

Fire on the Atlantic Coastal Plain

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***NATURE IS NOT GOVERNED EXCEPT
BY OBEYING HER***

Frances Bacon 1623

Southern Vegetation Evolved in a Fire Climate



Many Southern Species Developed Fire Adaptations Such as the Ability to Sprout

Longleaf pine



Bald cypress



Hardwood Sprouts





Pitcher Plants Need Fire to Thrive

Longleaf Candling



Note fire killed loblolly pine

MOST SOUTHERN ECOSYSTEMS ARE MAINTAINED BY FIRE



HISTORY OF FIRE

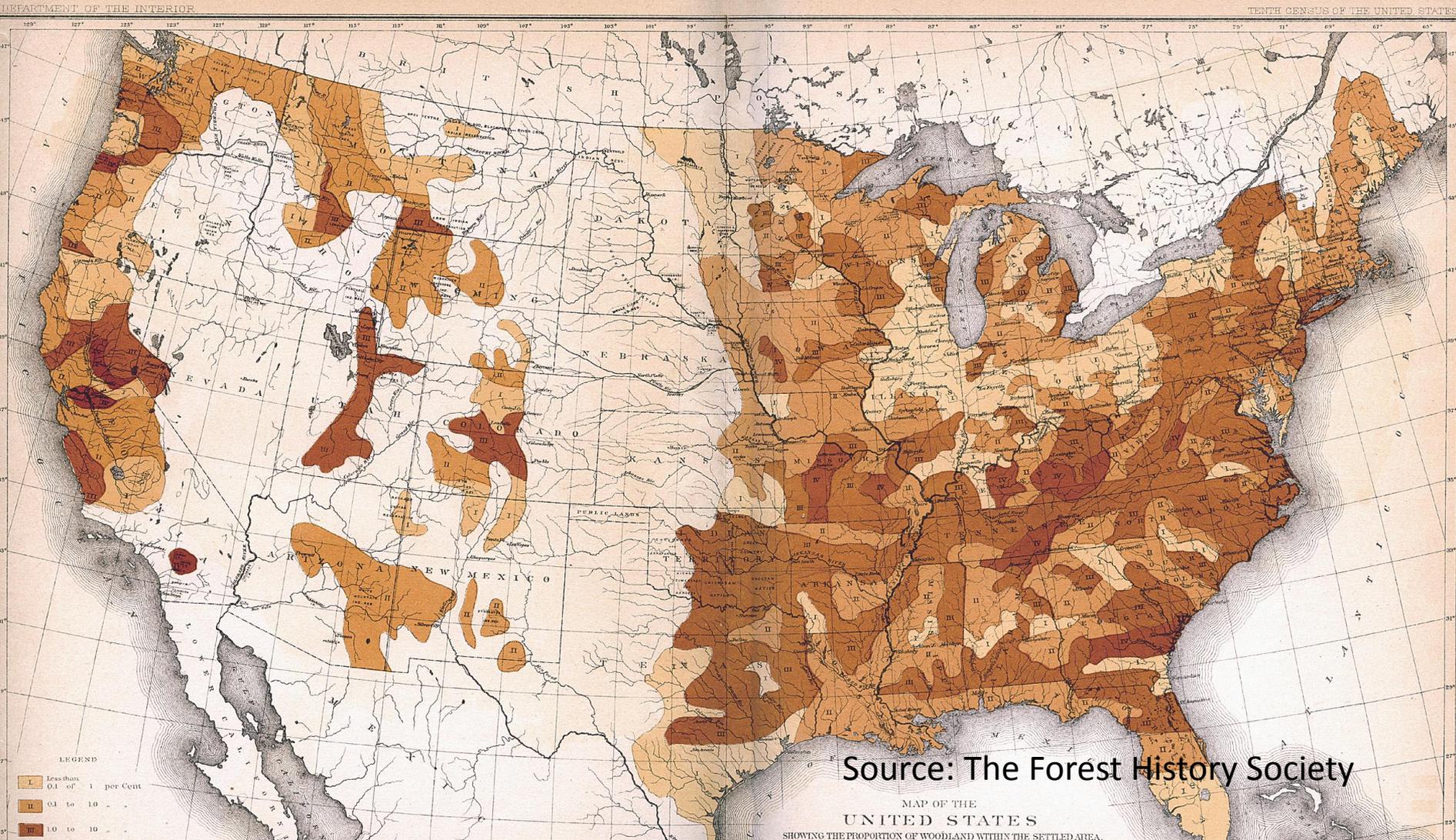


Lightning



Native Americans

1880 US Census: Dark Brown Color Depicts Woodlots Within Forested Settlement Areas Where More Than 10% of Area Burned Annually



Smokey says—
**BE SURE
 THEY'RE
 DEAD OUT!**



**Remember—Only you can
 PREVENT WOODS FIRES!**



CAMPFIRES



CIGARETTES



MATCHES



CLEARING FIRES

**SMOKEY'S
 FRIENDS
 DON'T PLAY
 WITH
 MATCHES.**



**be careful
 with
 trash
 fires!**



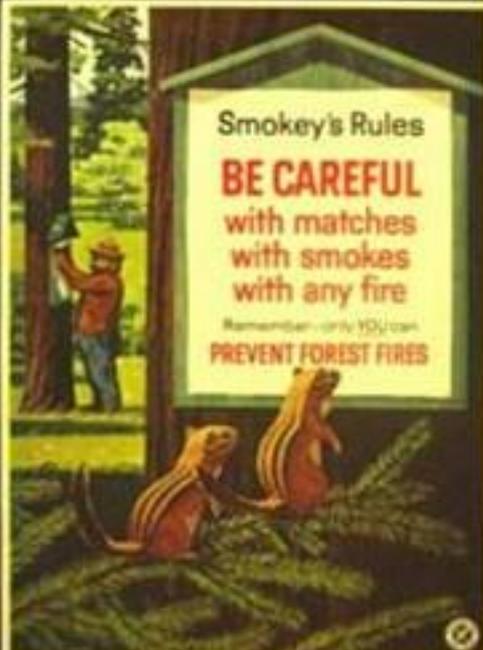
Where Trash Burning is Permitted...

