

Prescribed Burning , A Role for NRCS

A firefighter in full protective gear, including a helmet and goggles, is walking through a field of tall, dry grass. The field is on fire, with bright orange flames and thick, dark smoke rising in the background. The firefighter is carrying a black tank and a hose. The scene is set in a rural area with trees in the distance.

Tom Ward, Forester
Hank Henry, Biologist
NRCS ENTSC
Greensboro, NC

Highlights from NRCS National Policy

(GM 190 413 - Part 413 – Prescribed Burning and National Range and Pasture Handbook, Appendix A)

- Only trained and qualified personnel are authorized to provide assistance in planning or implementing prescribed burns.
- Each state will develop specific Job Approval Authority (JAA) criteria for Prescribed Burning.

Highlights from National Policy

For purposes of training landowners/managers and other NRCS employees certified NRCS personnel may:

- Develop prescribed burn plans
- Serve as fire boss
- Determine fire prescription weather conditions
- Assist with ignition of the fire



Highlights from National Policy

Safety: the first consideration

- if unfavorable weather, fuel, logistics exist NRCS employee must inform fire boss or landowner to postpone the burn
- if emergency develops NRCS employees are to follow direction of fire boss and act responsibly to resolve situation
- landowner/cooperator must be advised they may be liable for damages due to fire escape or smoke and must obtain all required permits and burn plans

Highlights from National Policy

NRCS employee liability:

“Employees acting in accordance with all Federal, State and local laws and within the scope of their work accept no greater or less liability than that associated with the performance of any other assigned duty.”



Highlights from National Policy

Training

- Each state must establish Job Approval Authority (JAA) describing the training and experience needed to perform various levels of technical assistance
- Minimum of 16 hours training to include 338 in a Conservation Plan or discuss with a producer
- NRCS personnel must obtain any required State certifications
- Refresher training within 5 years to maintain JAA

Highlights from National Policy

Training

- Must include: fire ecology and behavior, fire effects on resources (SWAPA), fire safety, and smoke management
- NRCS encourages employees to participate in prescribed burning training activities and workshops, including those conducted by other agencies or organizations

Highlights from National Policy

Planning and Application

- A detailed plan must be prepared for each burn
- Landowner or designee (NRCS cannot be the designee) must be present on site
- Although the burn boss has final authority, NRCS is to discontinue on-the-ground assistance if there is not an appropriate burn plan or the plan is not being properly carried out.

Prescribed Burning Conservation Practice Standard, 338 (Jan. 2006)

- Definition
 - Controlled (prescribed) fire applied to a predetermined area
- Purposes include (among others):
 - Control undesirable vegetation
 - Reduce wildfire hazards
 - Improve wildlife habitat
 - Remove slash and debris
 - Facilitate distribution of grazing and browsing animals
 - Restore and maintain ecological sites

Firebreak Conservation Practice Standard, 394 (May 2005)

- Definition
 - A permanent or temporary strip of bare or vegetated land planned to retard fire
- Purposes
 - Reduce the spread of wildfire
 - Contain prescribed burns



Fuel Break Conservation Practice Standard, 383 (May 2005)

Definition

A strip or block of land on which the vegetation, debris and detritus have been reduced and/or modified to control or diminish the risk of the spread of fire crossing the strip or block of land.

Purpose

Control and reduce the risk of the spread of fire by treating, removing or modifying vegetation, debris and detritus.

Fire Ecology

- Fire History
- Why Burn? When to Burn?
- Plant Response to Fire
- Soil Response to Fire
- Impact of Fire on woody and herbaceous plants
- Wildlife Response

History of Fire Use

- ⚡ **Natural Fire - Lightning**
 - ⚡ **Average 100 strikes every second**
 - ⚡ **>3 billion strikes/year**
 - ⚡ **2000 to 75,000 fires in US**
- ⚡ **Colonist and settlers set fires**
- ⚡ **Native Americans used fire for:**
 - ⚡ **agricultural practice**
 - ⚡ **develop hunting grounds**
 - ⚡ **warfare**
 - ⚡ **ease movement through areas**
- ⚡ **Fire has always been a component in the ecology of vegetation**

Why Fires Were Stopped

- Fear!?!
- Congestion
 - Ownership Boundaries
 - Fencing
- Habits and Traditions
- Lack of Understanding of the Role of Fire
- Reduction of Fuel
 - Cropping and Harvesting Methods
- Overgrazing



Why Burn Today?

