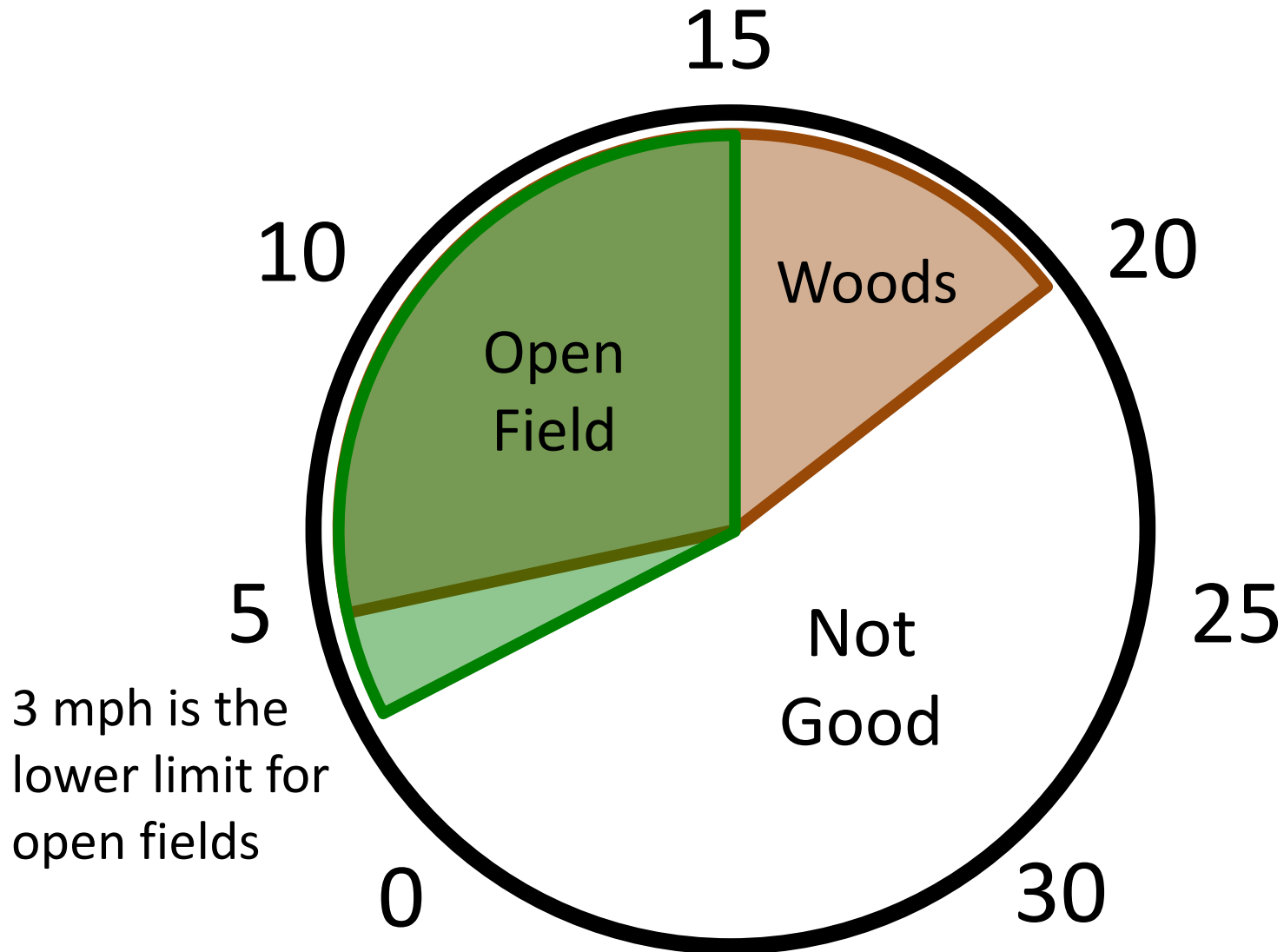
- Increases supply of oxygen to fuel
- Influences direction of fire spread
- Carries sparks and firebrands ahead of main fire, possibly causing spot fires
- Air heated by convection dries downwind fuels
- Wind speed is influenced by vegetation – trees slow wind speed
- Greater speed is often tied to directional stability

# Wind Speed Measuring Devices

10-15  
MPH



# Preferred Wind Speed (MPH)



# Wind Direction



Wind **direction** becomes important when there something to avoid, like smoke over the road. In this image, wind speed was minimal at 3-5 mph. A second fire line was ignited on the right, creating convection, pulling smoke off the road.

# Atmospheric Stability

The atmosphere has vertical and horizontal motion.  
Both affect fire behavior and smoke dispersal.

Terms relating to ***vertical*** atmospheric motion:

Atmospheric Stability/Instability

Mixing Height

Inversion

Terms relating to ***horizontal*** motion:

Transport Wind

# Unstable Atmosphere

Clear blue skies  
Warm air rising  
Smoke rising high



# Stable Atmosphere

Layered clouds above indicate a moderately low ceiling on how high air can rise and mix. This smoke may rise slightly, cool, and may descend.

Need photo of low clouds  
and stable atmosphere

# Atmospheric Stability (vertical motion)

## *Indicators*

### **Unstable Conditions**

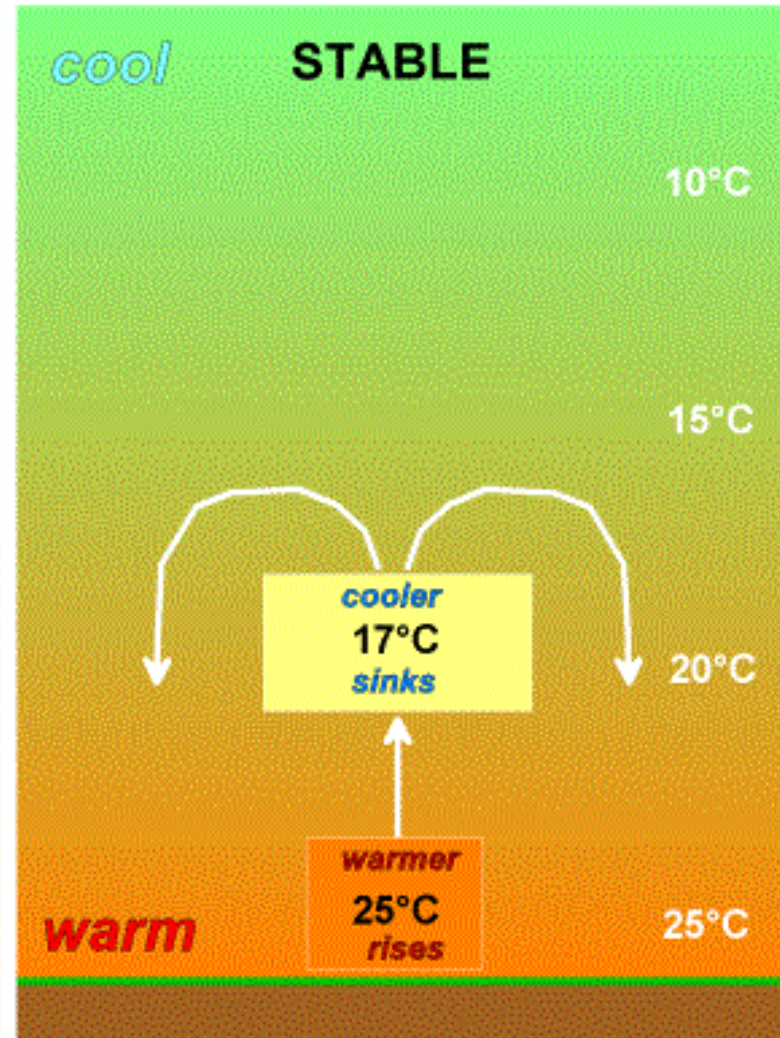
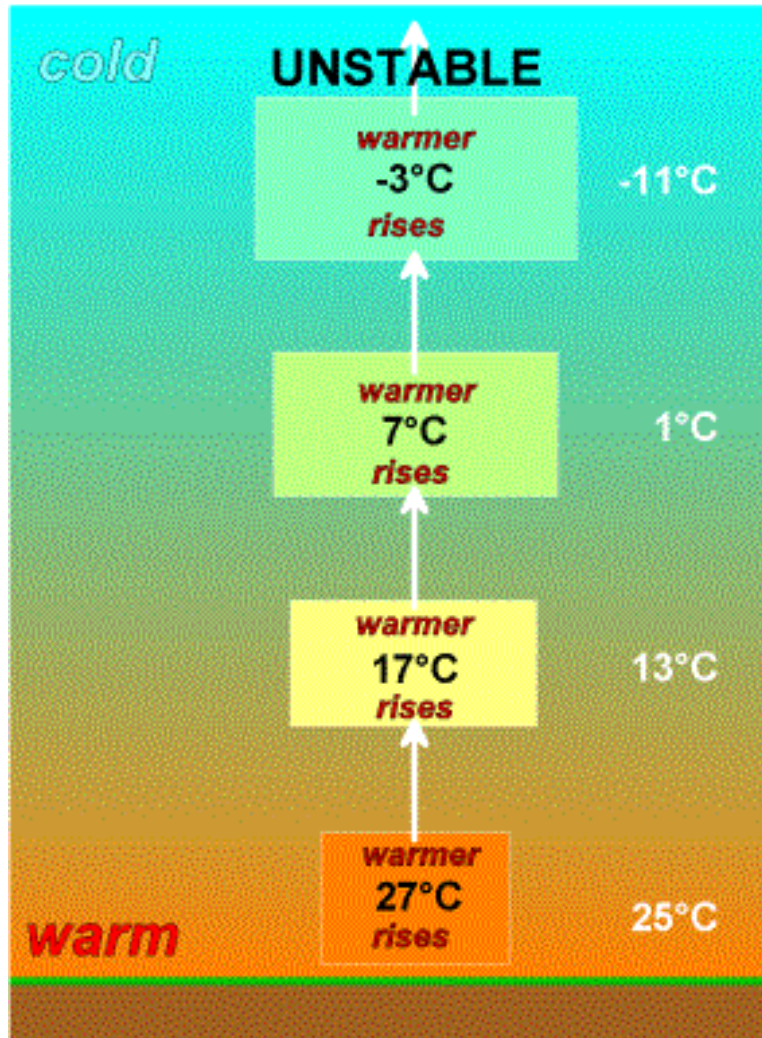
Strong sunshine  
Clear, or high puffy clouds  
Strong, gusty wind  
High smoke columns