- BURN ONLY ON SAFE CALM DAYS
- GUARD TRASH FIRES UNTIL DEAD OUT!

Smokey's Rules

BE CAREFUL
 with matches
 with smokes
 with any fire

Remember—only YOU can
PREVENT FOREST FIRES



**the malicious
 woods burner
 ROBS OUR STATE**



***Refuse To Manage The Domestic Fire And
The Feral Fire Will Come In Its Own Time
Wiping Out Everything In Its Path***

Stephen Pyne 1982



Obsessive fire control has become itself a disordering process, and in much of the world it is the control of fire that is out of control

Stephen Pyne 2010



The First Thing You Do When You Find Yourself In A Hole Is To Stop Digging.

Abraham Lincoln



SC Forestry Commission

No Matter How Strong the Evidence, Some People Refuse to Accept the Seriousness of the Situation



WE EITHER USE FIRE OR WE DON'T



**THERE IS NO MIDDLE
GROUND**



You can no more get to where you don't know where you're going than you got to where you think you are from where you don't know where you've been

John Bethea

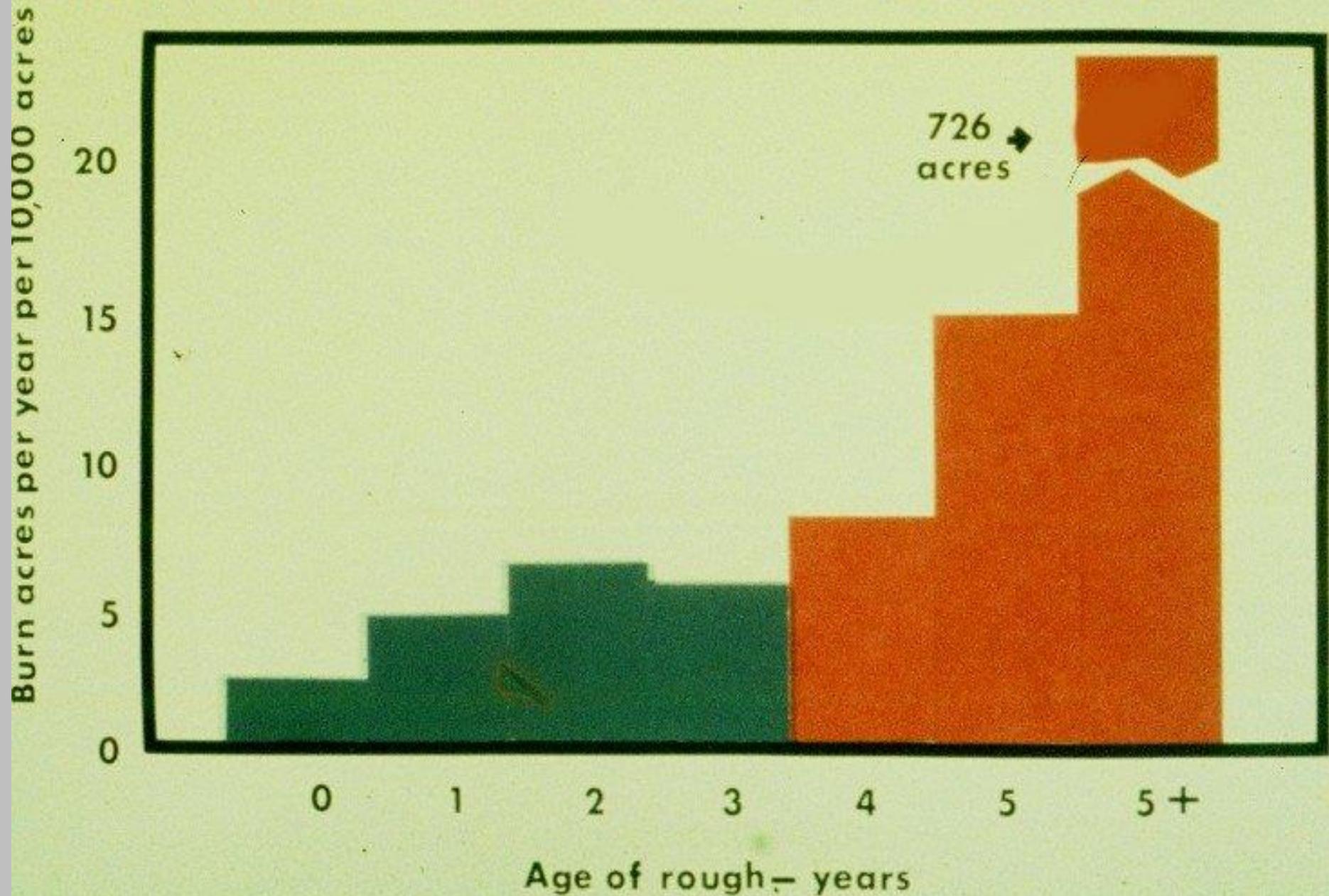


Free Running Wildfire of Yesteryear

- **Small understory stems mean frequent fire**



ANNUAL WILDFIRE BURN ACREAGE



Fire Exclusion Results In Heavy Fuel Buildup That Nature Will Eventually Reduce



Structural fire engine

U.S.-Wide: 5,203 Structures Destroyed by Wildland Fire in 2007



Blue Ribbon Panel Report:
www.iccsafe.org/gr/WUIC/Documents/BlueRibbonReport-Hi.pdf

Insurance Claims for Structure Loss From Wildland Fires in The WUI Averaged 800 Million Per Year 1990-2000



SMOKE MANAGEMENT IS A MUST

The Woods Will Burn

We must continually show the public they are safer with the use of intentional fire than they are when nature strikes the match.