Prescribed burns are primarily used to manipulate the vegetation

Only When Fires Were Stopped Did An Ecological Imbalance Occur

What are your Objectives?

- Removing undesirable plants
- Enhancing desirable plants
- Improve wildlife habitat
- Remove excess plant litter
- Improve forage quality
- Improve grazing distribution
- Enhance aesthetics

When Should You Burn?

It Depends on Your Objectives!

If Your Objective Is To...

- Enhance Warm Season Grasses - burn mid-late spring when desired species (e.g. Big Bluestem) has 1 1/2 inches of new growth
- Enhance Forbs - burn in fall or winter
- Reduce woody plants, including undesirable hardwoods in pine stands - burn late spring after target species has just fully leafed
- Reduce Warm Season Grasses - burn late summer

Timing of Burns

Generally...

- ☒ Fall and Winter Burns favor species diversity, cool season plants, and forbs
- ☒ Late Spring and Summer burns favor warm season grasses and are used to kill many species of hardwoods

Impact of Fire on Plant Ecology

Depends On...

- ▣ **Frequency of burn**
- ▣ **Intensity of burn**
- ▣ **Season - time of year burned**



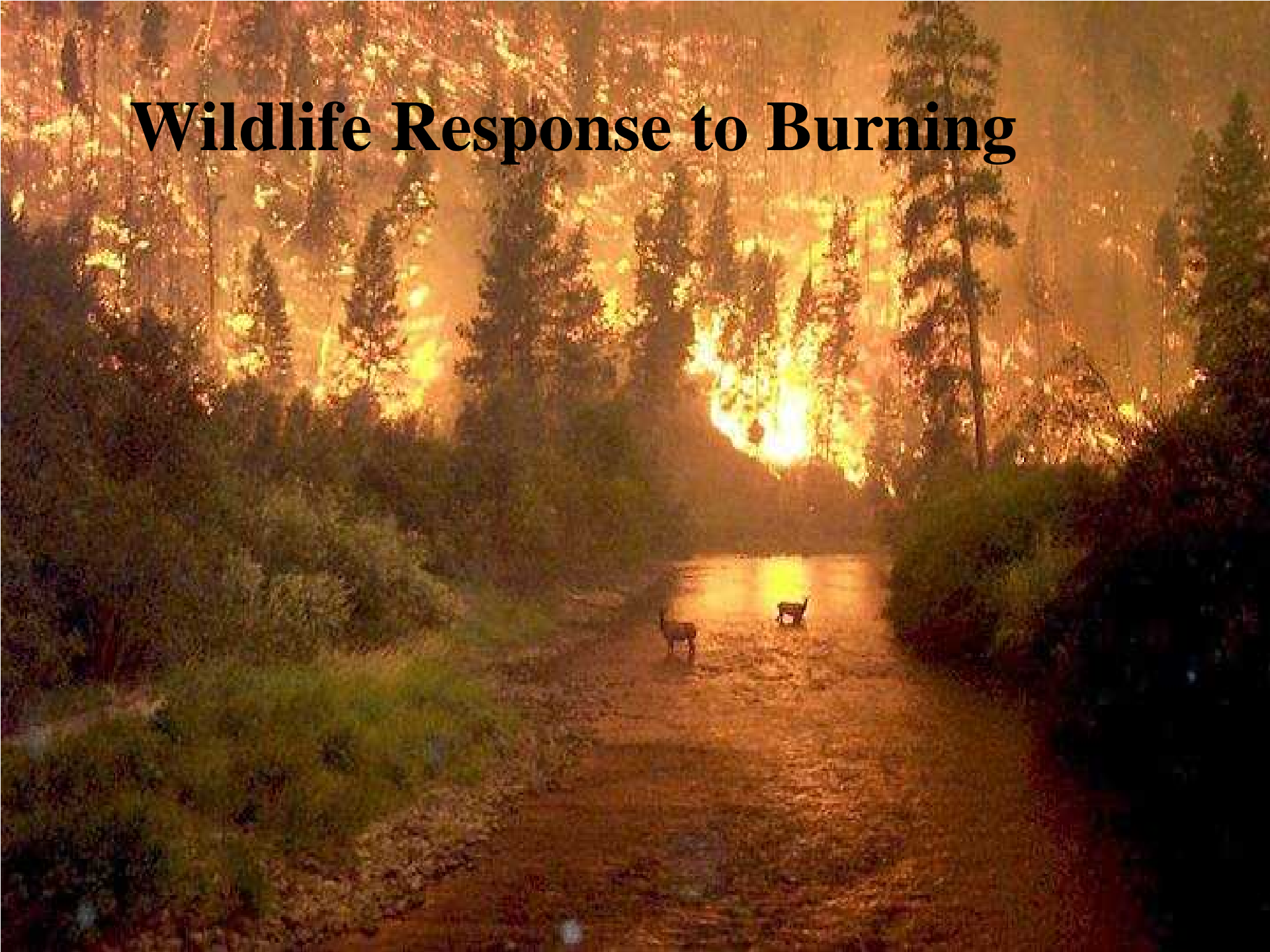








Wildlife Response to Burning



Wildlife

Burning is an excellent tool to manipulate wildlife habitat. The prescribed burn is planned with definite objectives in mind. These objectives must deal with wildlife habitat needs.

Timing of the burn can be critical for certain wildlife species.



Wildlife

- Prescribed Burns Increase Availability and Palatability of Forage
- Initial Decrease in Screening Cover Followed by Increase for Several Years