### **Stable Conditions**

Overcast and/or low clouds  
Stratus type clouds  
Low, steady wind, or calm  
Low smoke column  
Poor visibility

# Mixing Height

The distance from the ground to where air no longer rises

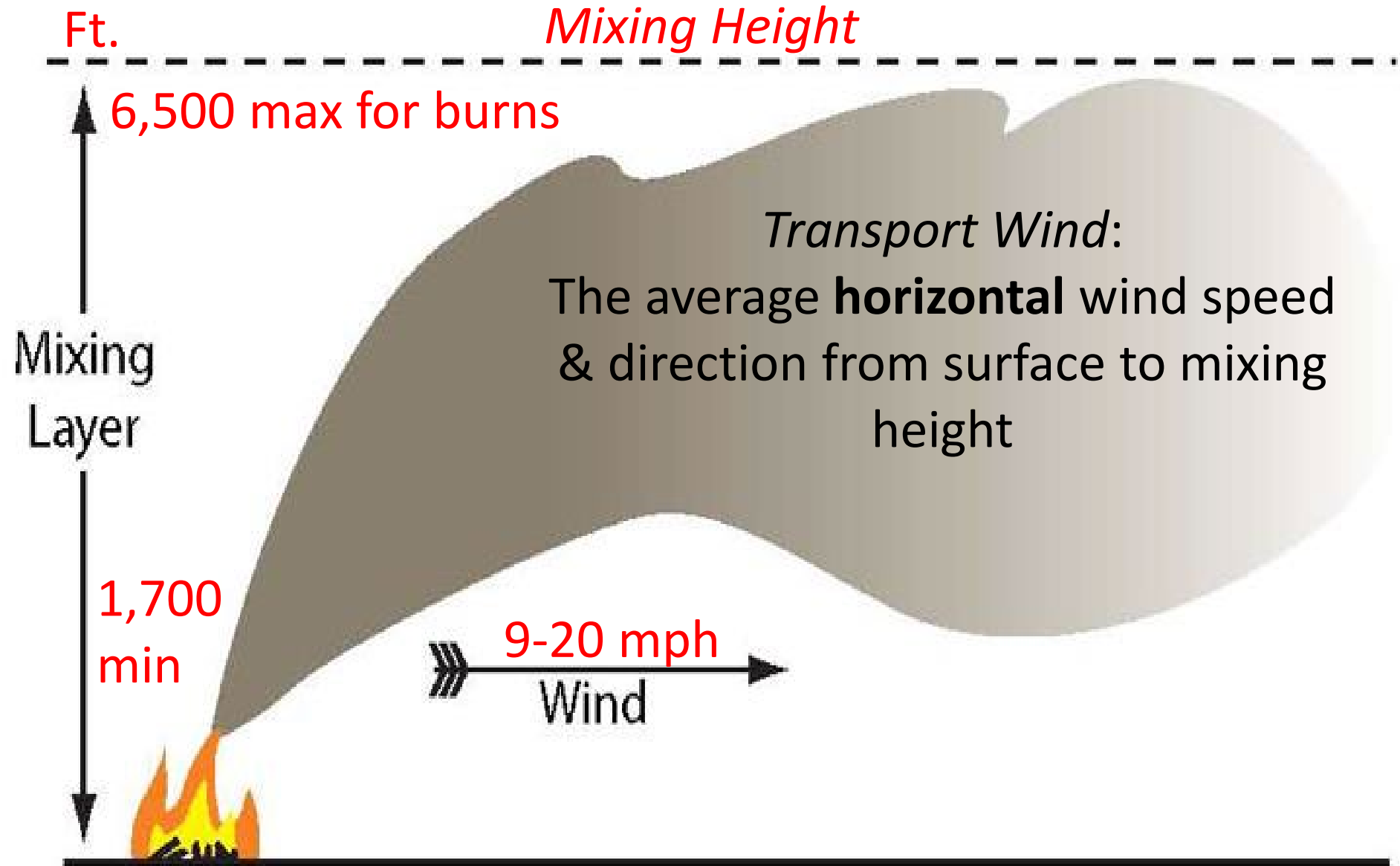


Bottom of cumulus clouds is usually a good indicator of the mixing height.



Q: Is this a stable or unstable atmosphere?

# Mixing Height & Transport Wind



# Inversion

Warm air here

Cold air here

Little or no vertical mixing



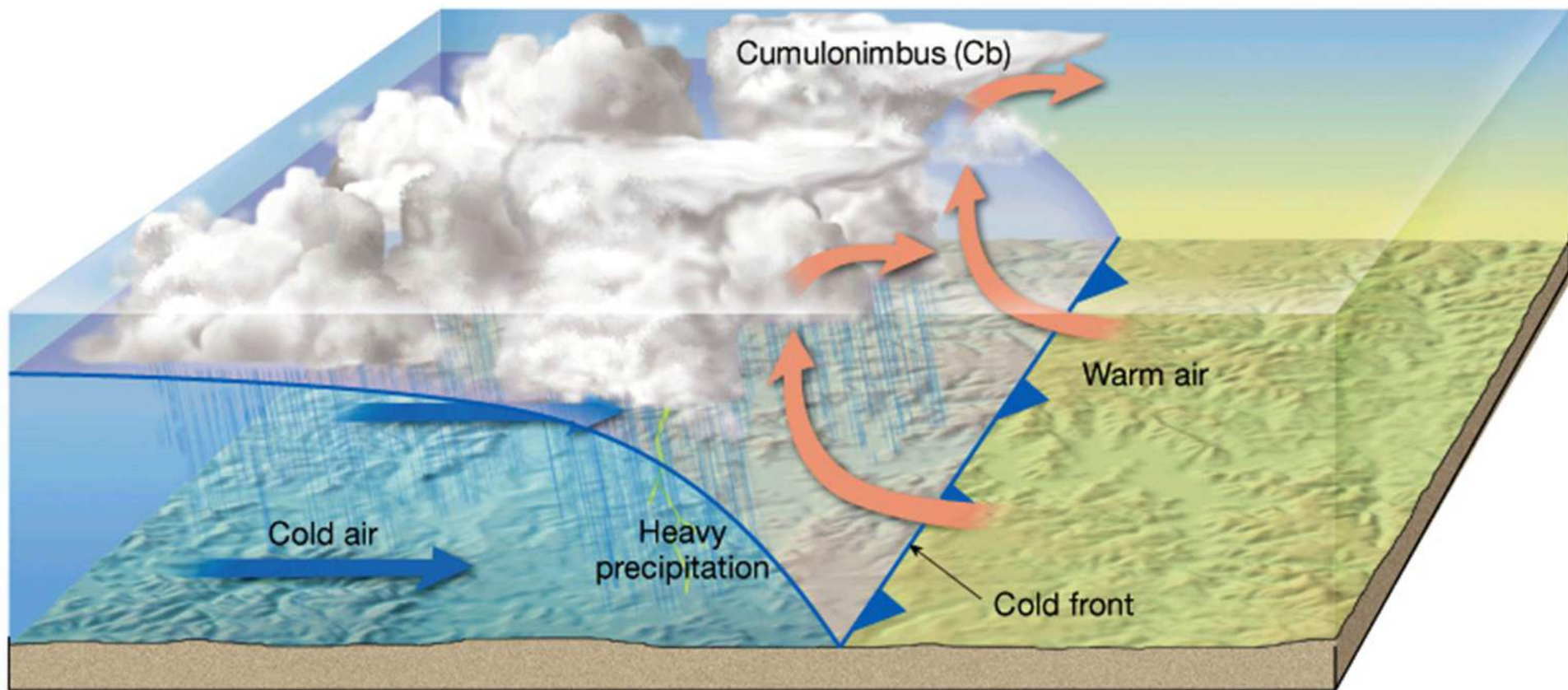
# ***Generic Midwest Weather Prescription***

Relative Humidity	20-60%
Fuel Moisture ( $\frac{1}{2}$ " fuel sticks)	7-30% (10-20% preferred)
Temperature	30-80° F
Wind Speed	3-15 mph prairie 5-20 mph forests
Wind Direction	Any? Subject to.....
Mixing Height	1,700-6,500 ft.
Transport Wind	9-20 mph
Minimum days since last rain:	
$\frac{1}{2}$ in sands; 1 in prairie, 2-3 in oak savanna	

# Cold Fronts and Thunderstorms

## Cold front

Source: Lutgens and Tarbuck, 2004





## National Weather Service Weather Forecast Office

## Milwaukee/Sullivan, WI

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## Text Messages

## Routine Fire Wx Fcst (With/Without 6-10 Day Outlook)

Issued by NWS Milwaukee/Sullivan, WI

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FNUS53 KMKX 072134

FWFMKX

Fire Weather Planning Forecast for Southern Wisconsin

National Weather Service Milwaukee/Sullivan WI

334 PM CST Thu Dec 7 2017

.DISCUSSION...

Gusty west southwest winds tonight into Friday are expected, with cold temperatures lingering. A round of snow is expected Friday night across the area, with 1 to 3 inches of fluffy snowfall forecast. The highest amounts should be across the far eastern portions of the area. Gusty north to northwest winds are expected later Friday night into Saturday, which may bring some blowing snow. Cold temperatures are expected to persist into next week.