All other Rx fire benefits are secondary



**THE POTENTIAL FOR SMOKE TO
NEGATIVELY IMPACT PUBLIC HEALTH &
SAFETY IS REAL**



MOST RX FIRE PROBLEMS ARE SMOKE RELATED



If we are willing to use relatively simple guidelines that have already been developed & continue to search for better ones, we can demonstrate to regulatory agencies and the public that we have the expertise to safely & skillfully use Rx fire to meet our objectives & minimize adverse impacts on public health & safety that they would otherwise be subjected to with wildfires



The Three Underlying Principles of Smoke Management

1. Common Sense
2. Integrity
3. CYA



IMPORTANCE PLACED ON SMOKE MANAGEMENT IS A PERSONAL DECISION



Residual Smoke

Smoke produced by smoldering combustion not entrained into convection column



- **Large Logs Cause Most Residual Smoke Problems**
 - **Can Smolder For Weeks**
- **Headfires Cooler Near Ground & Can Use Under Damper Conditions So Less Likely To Ignite Coarse Woody Debris (CWD)**



BASIC OBJECTIVES OF SMOKE MANAGEMENT

- **Identify & avoid smoke sensitive areas**
- **Reduce emissions**
- **Disperse & dilute smoke**

AVAILABLE TOOLS

- **Lavdas Dispersion Index (DI)**
- **Low Visibility Occurrence Risk Index (LVORI)**
- **WUI Smoke Screening System**
- **PB Piedmont model**



Low Visibility Occurrence Risk Index (LVORI)

- Ranks relative likelihood of low visibility due to fog &/or smoke being reported at an accident site
- Probability of poor visibility is on a scale 1-10 with 1 indicating a low likelihood of poor visibility

