Communicator's Guide for Wildland Fire Management: Fire Education, Prevention, and Mitigation Practices

Produced by the National Wildfire Coordinating Group
Wildland Fire Education Working Team
April 2007

Additional copies of this document are available through the
National Symbols Catalog
http://www.symbols.gov/catalog/products/fire_order_form.html

National Wildfire Coordinating Group
Communicator's Guide for Wildland Fire Management:
Fire Education, Prevention, and Mitigation Practices

1. Introduction and Organization

2. Wildland Fire Overview
    - A. Introduction
    - B. Ecological Aspects of Wildland Fire
        - i. Fire Triangle
        - ii. Fire Behavior
        - iii. The Complexity of the Fire Ecology Message
    - C. Defining Fire Regimes
        - i. Fire Regime Condition Class
    - D. Fire Dependent Ecosystems of the United States
        - i. Impact on Animals
        - ii. Overview of Fire Dependent Ecosystems
            1. Midwest Tallgrass Prairie
            2. Southwestern California Chaparral
            3. Ponderosa Pine in the Southwest and Intermountain West
            4. Lodgepole Pine Communities of the Rocky Mountains
            5. Southern Pine Communities
            6. Jack Pine Communities of the Great Lakes Region
            7. Alaska's Boreal Forest and Tundra
            8. Atlantic Coastal Pine Barrens
            9. Eastern Deciduous Forests
    - E. Fire Effects

3. Fire Management
    - A. Wildland Fire Management – Agencies and their Roles
        - i. National Interagency Fire Center (NIFC)
        - ii. National Wildfire Coordinating Group (NWCG)
    - B. History of Humans and Fire
        - i. Historical Perspective
        - ii. Today's Societal Influence
    - C. Public Perceptions and Attitudes Toward Wildland Fire
        - i. Motivation and Education

4. Communication Planning and Strategy
    - A. Introduction
        - i. What Communication Can/Cannot Do
        - ii. Perspective from Wildland Fire Communicators
        - iii. Surround Sound Strategy
    - B. Best Practices: Communication Planning
        - i. Situation Analysis
        - ii. Objectives
        - iii. Audiences
        - iv. Messages
        - v. Strategies
        - vi. Tactics
        - vii. Action Plan/Timeline
        - viii. Evaluation
        - ix. Budget

C. Community Outreach
    i. Public Presentations: The 4 C's of Persuasive Communication
D. Working with News Media
    i. General Media Relations Tips
    ii. News Writing
    iii. News Conference
    iv. Event Announcement
    v. Inviting Media to an Event
    vi. Event Publicity
    vii. Photos
    viii. Media Days
    ix. Tips for Calling Media
    x. What to Say When Calling Media
    xi. Arranging an Interview
    xii. Interview Tips
    xiii. What to do When a Media Representative Calls YOU
E. Special Events
    i. Event Planning
    ii. Logistics
    iii. Special Event Team
    iv. Sample Timeline for Events
F. Youth Education Programs
    i. Youth Organizations

5. Communication Materials
A. Introduction
B. Multimedia
    i. Web Sites, Blogs
    ii. E-Newsletters
    iii. Interactive Compact Disks, DVDs
    iv. Movies and Videos
C. Print Materials
    i. Fact sheets
    ii. Brochures
    iii. Brochure Inserts
    iv. Newsletters/Magazines
    v. Promotional Materials
D. Exhibits and Signage
    i. Exhibits
    ii. Temporary Signage
    iii. Outdoor Signs
E. Public Service Announcements
F. Advertising
    i. Billboards

6. Cooperative Programs
A. Introduction
B. Wildfire Protection Cooperatives
C. Corporate or Foundation Partnerships for Communicating Fire Messages

7. Fire Education
A. Wildland Fire – A Tool for Stewardship
    i. Fire Management
B. Fire Education Messages

i. Key Messages
ii. Key Messages with Supporting Points

C. Risk and Conflict Communication
i. Wildland Fire Education Considerations
ii. Historical Perspective
iii. Current Perspective
iv. Reintroduction of Fire
v. Smoke and Air Quality
vi. Education