This will be the final Fire Weather Planning Forecast for the 2017 fire season. This forecast will resume in spring 2018.



forecast.weather.gov/product.php?site=mkx&product=FWF&issuedby=MKX

**GFS-LAMP Prod  
Statistical Model  
more....**

**Climate  
Past Weather  
Predictions**

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Hazard Assmt...  
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334 PM CST Thu Dec 7 2017

.TONIGHT...

Sky/weather.....Partly cloudy until 0300, then mostly cloudy.

Min temperature.....10-15.

Max humidity.....86-91 percent.

20-foot winds.....Southwest winds 7 to 12 mph.

Precipitation.....None.

.FRIDAY...

Sky/weather.....Mostly cloudy. Scattered flurries after 1000  
until 1200, then slight chance of snow until  
1500, then chance of snow. Chance of snow 30  
percent.

Max temperature.....26-31.

Min humidity.....58-63 percent.

20-foot winds.....West winds 6 to 11 mph.

Haines Index.....4 or low.

Hours of Sun.....2 Hours.

Precipitation.....Scattered None.

Mixing Height.....Around 2500 ft AGL (Ave 12-6 PM).

Transport winds.....West around 13 mph (Ave 12-6 pm).

Smoke dispersal.....Around 20000 or fair (Ave 12-6 PM).



# NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Raging wildfire. Photo: SciJinks, NOAA

## Wildfire Resources

[Wildfire Safety](#)[NOAA Fire Weather](#)[Air Quality Forecasts](#)[Current Fire Information](#)[Smokey Bear](#)[American Red Cross](#)[National Interagency Fire Center](#)[Education and Outreach Materials](#)[Links and Partners](#)

## WildFire Weather Safety

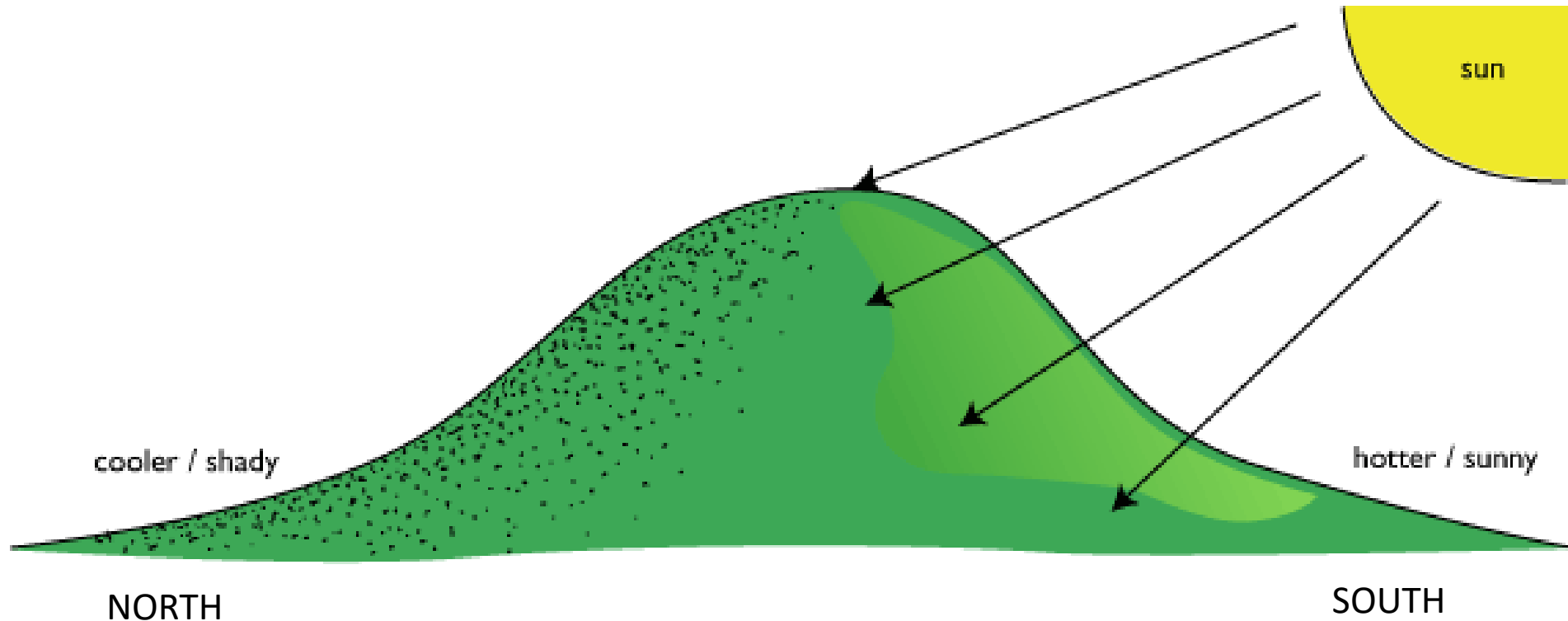
NOAA's National Weather Service works in conjunction with federal and state wildland managers to protect lives and property in and around America's wildlands. This site will help you prepare, be aware and act early if a wildfire comes your way. A list of partners can be found on the [National Interagency Fire Center website](#). If you, or someone you know, have been a victim of a wildfire, please [share your story](#) so we can prevent others from becoming a victim. When you write, please note that