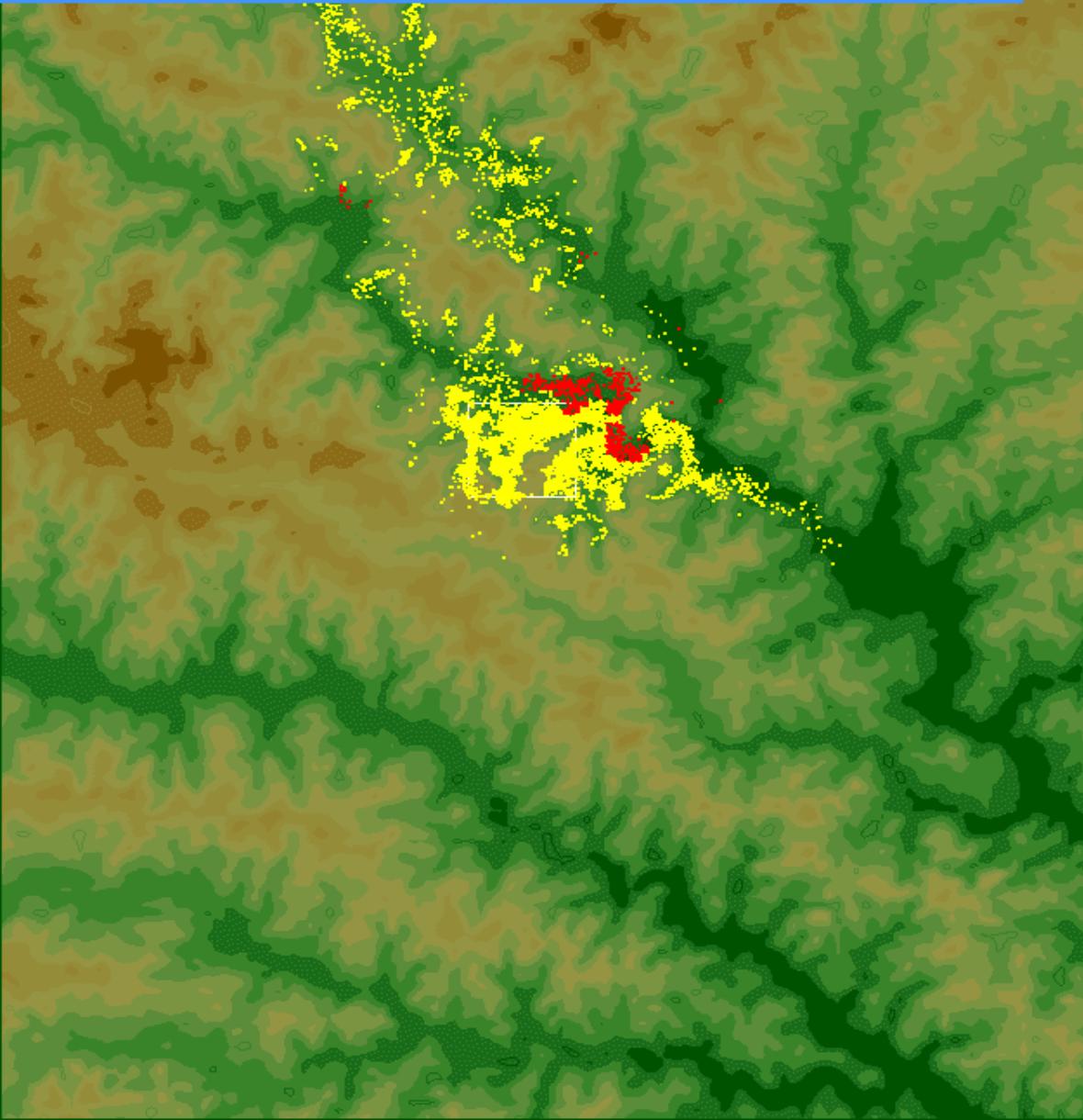


Interpretation of Smoke Dispersion Index

Dispersion Index	Interpretation
> 65	Smoke dispersion excellent but suggest <u>Do not burn</u> due to control problems
56-65	Smoke dispersion excellent but increasing fire control problems – <u>use caution</u>
41-55	Smoke dispersion generally good. <u>Preferred</u> Rx fire range
21-40	Smoke dispersion fair – Only burn small blocks (<5 acres) with light fuels
7-20	Daytime generally poor – <u>Do not burn</u> Nighttime excellent on flat terrain
5-6	Daytime poor – <u>Do not burn</u> Night burns may be ok for small rural units with flat terrain & light fuels
1-4	Very poor day or night - <u>Do not burn</u>

PB PIEDMONT

iter	elapsed time	cycle time	model time	DT
50	00:13:00	01.54 sec	00:00:00	37 sec



- **Nighttime smoke dispersion model when the windspeed is very low**
- **Meteorology data can be download to predict smoke movement for the next 24 hours.**

PAY ATTENTION TO THE WEATHER



When Utilizing a Sea Breeze Make Sure it has Established Before Igniting Unit



KEETCH-BYRAM DROUGHT INDEX (KBDI)

- Measures Relative Dryness of an Area & Ranges From 0 (Field Capacity) to 800 (Wilting Point)**
- KBDI Increases Each Rainless Day, the Amount Depending Upon the Temperature Reached & Decreases Each Rainy Day, the Amount Depending Upon the ppt Received. Readings will be Artificially Low After ppt Breaks a Severe Drought**
- The KBDI is Site-specific, so it can Differ Between Your Burn Unit & the Weather Station Where it was Calculated.**
- When KBDI Exceeds 450 Consider Postponing Burn when Duff Layer Present Because of Threat of Root Damage.**

**Fire Exclusion Results in Thick Forest Floor.
Consider Postponing Burn When KBDI >250**



Fire Reintroduced After 40 Years of Exclusion

- 3" of Litter Removed in First 4 Fires
- 14" in Next Fire = Dead 200 yr Old Longleaf



Slow Forest Floor Drying Conditions Resulting From Decades of Fire Exclusion Require ---



UGA1404029

Fast Moving Headfire With KBDI $< \sim 200$



UGA1404030

High Fuel Moisture Produces Excessive White Smoke (Super Fog) - Objectives Will NOT be Met



Fire Will Head Across Inundated Vegetation



Chronic Winter Fire Can Create & Maintain Grass Understory



12 Annual Winter Burns



12 Years of Fire Exclusion →

Summer Burns Promote Seed Production in Muhly Grass

**Winter
Burn**



**Summer
Burn**



**EXOTIC SPECIES CAN
POSE PROBLEMS:**

**Backfire In Cogan
Grass**



BACKFIRE



Longleaf Pine Only

- Personal preference
- Trees will survive either way

- Can headfire longleaf >6ft tall with herbaceous ground cover when trees not in candle
- Fire prunes lower limbs, but possible growth loss



HEADFIRE

- **Backfire Cuts Particulate Production & Smoldering by More Than Half**
- **Remember That BF's Spread Slower Which Means:**
 - **Takes Longer To Conduct, Unless Interior Lines Constructed**
 - **More Risk of Change in Wind Direction**



Rate of Energy Release = Rate of Smoke Production. Heavy Smoke for a Short Period or Less Smoke per Unit Time Over a Longer Period



2-yr Rough but No Blackline = Trouble



Total Fuel Versus Available Fuel

How Much of the Total Fuel Load is Available Under the Prescription?



Good Rx Burn Conditions Versus Worst Case Scenario

SOME NUMBERS FOR SOUTHERN PINE

Forest Floor Under 20-yr Pine stand

- **10-15% bark and twigs**
- **20-25% dead stems and branches**
- **60-70% foliage**

Forest Floor weights (inc. branches <3"

- **2 tons/ac in 1-yr rough**
- **10-15 tons/ac in 20+-yr rough**
- **10-35 tons/ac additional after blowdown**

Understory weights (live stems <1" dia.)

- **1 ton/ac in 1-yr rough**
- **2 tons/ac in 4-yr rough**
- **3 tons/ac in 20-yr rough**

CONSUMPTION – SOME NUMBERS

- **2.5 t/ac is a good average for Rx fires in periodically burned southern upland forests**
- **10 t/ac is a good average for wildfires in southern upland forests with 5+ year rough**
- **Double the above figures for wetland forests**
- **Available fuel often almost equals total fuel in grasslands**
 - **Can exceed 15 t/ac in some marsh ecosystems**