D. Considerations for Wildland Fire Communication and Education
i. Wildland Fire Education Considerations

E. Prescribed Fire Presentations

F. Interpretive Programs

8. Fire Prevention

A. Introduction

B. Fire Prevention Messaging

C. Wildfire Prevention Education
i. Internal Communication
ii. The Public Information Officer and Wildfire Prevention
iii. Public Awareness and Education
1. Community Awareness
2. Mass Media – Television
3. Mass Media – Print/Radio
4. Signing
5. Fire Prevention High Visibility Public Contact
6. Agency Printed Material
7. Public Education – General
iv. Wildland Fire Prevention and Education Teams
1. Purpose
2. Organization and Ordering
v. Smokey Bear
1. CFFP
2. Program Components

9. Fire Mitigation

A. WUI Overview
i. WUI Fire Concerns
ii. Who's Responsible for Addressing the Problem?

B. WUI Messages
i. Community Considerations

C. National Firewise Communities Program
i. Firewise Defined
ii. Resources for State Forestry Agencies
iii. Firewise Communities/USA
iv. Firewise Community Projects

D. Community Wildfire Protection Plans
i. Communities and the WUI
ii. Role of Community Wildfire Protection Plans
iii. Benefits to Communities

E. Fire Safe Councils. Firewise Councils and Boards
i. State Level Fire Safe Council

F. Conducting a Local/Regional Firewise Workshop
i. Organizing a Firewise Workshop
ii. Firewise Communities Workshop Logistics

G. Home Ignition Zone –Resident Communication
    i. How Homes Ignite
    ii. Landscape
    iii. The Home Ignition Zone
    iv. Construction

10. Resources
A. Webliography
B. Resources and Materials
C. Recommended Reading
D. Acronym Guide
E. Glossary
    i. NWCG Glossary
    ii. Glossary of News Media Terms

11. Appendix
A. Chapter 1- Introduction and Organization - Table of Contents (pdf version)
B. Chapter 2- Wildland Fire Overview
    i. Photos- Fire Regimes
    ii. Background
        1. Atlantic Coastal Pine Barrens
        2. Fire Regime Condition Class Definitions
    iii. Guides
        1. NWCG Fire Effects Guide
C. Chapter 3- Fire Management
    i. Social Science Fact Sheets
        1. Catching Attention
        2. Communication about Hazards
        3. Engaging Property Owners
        4. Golden Rule
        5. Laws
        6. Personal Responsibility
        7. Three Critical Topics
        8. Working Locally
D. Chapter 4- Communication Planning and Strategy
    i. Background
        1. A Study of Wildland Fire Communicators in the US
    iii. Glossary of Media Terms
    iv. Guides
        1. USFW Outreach Handbook
        2. Wildfire for Educators
        3. Sample Media Guide- VA Media Guide
    vii. Sample Plan
        1. Arizona Communication Plan
        2. FPA Communication Plan
        3. North Carolina Fire Prevention Education Team Communication Plan
        4. New Mexico Communication Plan
        5. Oklahoma Communication Plan
        6. Yosemite National Park Smoke Strategy
E. Chapter 5- Communication Materials
    i. Guide
        1. Wildfire Prevention Sign and Poster Guide
    ii. Sample Fact Sheets
        1. Controlling Invasive Species
        2. Facts About Wildland Fire Management
        3. Keeping Fire on Our Side