# Topography

The configuration of the earth's surface

# Aspect

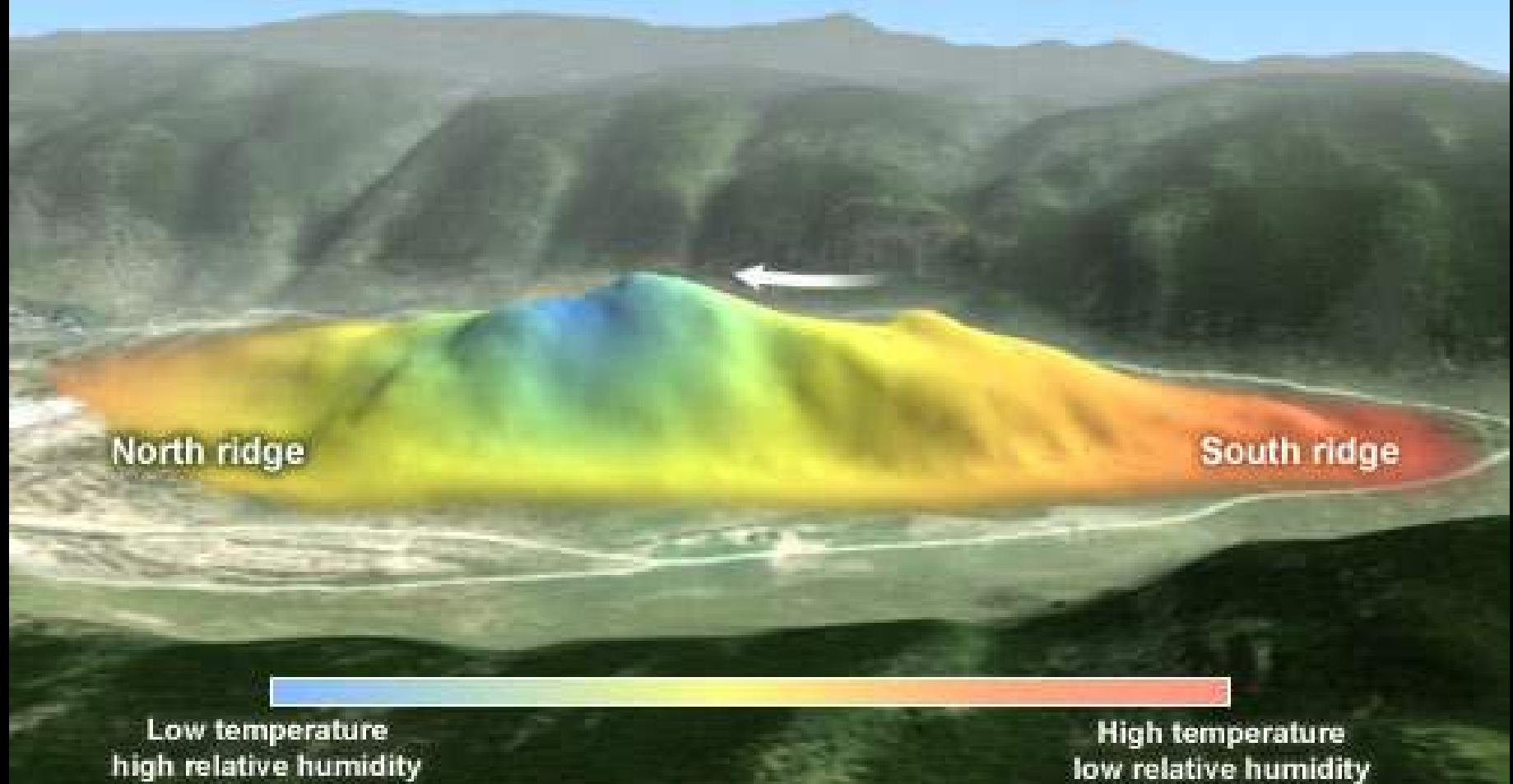
*The direction a slope faces*



The effect of aspect on soil temperature

# Variation in Temperature and Relative Humidity with Aspect (Afternoon Sun)

## Aspect



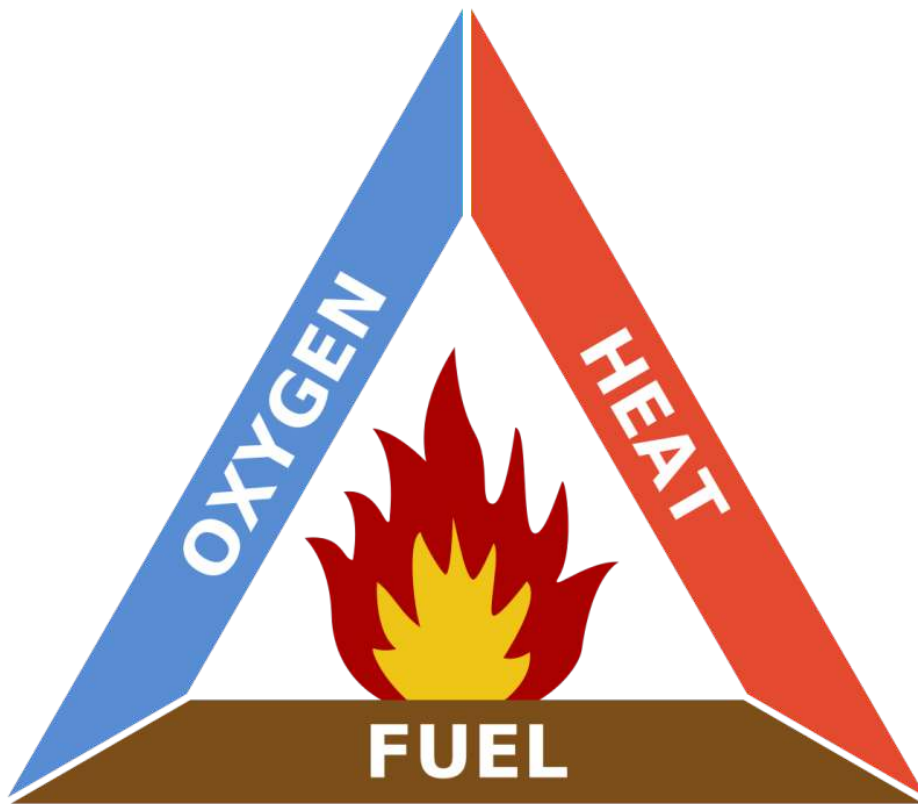
# Slope

*Fires run uphill; firemen don't.*

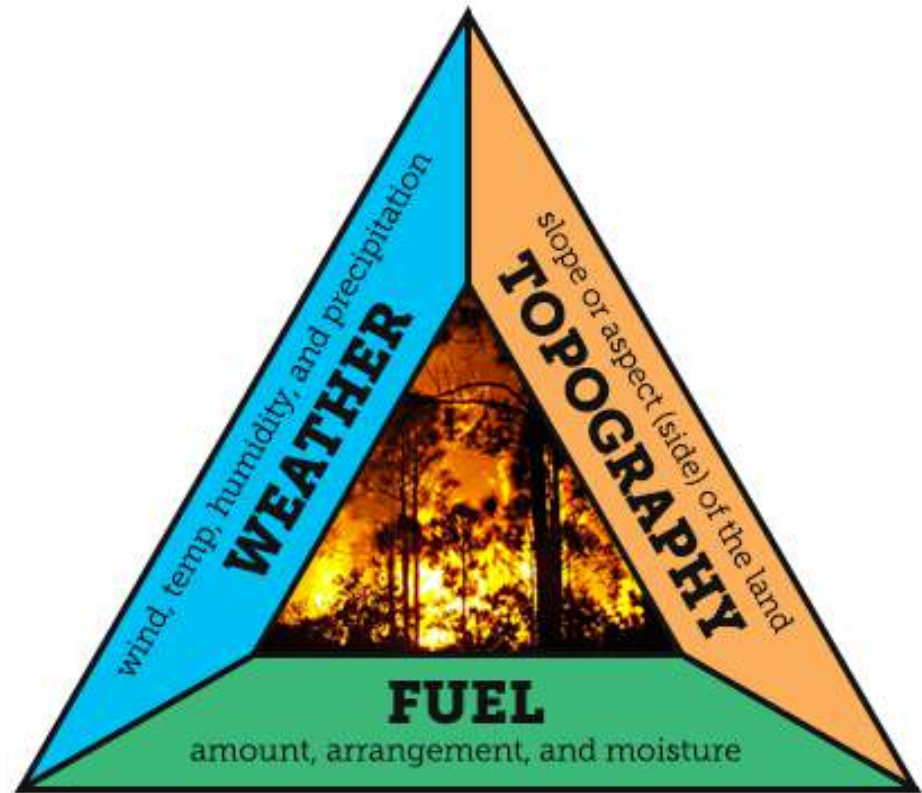


Photo canyon and chute

# Summing up: the 2 Pyro Triangles



**Fire Triangle**



**Fire Behavior Triangle**





END PowerPoint 3 OF 8  
**FIRE INFLUENCES**

# The Prairie Enthusiasts Prescribed Burn Basic Training



PowerPoint 4 of 8

## BURN TECHNIQUES

Estimated time: 1 hour

# DELIBERATE FIRES

# Test Fire



# Back Fire



# Back Fire example 2



# Head fire



FIRE

WIND

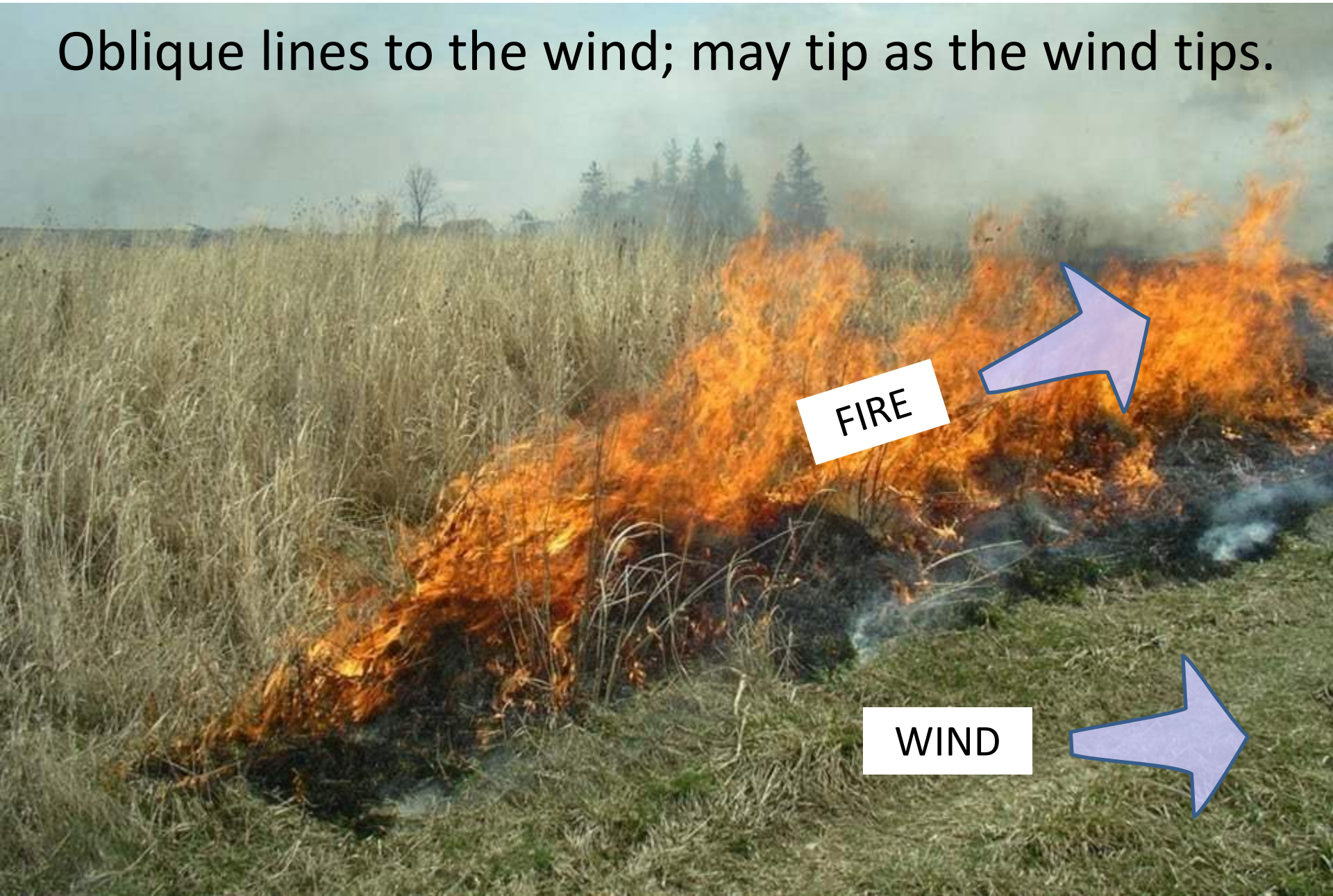
# Head fire example 2



*This small head fire was just started by the igniter.  
It will swell rapidly with the wind.  
Note 15 ft. high flames.*

# Flank Fire

Oblique lines to the wind; may tip as the wind tips.



Identify 3 parts of the fire in this image.