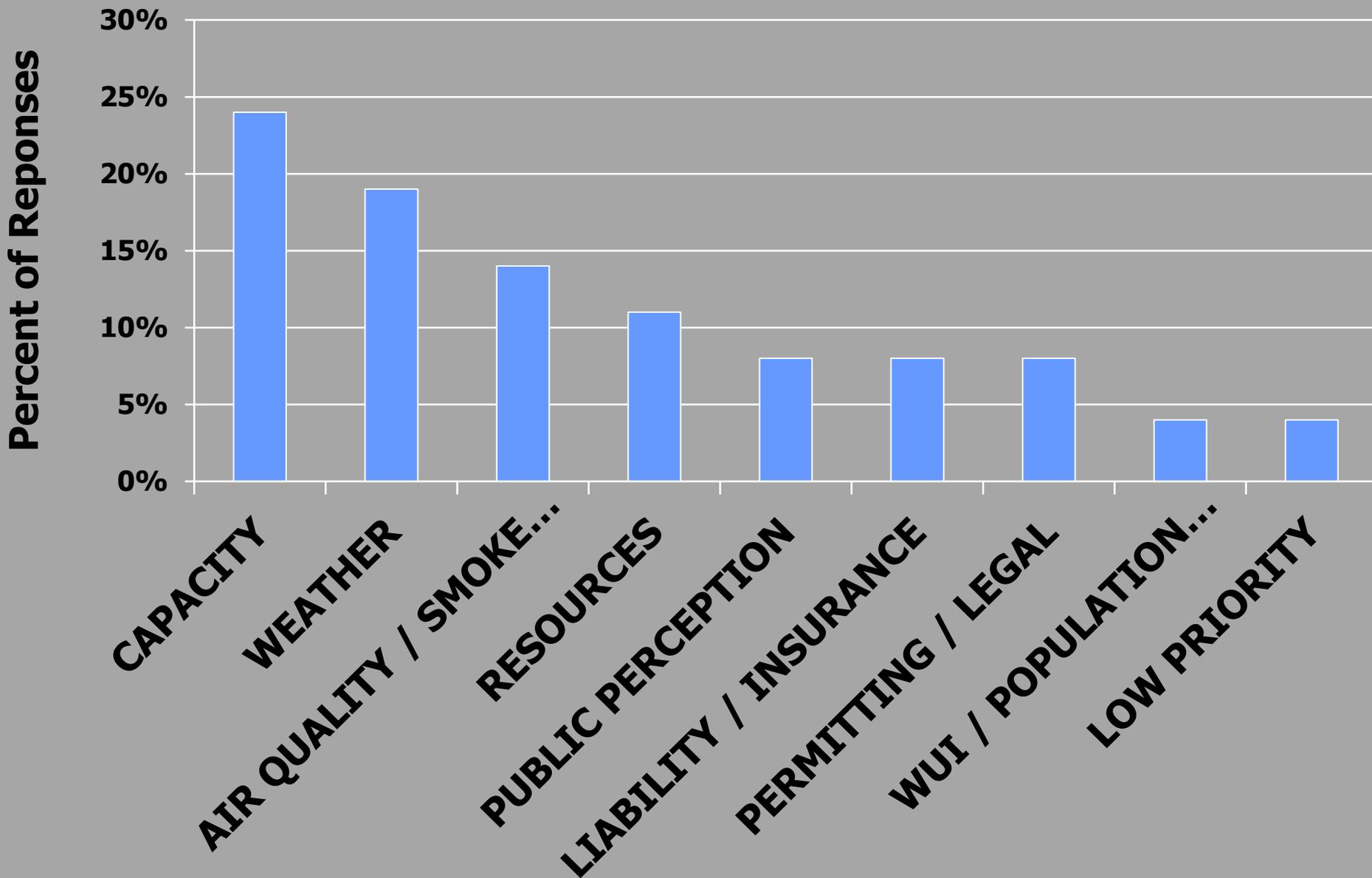
A Typical Burn Day At The Interface – When Residents Trust You



Even With a Fully Implemented Rx Fire Program, A State of the Art Fire Suppression Capability is Required



Impediments Limiting Prescribed Fire Nationwide Ranking



WHY PRESCRIBED FIRE in the URBAN INTERFACE?

- **It protects lives, homes & property!**
- **It's good for the resource**
- **It accomplishes resource management goals**
- **It PROTECTS LIVES, HOMES & PROPERTY**



The Task Ahead is Daunting & Requires All of us to do More. We Need to be More Proactive & Lead by Example Instead of Making Excuses for our Inaction.