- Improve Nesting Habitat for Ground Nesting Birds After Initial Decrease in Habitat
- Mosaic Pattern Produced by Burns
 - Ring-arounds or figure eights.





Large animals are very mobile. Seldom hurt by prescribed fires. Deer and wild turkey have been observed entering prescribed burn areas while stumps and down logs are still smoldering.

Rabbits and rodents are probably the most negatively affected by burns. They can be directly affected by the fire, and also by heavy predation after because of the reduction of cover.



Nest production for ground nesting birds such as the wild turkey can often be significantly higher on burned areas during the second and third years post-burn.

Reptiles and amphibians can also be greatly affected by fire if active during the burning season. Snakes and turtles are often killed during spring and summer burns.









Appropriate Role for NRCS?



UGA0016212

Fuel type (cover type)

- Warm season grasses, southern pines/red pine, oak/hickory, cool season grasses:
Non-volatile fuels and low to moderate fuel loads. Classes of burns that are relatively manageable



Fuel type (cover type)

Jack pine, red-cedar, other volatile fuels
(palmetto?): volatile fuels and high fuel
loads, classes of burns requiring a high level
of Job Approval Authority



Level of involvement in 338

(assuming support of: STC, SRC and ECS Specialist)

- 1.) Awareness: at least one person/Field Office qualified to include 338 in Cons. Plan
- 2.) Burn Crew certified: **IF** local training will be provided and NRCS can provide support
- 3.) Burn Plan/Burn Boss certified: **IF** there is a need for local planning/training and State agency/private sector is not available.