# Slope Fire



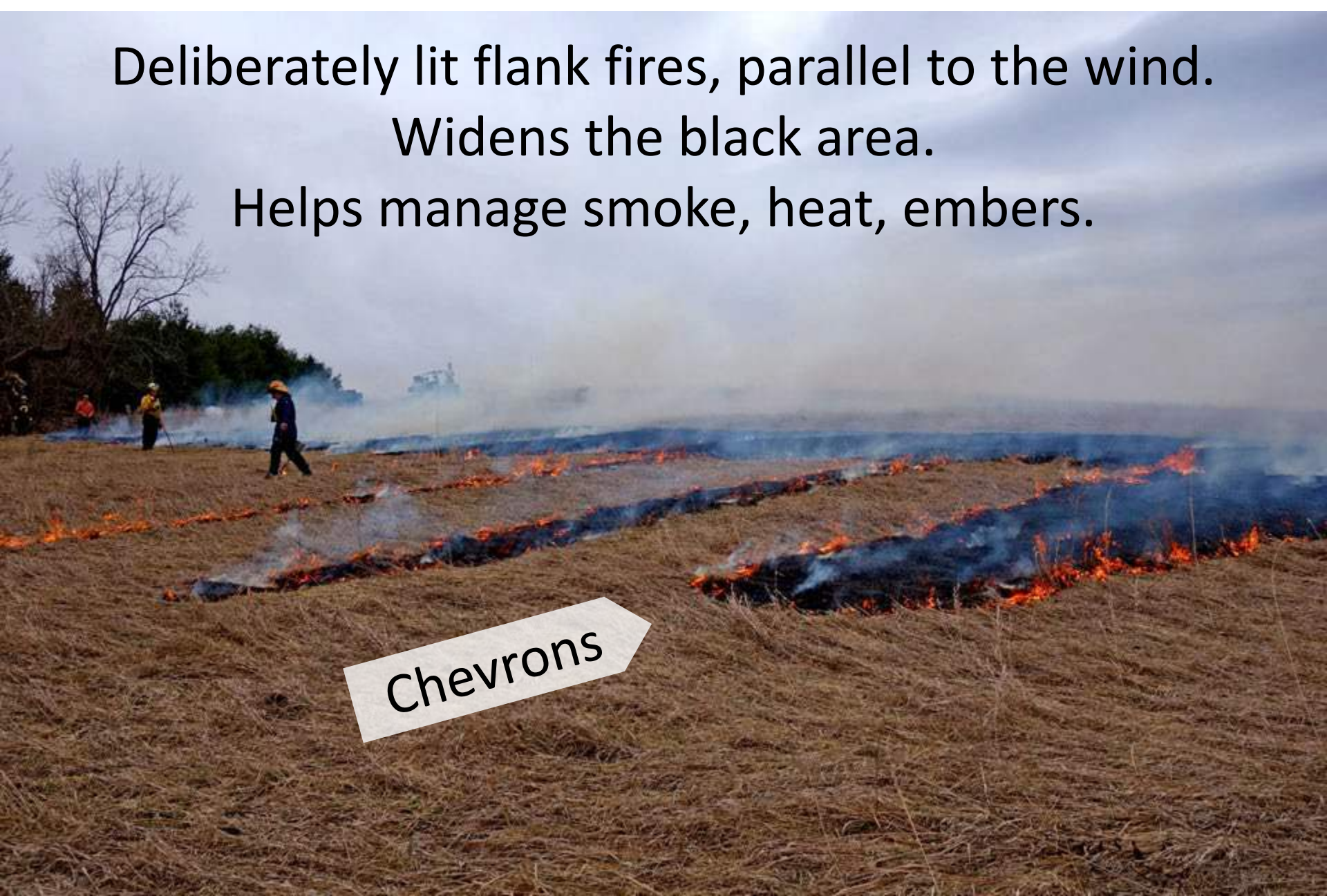
# Strip Head Fire

Lit parallel to the back fire  
to widen a black area



# Chevrons

Deliberately lit flank fires, parallel to the wind.  
Widens the black area.  
Helps manage smoke, heat, embers.



Chevrons

# Fire Separation



# Ring = Circular = Perimeter Firing Pattern

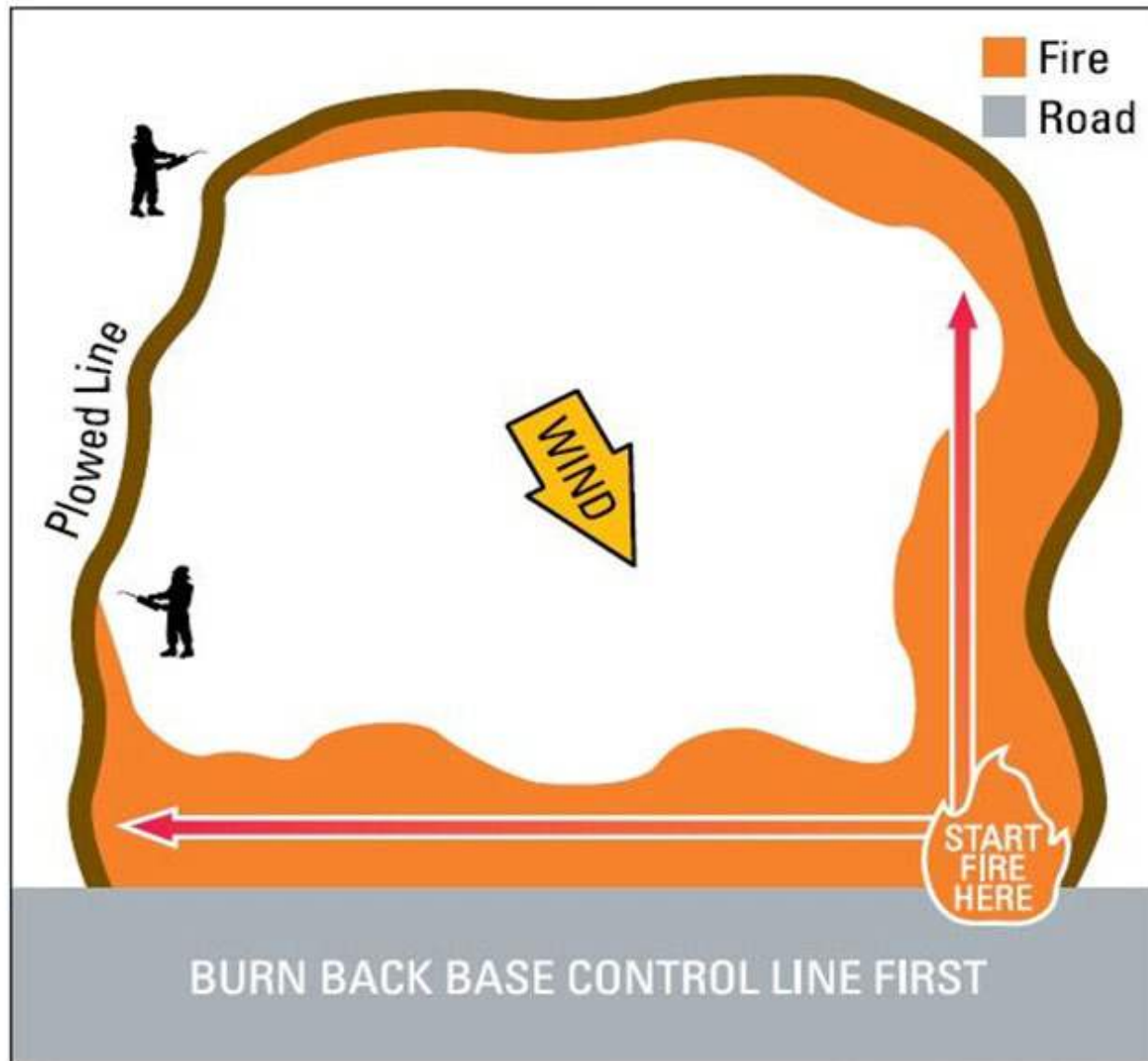
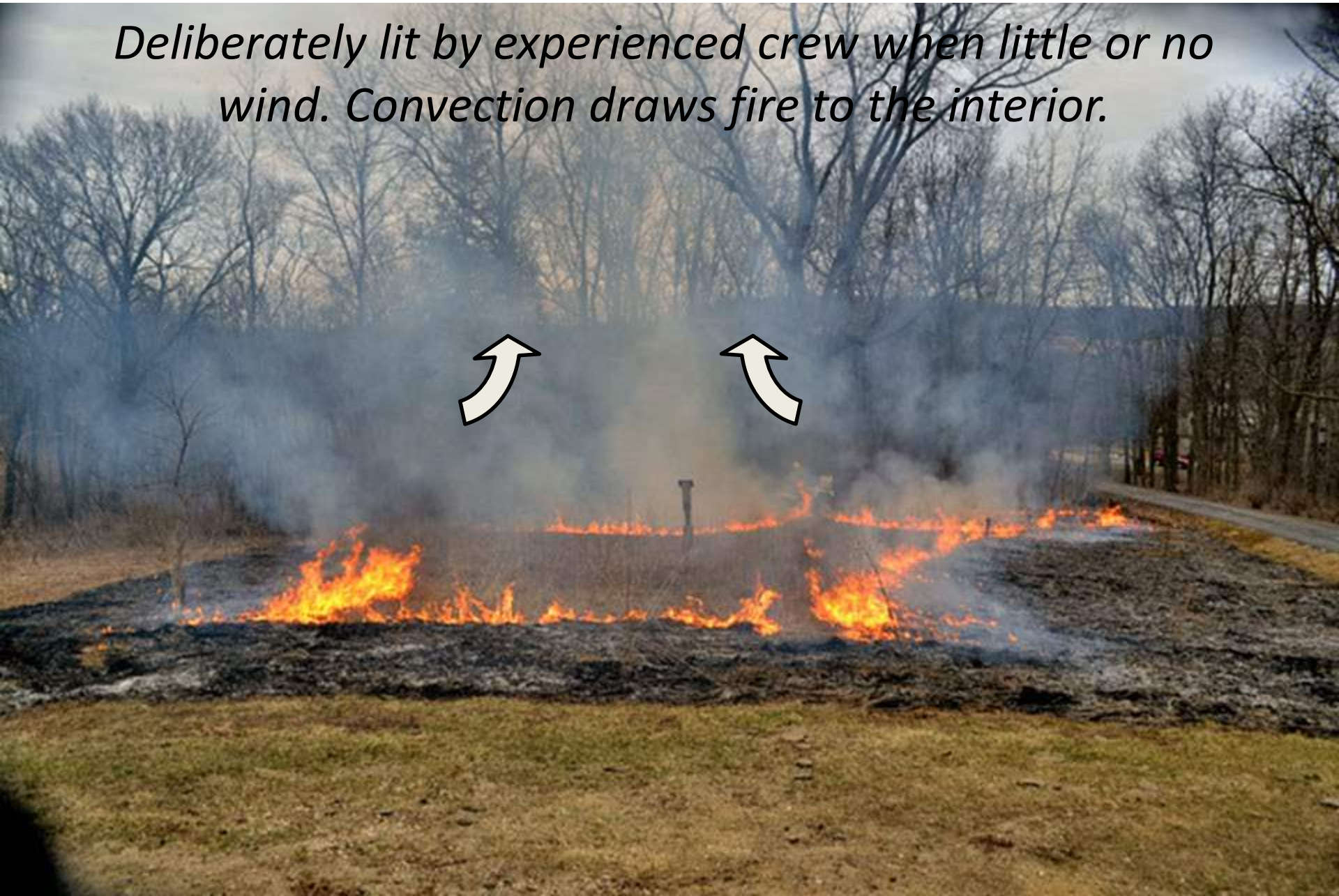


Figure 17-7: Circular Fire Ignition Pattern WDNR Fire Management

# Small Ring Fire

*Deliberately lit by experienced crew when little or no wind. Convection draws fire to the interior.*



# Prescribed Burn nearing completion

Note the inward draw and  
central convection effect



# Unintended Fires

# Fire Whirls



# Spot Fire

Spot fires occur when a fire brand in the wind, a careless drip torch, or an inadequate fire break, allows a new fire to start outside the burn unit.