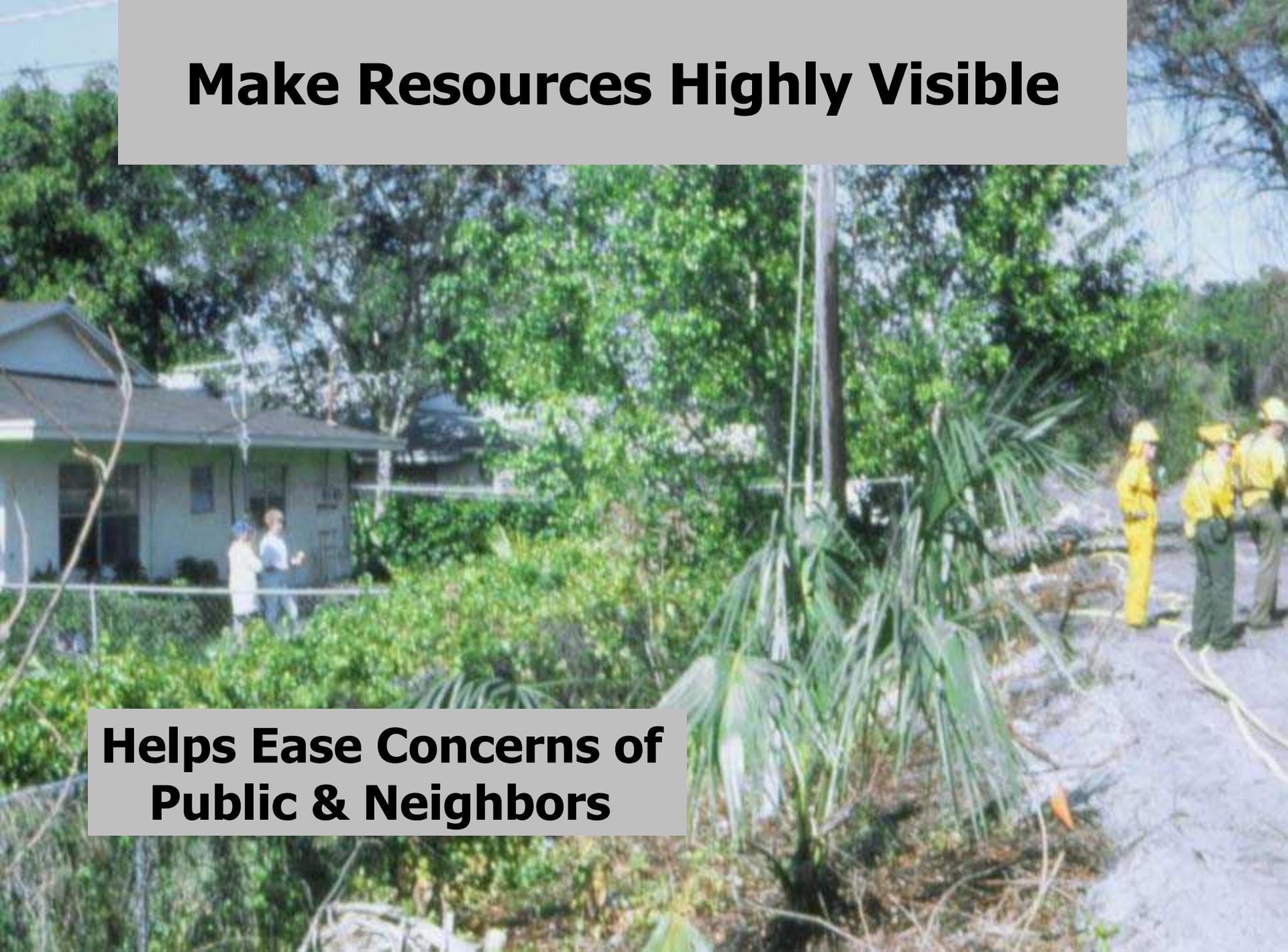


Common Sense, Integrity & Training = A Successful WUI Burn



Make Resources Highly Visible

**Helps Ease Concerns of
Public & Neighbors**



***Public Sentiment Is Everything - With
Public Sentiment, Nothing Can Fail –
Without It, Nothing Can Succeed***

Abe Lincoln



MEDIA

Radio:

- PSA's
- Interviews

Television:

- Interviews
- Feature Stories

Newspaper/ Magazine:

- Articles
- Photos,
- Editorials

Web Sites

'Sitting on a pile of dynamite'

Thousands flee as Florida burns

Walls of fire moved in on Central Florida's urban areas Thursday, forcing thousands to flee and putting hundreds of homes in danger.

30,000 asked to evacuate

Ormond Beach

Daytona Beach

30,000 asked to evacuate

A state ablaze

All 17 Florida counties have been affected by fire. However, the map below shows only 47 counties where fires may have spread. Division of Forestry website.

Insatiable wildfires continue to rage across the state, and Titusville is the latest disaster site.

By Lori Ross, Gary Long and Martin Marzer
THE TITUSVILLE PRESS
TITUSVILLE

Propelled by hostile winds, swarms of wildfires devoured scores of homes and still swept unchecked through areas of North and Central Florida early Thursday. All 40,000 residents prepared to flee Titusville — a county and now in the line of fire.

Retreating firefighters begged for equipment, reinforcements and, most of all, rain. But the brown sky delivered only falling fragments of ash and the eerie glow of a blood-red sun, its light filtered by the smoke.

Temperatures soared toward 100 degrees. The winds picked up again. The fires could not be stopped.

Acrid smoke reached as far south as Broward and Dade counties, triggering false alarms of local fires. Satellite photos showed plumes of smoke extending hundreds of miles over the Atlantic Ocean. A huge new fire near Orlando menaced a town with a serene name: Christmas.

MORE ON FIRES

- This weekend's Peep 400 has been postponed. BA, NC
- Space stations, parks and merchants led the list. TIA

"It's like sitting on a pile of dynamite," said Charly Spagnola, evacuated from his home in Titusville.

A firefighter, above, is dwarfed among trees, smoke and fire Thursday in Daytona Beach, in the worst flare-up of wildfires since the outbreak began a month ago. Fires wreaked havoc on Fourth of July plans, left thousands stranded away from their homes and closed major roads. At right, Darling Cheek comforts Harriet Armstrong, after she was told that her home near Mims was burned to the ground on

**The Mind is a Wonderful
Thing. It Starts Working The
Minute You are Born and
Never Stops - - Until You
Begin to do An *Interview*.**

Plan For Media

- **SAFETY issues**
 - protective gear/equipment
 - transportation
 - location
- **Have articulate/knowledgeable person talk with media**
- **Always be professional**