F. Chapter 6- Cooperative Programs
    i. Sample Partners
        1. SE Compact
        2. Southeastern States Compact Bylaws
        3. KDF-DBNF Cooperative Fire Agreement
    ii. Case Study - Inside Fire Management Partnerships
G. Chapter 7- Fire Education
    i. Case Studies
        1. Northern Idaho Fuels Treatment
        2. Nebraska Prescribed Burning
        3. Oklahoma Prevention
        4. Washington Biomass Project
        5. Mescalero Project
    ii. Messages
        1. NWCG Key Messages
        2. MTG Charter
        3. NWCG Memo
        4. WFEWT Memo
    iii. Sample Fire Fact Sheets
    iv. Sample Presentations - Role of Fire
        1. Core Slides
        2. Optional Inserts
        3. Sample PowerPoint - Kentucky Prescribed Fire
H. Chapter 8- Fire Prevention
    i. Fact Sheets
        1. Fire Safety
        2. Building a Campfire
        3. Putting Out a Campfire
        4. On a Dark and Stormy Night
        5. When a Wildfire Threatens Your Home
    ii. Guides
        1. Industrial Operations
        2. National Interagency Mobilization Guide
        3. Wildfire Prevention Industrial Operations
    iii. Handouts
        1. General
        2. Home
        3. Campfire
        4. Debris
        5. Sample Newspaper Insert - Living With Fire
    iv. Sample PSAs
        1. Public Urged to Report Arsonists
        2. Don't Let Your Campfire Become a Wildfire
        3. Self-Evaluation Checklist System
        4. Weather is Cooler But Vegetation is Still Dry
        5. Can Emergency Responders Find Your House?
        6. Safe Debris Burning
        7. Make Sure Equipment is "Fire Safe"
        8. Have You Planned for the Great Escape?
        9. Wildland Fire Prevention
        10. Don't Let Your Home Become Fuel for a Wildfire
        11. Save Your Home From Fire Later
        12. Homeowners Urged to Prepare for Wildfires
        13. Talk to Your Kids About Wildfire
        14. Children Can Help Prevent Wildfires Too
        15. When a Wildfire Threatens Your Home
        16. Vehicles and the Outdoors
        17. Weed Abatement

v. Smokey Handbook
vi. Spanish Materials
    1. Children Can Help Prevent Fires Too
    2. Extreme Wildfire Danger
    3. Fact Card I-C Debris Burning
    4. Fact Card 2
    5. Fire Safety
    6. Firewise Landscaping Construction Checklist
    7. Building a Campfire
    8. Putting Out a Campfire
    9. On a Dark Stormy Night
    10. Spanish Evacuation Sheets
    11. When Wildfire Threatens Your Home
vii. TEMPLATES- Collected from the National Fire Prevention Education Teams, included here are template signs and materials for several fire prevention topics.
viii. Messages

I. Chapter 9- Fire Mitigation
    i. Firewise Background
        1. Firewise Fact Sheet
        2. Firewise Communities/USA Fact Sheet
        3. Firewise Cooperation
        4. Firewise for States
        5. WUI Strategic Plan Summary
    ii. Firewise Logo- Updated 2006
    iii. Guides
        1. Sample Forms
            a. Virginia Community Risk Assessment Form
            b. Virginia Wildfire Hazard Assessment Form
            c. Volunteer/In-kind Tracking Sheet
            d. Volunteer Sign-up Sheet
        2. CWPP Briefing Paper
        3. Identifying and Prioritizing Communities at Risk
        4. Preparing a Community Wildfire Protection Plan
        5. Firewise Workshop Guide
        6. How to Become a Kentucky Firewise Community
    iv. Handout Materials
        1. Sample Articles
            a. NAPS Construction (English and Spanish)
            b. NAPS Home Ignition Zone
            c. NAPS Lean Clean Green (English and Spanish)
        2. Sample Fact Sheets
            a. Firewise Tips
        3. Sample Newsletters
            a. Firewise How To Guides
        4. Sample Newspaper Insert- Print Files
        5. Brochure - Firewise Around Your Home
        6. Sample Newspaper Insert – Firewise
    v. Presentations
        1. Community Presentation

vi. Sample Artwork
vii. Sample Community Plans
    1. KAVFD Community Wildfire Protection Plan
    2. Josephine County
        a. Integrated Fire Plan
        b. Integrated Fire Action Plan
        c. Organizational Chart
    3. Lower Mattole Fire Plan
    4. Walker Run Community Wildfire Protection Plan
    5. Utah Community Fire Plan
viii. WUI Resources - Other
    1. Firewise Brochure- Spanish
    2. Homeowner's Guide to Wildland Fire Retrofit
    3. Zoning News (October 2002)
    4. NFPA Journal- Living on the Wildside
    5. Oakland Story
    6. Wildfire Strikes Home Report

J. Chapter 10- Resources
    i. NWCG Glossary of Wildland Fire Terms

K. Chapter 11- Appendix

National Wildfire Coordinating Group
Communicator's Guide for Wildland Fire Management:
Fire Education, Prevention, and Mitigation Practices

1. Introduction and Organization

Introduction

Communicator's Guide for Wildland Fire Management introduces ways of communicating about wildland fire issues so we have a basic framework to reach mutual objectives of protecting people and natural resources.