May also be called 'escapes', when the unintended fire becomes substantial.

Spot fires *usually*, but not necessarily, occur during volatile, risky conditions.

# Spot Fire Response

## 1) Remain calm

2) Contact crew leader immediately and inform what you see.

3) Note what is beyond the fire – will it go out on its own?

4) Walk briskly to the spot fire – **Do not run** – You need your breath.

5) Approach the spot fire from behind.

6) Put out the flanks, proceed toward the head or tip, work in the black if possible.

7) Extinguish the head or tip last.

# Spot Fire / Escape Fire Response



Attack from behind; follow in the black

## Small Spot Fire Caveat

If the spot fire is still *small* when you arrive (1-5 ft across), use immediate direct attack on all of the lead fire – do this before it develops into a full head-fire and starts moving more rapidly. Your decision will depend upon flame length and amount of heat being generated.

# Crown Fire



# Crown Fire


Small oaks close to ground may briefly have leaves ignite



# California



# Fire Suppression



Backpack Water  
Pump  
a.k.a. Back Can

Extinguish the burning fuel, not the flame

If fan spray is desired,  
use finger.



# Working in pairs – 1<sup>st</sup> & 2<sup>nd</sup> water



# Flapper



# Fire Broom



# General Suppression

Igniter

1<sup>st</sup> Water

2<sup>nd</sup> Water

Flapper

Flapper/Spotter





Pump Trucks and/or UTVs



# Pumper Truck Suppression



Igniter

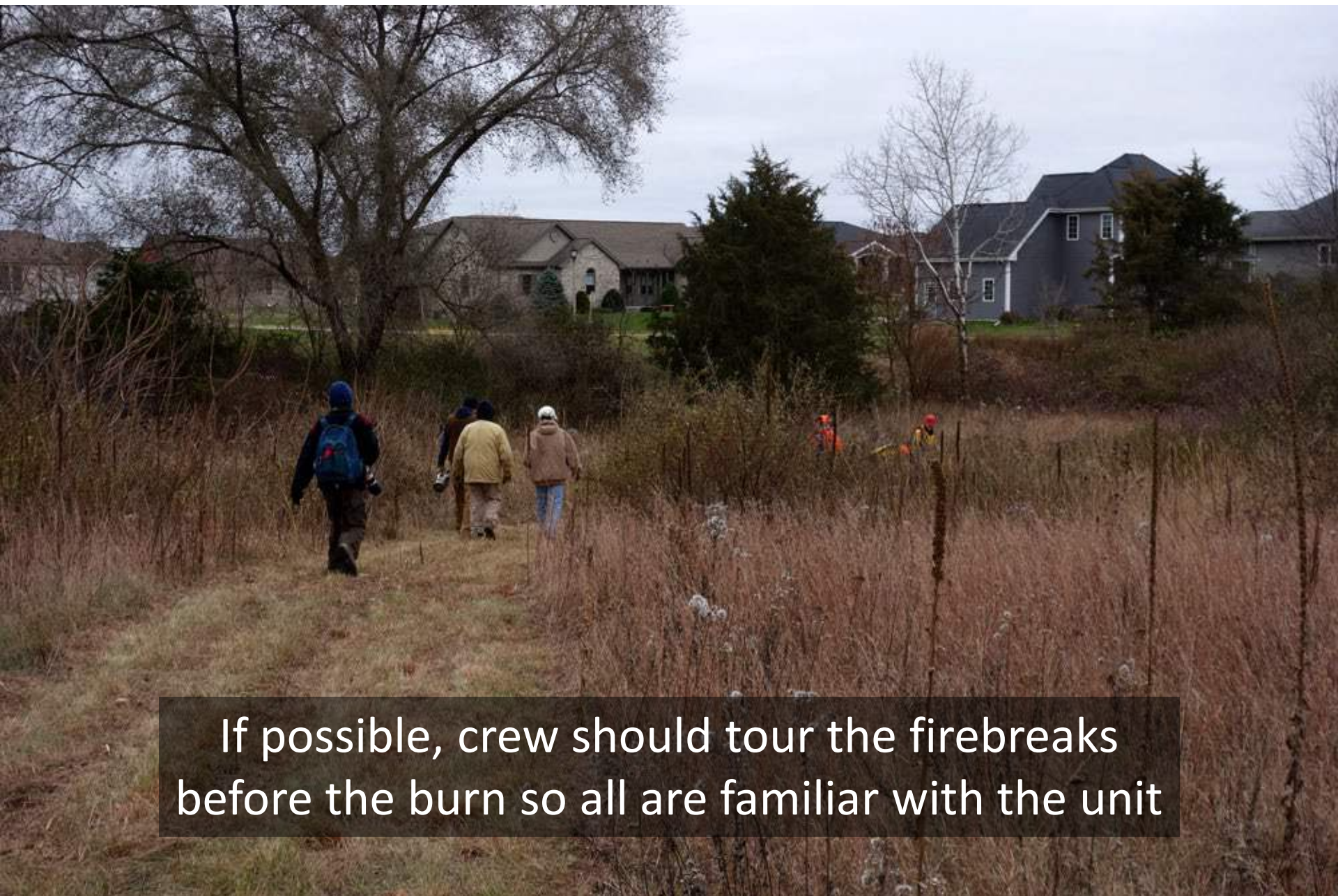
Water

Hose  
Tender

# Wet line before ignition



# Firebreaks

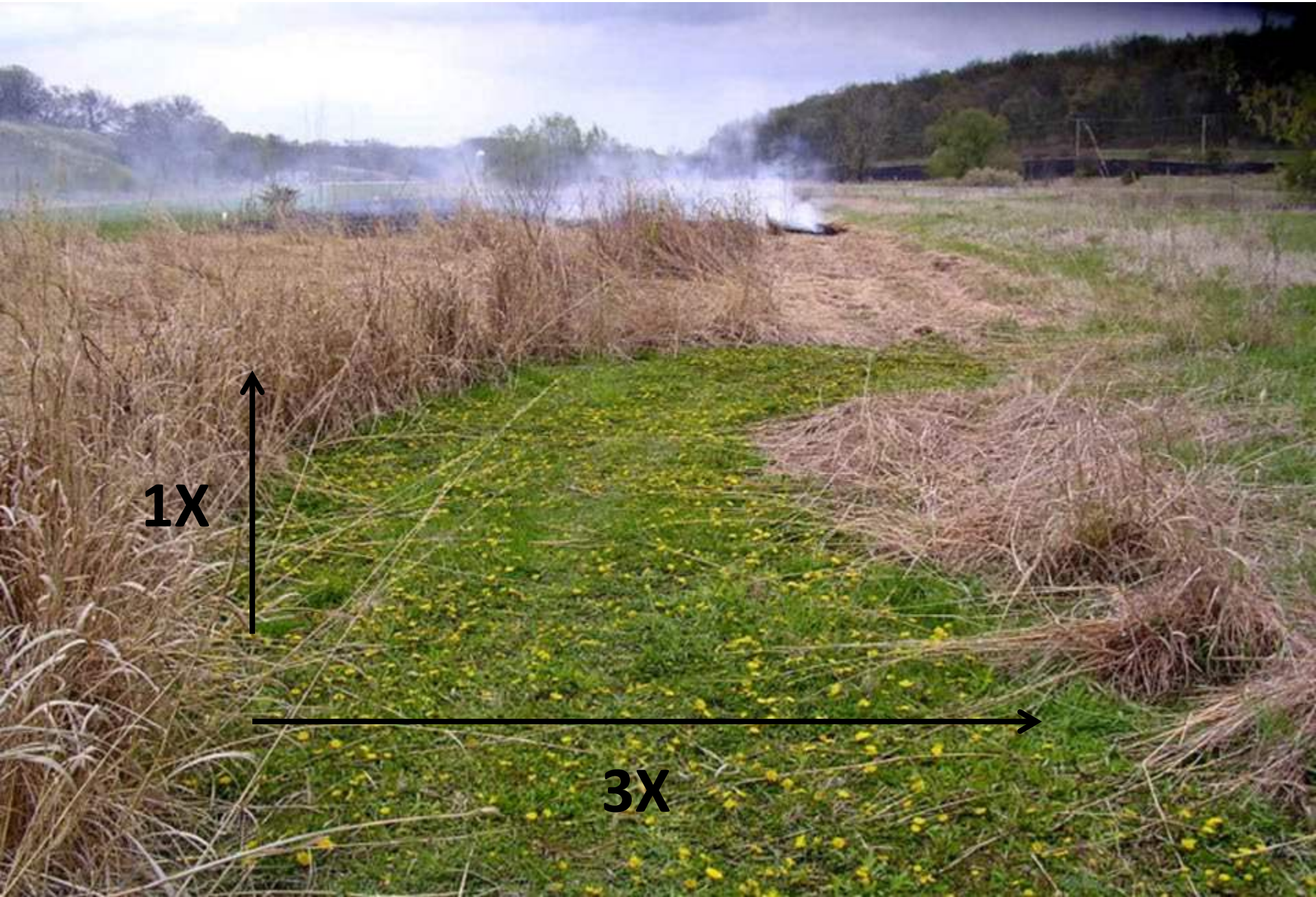


If possible, crew should tour the firebreaks before the burn so all are familiar with the unit

# Use Natural Barriers as Much as Possible



# Mowed



Which side has the burn unit?