DO's

When Working With Media

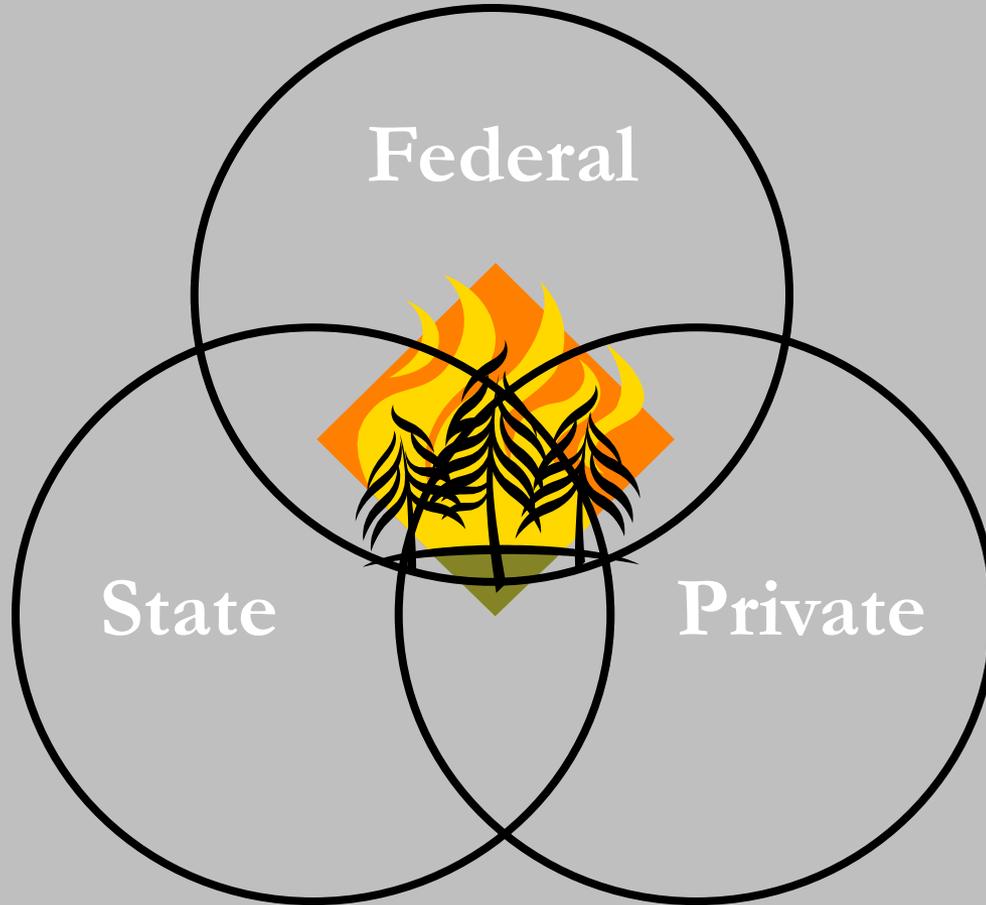
- **Keep in mind that media has deadlines to keep**
- **Stick to the FACTS**
- **Be FIRST to report the bad news**
- **Say, "I don't know" when you don't**



Coalition of Prescribed Fire Councils

Primary Focus

'building partnerships around fire'