Assistance from ENTSC

Pre-Training CD

Introduction to Prescribed Burning Fire, Man, and Natural Resources



by

Pat Shaver¹, G. Allen Rasmussen² and Joseph Treadway²

¹ NRCS, West National Technology Support Center, Portland, Oregon

² Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville

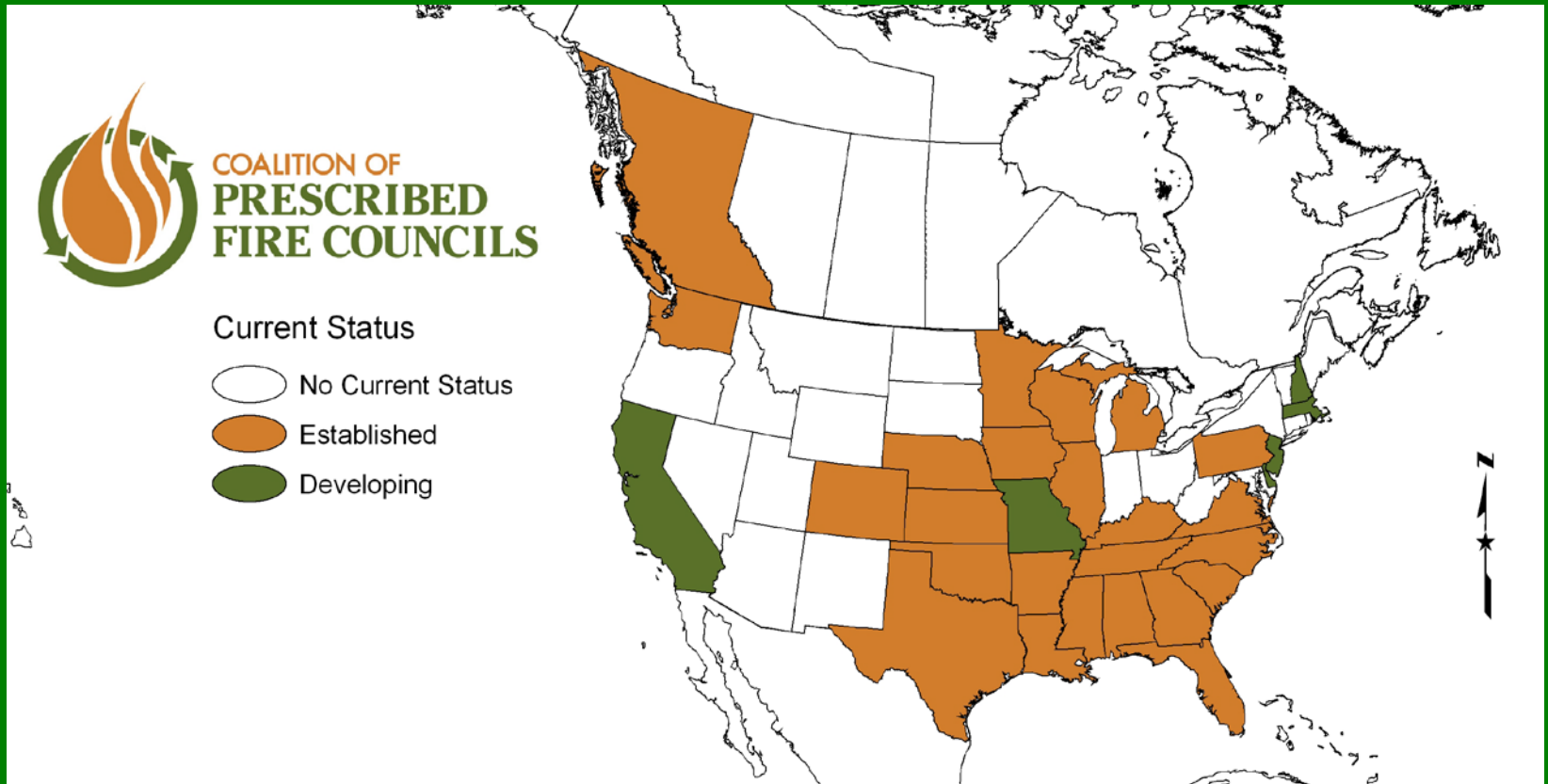
Assistance from ENTSC

Direct assistance

- Development of JAA and certification
- Planning a training session
- Coordinate development of a training session



Other Training Resources



State Prescribed Fire Councils,
<http://www.prescribedfire.net/>

Other Training Resources

- National Wildfire Coordinating Group,
<http://www.nwccg.gov/>
- State Forestry agency
- US Forest Service





NRCS ENTSC
Greensboro, NC

Tom Ward, Forester
thomas.ward@gnb.usda.gov
336-370-3351

Hank Henry, Biologist
hank.henry@gnb.usda.gov
336-370-3349