# Mineral Soil



# Burned



# Raked



# **MOP-UP**

**Finishing the burn so we can  
go home**

Extinguish all smolders within 30 ft. of the perimeter.



Double this if high winds expected.  
Most grass smolders self-extinguish shortly.

Most difficulties are in woodland settings.



Sometimes water will not extinguish trees.  
A chainsaw is required.



Sawyers must have appropriate safety gear and be familiar with TPE safety policies on our burns



Many burn bosses would like to let logs smolder so we are rid of them.

Fire Departments and WI Law says all must be extinguished before leaving the premises.

Be prepared to have at least one person stay until the field is out.

Return to double-check the next day.



END PowerPoint 4 of 8  
**BURN TECHNIQUES**

# The Prairie Enthusiasts Prescribed Burn Basic Training

PowerPoint 5 of 8

## SAFETY



Estimated time: 0.5 hr.



**Caution**

Prairie Restoration  
Area

GOOD

*Personal  
Protection  
Equipment  
(PPE)*

No Synthetic Fibers  
No Frays

HAIR  
BURNS



COTTON



SAFETY GLASSES  
SUNGLASSES  
EYE GLASSES

LONG  
SLEEVES



COTTON  
WOOL



LEATHER  
GLOVES



LEATHER  
GLOVES



WOOL, DENIM, CORDUROY

NO STEEL  
TOES



LEATHER BOOTS  
6" Tops, Minimum

# BETTER

Fire-resistant  
**Nomex** made of  
special high-  
strength,  
synthetic material

SOME TPE CHAPTERS  
PROVIDE NOMEX SUITS  
FOR THEIR VOLUNTEERS



**NO  
EYE WEAR**



**POLYESTER  
STRETCH CAP**

**NO GOOD**



**WIND  
BREAKER**

**CLOTH  
GLOVES**



**CLOTH  
GLOVES**

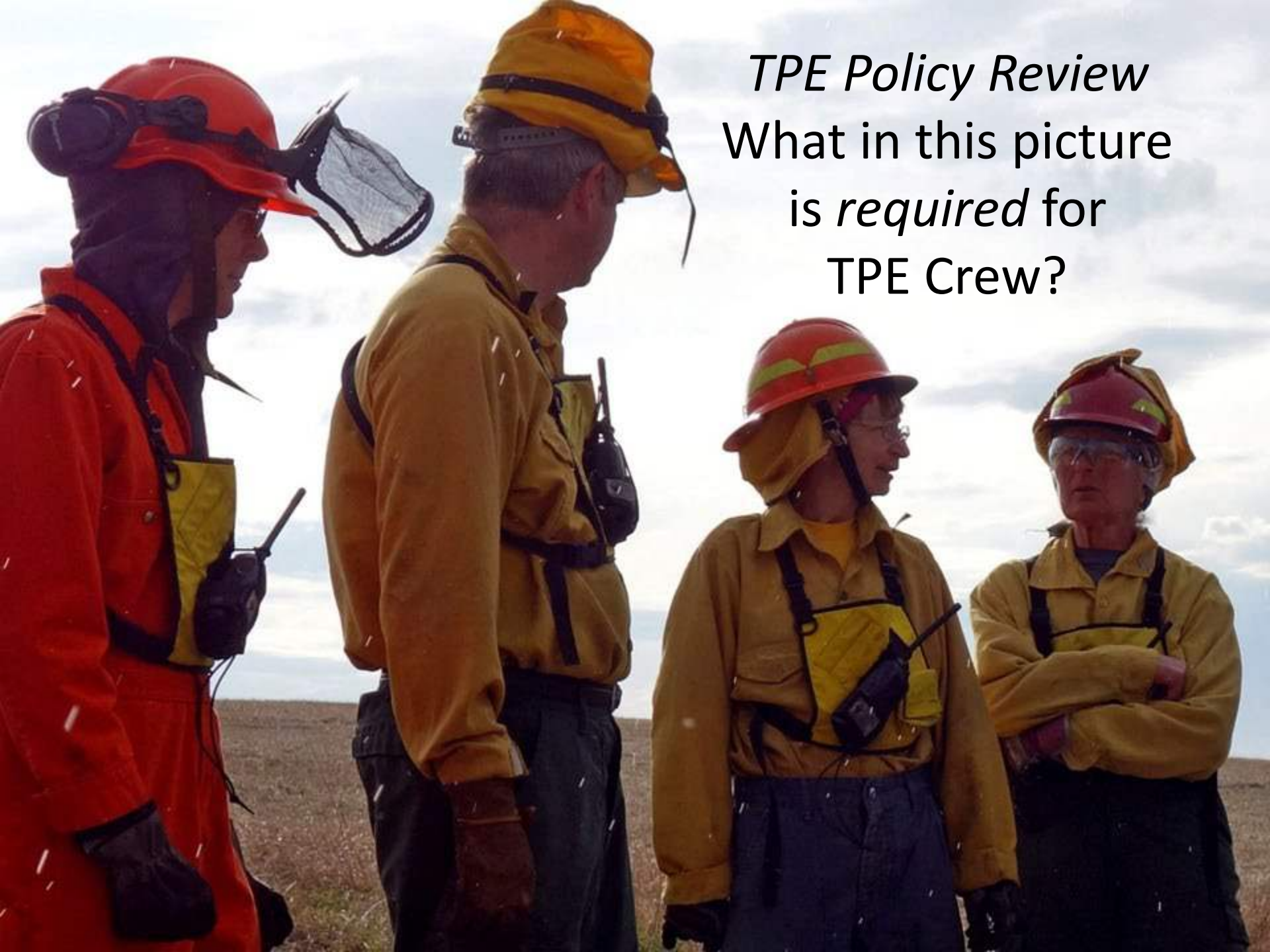
**Synthetic Fibers  
Inadequate Protection**



**NYLON, POLYESTER**



**RUNNING SHOES**



*TPE Policy Review*  
What in this picture  
is *required* for  
TPE Crew?

# TPE Required: crew access to:

PHONE



1<sup>st</sup> AID KIT



DRINKING WATER



## Recommended for individuals:



BANDANA



PERSONAL WATER

# LCES

## **National Wildfire Coordinating Group – S130 Safety Standards**

**Lookout:** At least one person serves as a lookout and sees both the fire and firefighters (burn crew), and continuously monitors progress of the fire. On TPE burns this will be the burn boss.

**Communication:** Some form of absolutely reliable communication is required between all crew and leaders.

**Escape route:** Firefighters will have at least two escape routes to reach a safe zone. No escape routes may pass over or above a slope on fire. Identify routes before you need them. Constantly reassess as fire progresses.

**Safety zones:** Must contain little or no combustible vegetation; preferably in the green or black. Zone dimension: Must be 4x the present flame height.

## *“Watchout” situations in the field*

**Winds change speed or direction suddenly**

**Increasing temperatures & decreasing RH**

**Frequent spot fires**

**Lack of communication about safety and contingency plans**

**Unburned fuel between you and the fire**

# Situational Awareness

Situational Awareness is our phrase that means remain constantly vigilant about the environment around you. Fires are active, never passive.

Look up

Look down

Look all around

Keep your head on a swivel. Pay attention to the wind, the rate of fire spread, your safety zones, and the actions of all crew.





How do you handle the hazards here?



*“The most dangerous person is someone with 3 successful burns under their belt.”*

Gary  
Eldred



Andrea  
Koonce

Steve Apfelbaum

*UW-Stevens Point - Fire Science Professor Andrea Koonce teaching the Wisconsin Prairie Enthusiasts 1988*

END PowerPoint 5 of 8

**SAFETY**



# The Prairie Enthusiasts Prescribed Burn Basic Training

PowerPoint 6 of 8

## CREW ASSIGNMENTS



Estimated time: 45 min.

Burns are potentially lethal. Leaders and crew work together, each with their roles and skills, to conduct a burn safely. A hierarchy helps coordinate members and reduce confusion when sudden decisions have to be made. A hierarchy is part of the National Wildfire Coordinating Group (NWCG) effort to harmonize emergency responses.