Fire unites where other issues divide

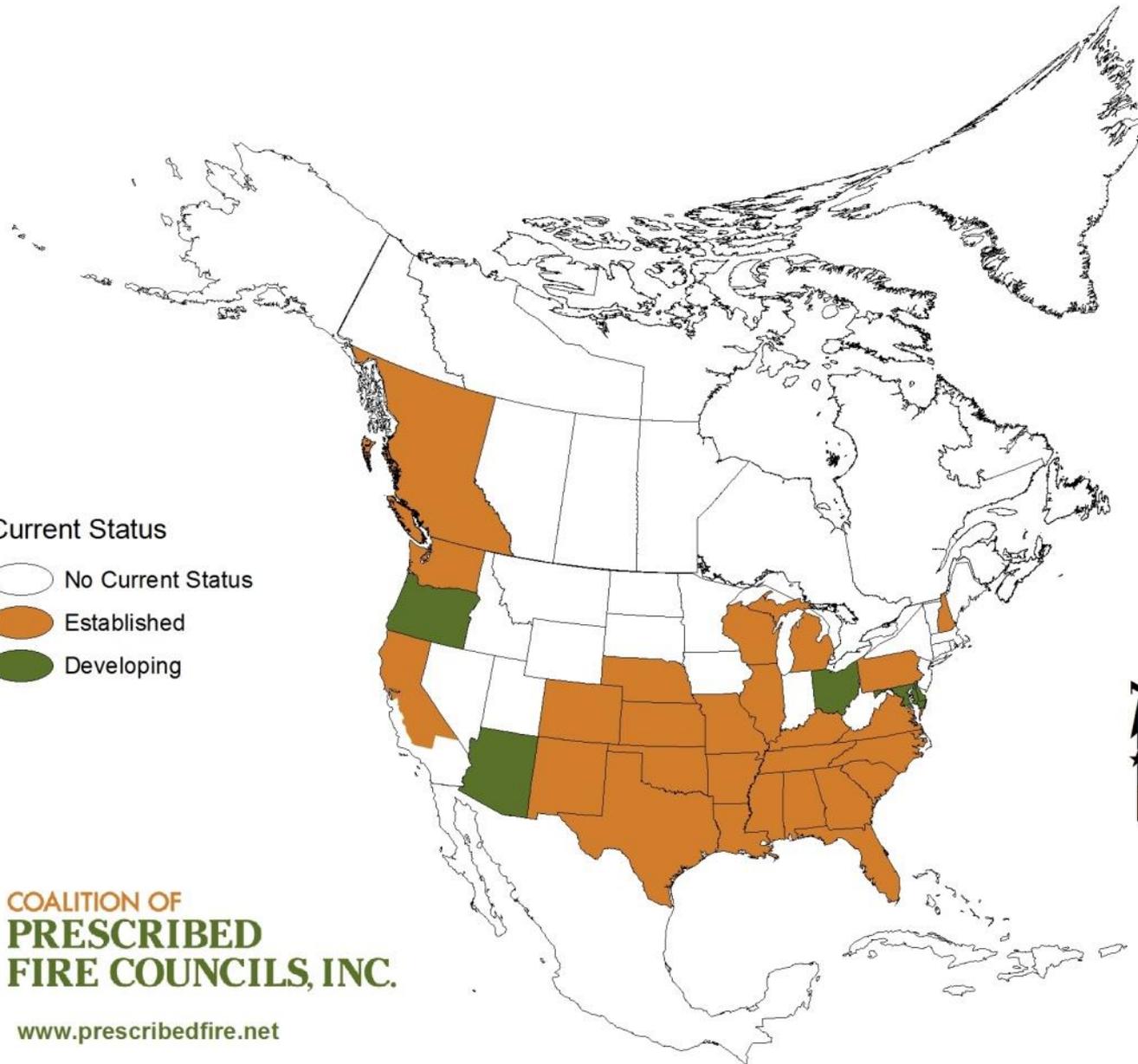
Current Status

-  No Current Status
-  Established
-  Developing

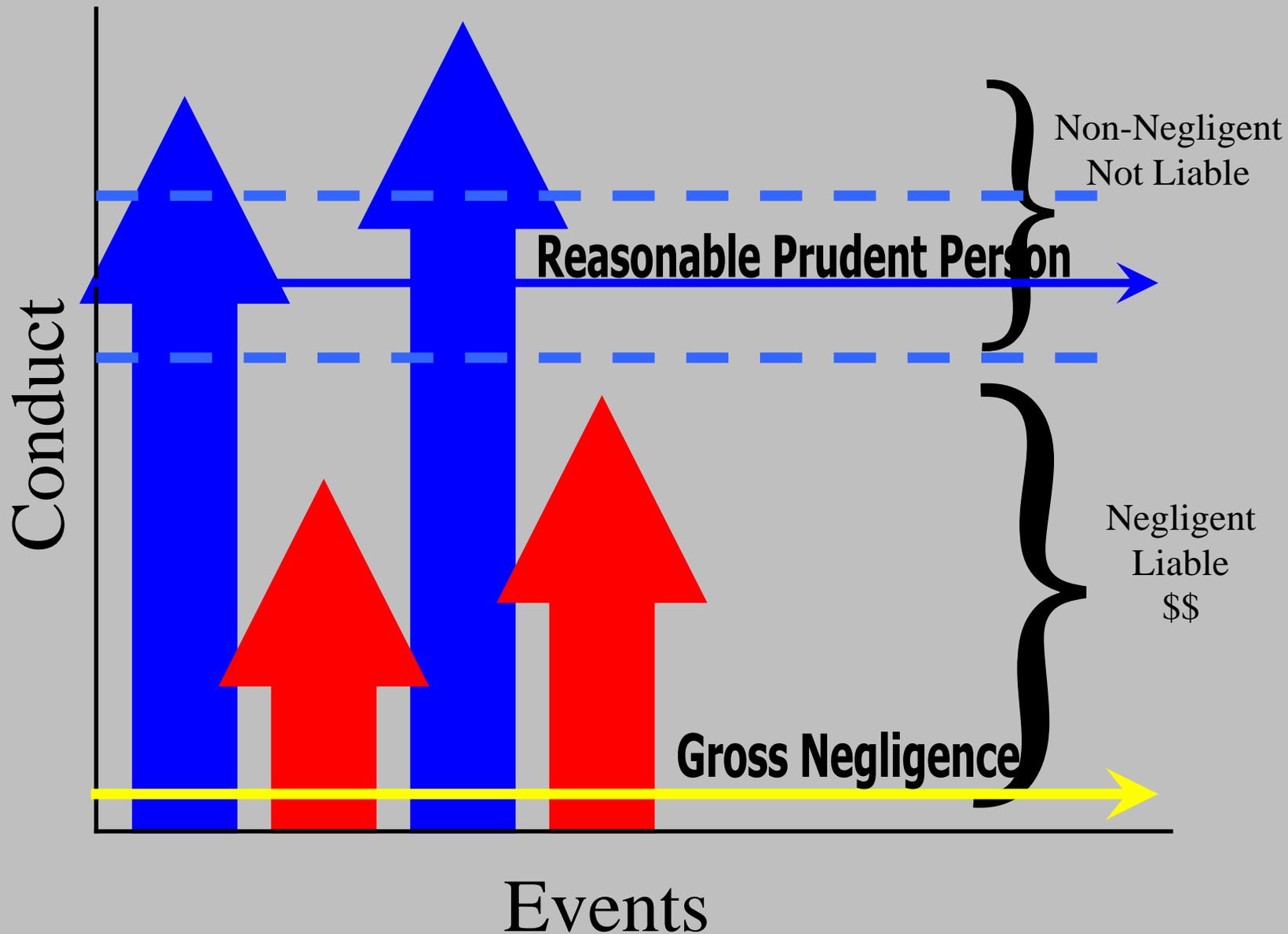


COALITION OF
**PRESCRIBED
FIRE COUNCILS, INC.**

www.prescribedfire.net



Gross vs. Simple Negligence



***A society or culture is ultimately measured
not by what it develops or consumes, but
rather by what it has preserved and
protected***

Jim Posewitz

***The Worldview Of A Society Is Often
Written More Truthfully On The Land Than
In Its Documents***

Kimmerer and Lake 2001

**Each Day We Procrastinate The Task
Becomes More Difficult**



***Lead, follow, or get the &@S! out of the
way***

Ted Turner



***Them that's going, git in the &@\$! wagon;
them that ain't, git out of the &@\$! way***

Faulkner's Boon Hogganbeck

Public Relations Is Everyone's Responsibility

- Take every opportunity to interact with the public



Never Mind The Job Description: it IS YOUR JOB!





QUESTIONS?