**Team spirit**, and sometimes humility, is necessary to follow and implement the directions of the Burn leaders.

# Burn Boss



- 1. Responsible for carrying out the Burn Plan, and ultimately for the whole crew*
- 2. Assigns duties to crew*
- 3. Observes overall field processes*
- 4. Directs the burn crew*
- 5. Communicates with Line Bosses*
- 6. Settles indecisions*
- 7. Drives the cool vehicle*

# Line Boss

- 1. Looks after crew safety and well-being*
- 2. Directs and coordinates their line*
- 3. Adjusts crew assignments*
- 4. Communicates with Burn Boss*



# Line Crew – 1<sup>st</sup> and 2<sup>nd</sup> water



# Line Crew – Flapper



# Line Crew – Igniter



# Sentry / Roamer/ Spotter

Roams the perimeter as assigned, watches for spot fires





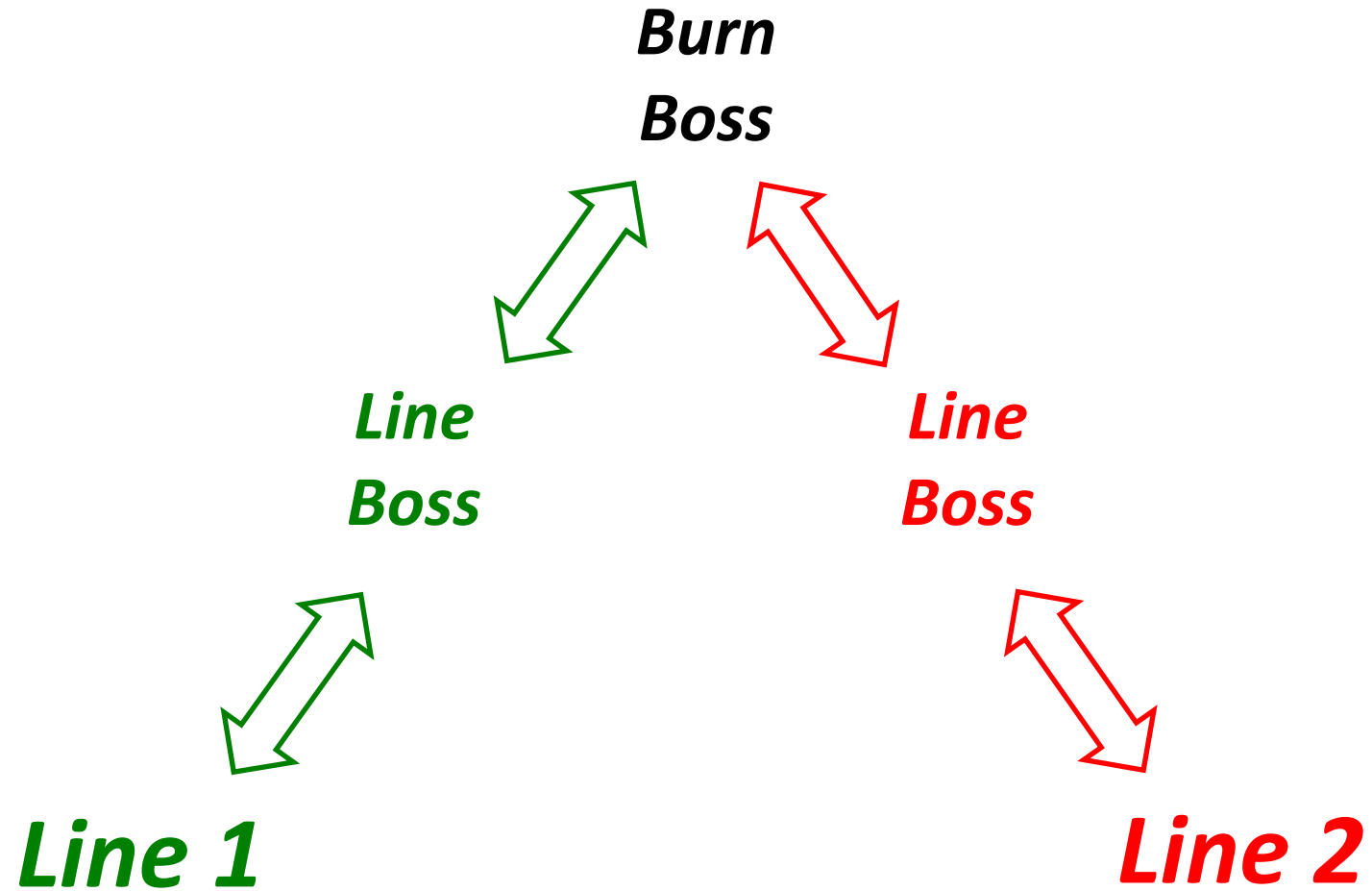
Wet Line



# Novices



# Communications



Help your friends



Questions/Clarification Required!!!





END PowerPoint 6 of 8  
**CREW ASSIGNMENTS**



# The Prairie Enthusiasts Prescribed Burn Basic Training

PowerPoint 7 of 8

## BURN PLANS

Estimated time: 0.5 hr.

# Controlled Burn Vs. Prescribed Burn



# Prescribed Burn



The Prairie Enthusiasts  
110 S. Main St. P.O. Box 824  
Viroqua, WI 54665

# PRESCRIBED BURN PLAN



***SAMPLE: This represents ¼ of a TPE Burn Plan***

Today's date:

Date Received:

Lead Chapter:	CSC <input type="checkbox"/>	CRC <input type="checkbox"/>	ESC <input type="checkbox"/>	GPC <input type="checkbox"/>	MRC <input type="checkbox"/>	NIPE <input type="checkbox"/>	PBC <input type="checkbox"/>	PSC <input type="checkbox"/>	Sands <input type="checkbox"/>	SWC <input type="checkbox"/>	SCVC <input type="checkbox"/>
---------------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------	-------------------------------	------------------------------	------------------------------	--------------------------------	------------------------------	-------------------------------

## SITE INFORMATION

Name:	Address:					
County:	Township	N	Range	<input type="checkbox"/> E <input type="checkbox"/> W	1/4	Section

## LANDOWNER INFORMATION

Last Name:	First Name:	Phone:
Street Address:		Cell Phone:
City:	State, Zip:	Email Address:

## BURN SITE INFORMATION (Note on burn plan map when applicable, specific fuel heights for grasses)

Acreage:	Primary fuel type:	Secondary fuel type:
Slope percentages(s):	Slope aspect(s):	
Firebreak type(s):	Firebreak width(s):	
Hazards (e.g., utility poles/boxes, overhead power lines, stored fuels, homes, smoke hazards):		

## OBJECTIVES (e.g., remove duff, stimulate warm season grasses, simulate prairie forbs, control invasives, prepare for seeding)

# Main Features of most burn plans

- 1. Site information, description
- 2. Date (Window)
- 3. Weather
  - Air Temp 30-80°F
  - Wind Direction Any – subject to circumstances
  - Wind Speed 5-15 mph grass, 5-20 mph woods
  - Relative Humidity 20-80%
- 4. Crew
- 5. Equipment *Required*
- 6. Safety, including directions to medical facilities
- 7. Permissions/Approvals from authorities

[Business](#)[Licenses & Regulations](#)[Recreation](#)[Env. Protection](#)[Contact](#)[Join DNR](#)

Data as of 12:18:36 PM on 11/11/2017

[View Current Fires](#)

# WDNR BURN WEBSITE

Click a county on the map to view today's burning restrictions and fire danger.



Be sure to have your written and signed annual burn permit prior to burning.

Not sure if your burn location falls within DNR protection areas? For a more detailed look, click the + zoom button in the top left of the map at least three times (zoom out: - button).

## Fire Danger



Low



Moderate



High



Very High



Extreme

# Approval Authorities

May include:

*State Department of Natural Resources*

Local:

*Fire Departments*

*Town Chair/Town Hall*

*911 Dispatch*

# Go-no-Go Checklist

## The Prairie Enthusiasts

110 S. Main St. P.O. Box 824

Viroqua, WI 54665

## GO/NO GO CHECKLIST



Site Name: \_\_\_\_\_

Date of Burn: \_\_\_\_\_

Present conditions:

Wind Direction \_\_\_\_\_ Wind Speed \_\_\_\_\_ Relative Humidity \_\_\_\_\_ Temperature \_\_\_\_\_

- ☐ Above weather parameters are within burn plan prescription.
- ☐ All current and projected fire weather forecasts have been obtained and are favorable.
- ☐ All necessary permits and approvals have been obtained.
- ☐ All burn plan personnel are on site.
- ☐ All personnel have appropriate personal protection equipment.
- ☐ All personnel have been briefed, and are aware of their assignments and the burn unit.
- ☐ All personnel are aware of the objectives, ignition plan, extra resources, escape routes, and safety zones.
- ☐ Adequate burn map provided to all personnel.
- ☐ All smoke management specifications are met and addressed.
- ☐ All of the necessary equipment is available and operational.
- ☐ The contingency plan and available resources have been discussed and are available.
- ☐ The burn can be carried out according to the Burn Plan, and will meet the planned objectives.
- ☐ All pre-burn contacts have been made (dispatcher/local fire department).
- ☐ A test fire has been conducted and conditions are deemed safe enough to continue.

Burn Boss Signature \_\_\_\_\_

Date \_\_\_\_\_

Time of ignition \_\_\_\_\_

# Good Road Signs



# Bad Road Signs



# No Road Signs

*If you anticipate using the road for anything,  
use signs*



**Prescribed  
Burn  
Ahead**

# Post-Burn review

While the field is cooling, this is the ideal time for crew and leaders to review the burn and discuss what was good and what could be improved.

## POST-BURN RESULTS (IMMEDIATE)

Time fire was completed and out: \_\_\_\_\_

Were Burn Objectives Met (address specific objectives listed in the burn plan; e.g., % acreage burned, scorching of woody species)?

\_\_\_\_\_  
\_\_\_\_\_

Fire Behavior (e.g., rate of spread, flame lengths, spot fires): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Recommended Changes (e.g., adequacy of firebreaks, crew size sufficiency): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Additional comments: \_\_\_\_\_

\_\_\_\_\_

Continue any sections on the back of this page if needed.

TPE is grateful for your help in detailed record keeping. We believe it will:

Assist our safety and teamwork

Track valuable data for future biological comparison and land management

Demonstrate high standards to insurance companies

Thank you.



END PowerPoint 7 of 8  
BURN PLANS

# The Prairie Enthusiasts Prescribed Burn Basic Training



PowerPoint 8 of 8

## EQUIPMENT OVERVIEW

Estimate timed: 0.5 hr.

# Drip Torch



# Drip Torch



2x Diesel  
1x Gas



# Backpack Water Pump

Fill 3/4 full to  
avoid  
splashing out  
the cap vents



5-Gallon  
capacity  
 $4 \text{ Gal} \times 8 \text{ lbs} =$   
32 lbs. water

# Flapper



# Fire Broom



# Fire Tools

Fire  
Rake



McLeod



*Pulaski*





Pump Trucks and UTVs



END PowerPoint 8 of 8  
EQUIPMENT OVERVIEW  
Proceed to Hands-On