This *Communicator's Guide* is designed to help you address the key elements of effective communication: who says what to whom, when, where, and why. Just as each fire takes on characteristics of its own, a well-planned communications program is unique because your messages are specifically linked to your ecosystem, local community, agency/organization mission, methods and media used, and your credibility as the messenger.

Wildland Fire Management is often described as a range of possible technical decisions and actions available to prevent, suppress or use fire in a given landscape to meet specific goals and objectives.

However, it is imperative that we recognize and integrate into our communication efforts all resource management perspectives, social and economic issues, community perceptions, and the ecology role of wildland fire so collaboratively we generate practical solutions to fire related threats to biodiversity.

Organization

Following is an overview of the chapters found in this Guide. Each chapter includes resources to help you, such as internet information and references to example materials. Internet sites are offered as starting points, rather than definitive sources of information. The example materials are referenced for illustrative purposes with the idea that you will build your own materials.

1. **Introduction and Organization of NWCG Communicator's Guide for Wildland Fire Management: *Fire Education, Prevention, and Mitigation Practices***
   The chapter you are currently reading outlines the format and use for this Guide.

Verify sources and data with other authoritative sources before disseminating information obtained through the Internet.

2. **Wildland Fire Overview**
   This chapter outlines the basic information communicators should know when talking about fire. A concise section on the science of wildland fire and its role in ecosystems is included as background information. You can craft meaningful messages using this information, your existing knowledge, and the science of wildland fire in your particular area.

3. **Fire Management**
   Included in this chapter is an overview of the interagency fire management network and an introduction to the history of wildland fire and societal influences. Fostering communication with your audiences requires messages that address human dimensions issues, therefore a section on public perceptions and attitudes is included.

4. **Communication Planning and Strategy**
   The Communication Planning and Strategy chapter outlines concepts to be considered when designing a communications plan, and offers descriptions of sample tactics. This chapter section is written in a general sense, not tied to specific types of fire communication such as education, prevention, or mitigation. Subsequent chapters will address sample messages and tactics for specific types of outreach.

5. **Communication Materials**
   Guidelines for various communication tools are outlined in the Communication Materials chapter. Again, this chapter is written in a general sense, not tied to specific types of fire communication such as education, prevention, or mitigation. However, some materials may lend themselves to certain forms of outreach.

6. **Collaboration**
   Collaboration is a central component of wildland fire management. This chapter addresses considerations for establishing and managing partnerships with other agencies and organizations.

7. **Fire Education**
   This chapter presents the core NWCG wildland fire messages as well as communication techniques that are specific to this important topic.

8. **Fire Prevention**
   Fire Prevention includes specific concepts for communicating prevention messages. This chapter also includes information about the national Wildfire Prevention Education Teams. Much of this chapter has been consolidated from the Fire Prevention Guides, which are being discontinued and replaced with this *Communicator's Guide*.

9. **Fire Mitigation**
   Mitigation is essential to reducing the loss of homes and resources in the wildland/urban interface. This chapter presents sample strategies for fostering community collaboration to reduce wildfire vulnerability.

10. **Resources**
    This chapter includes lists of resources for the information found in this *Communicator's Guide*, including Web sites, recommended reading, and glossary.

11. **Appendix**
    The appendix is a collection of references and sample materials for your consideration as you develop and implement your education, prevention, and mitigation communication programs.

NWCG Communicator's Guide for Wildland Fire Management: Fire Education, Prevention, and Mitigation Practices consolidates several NWCG materials, including *Communicator's Guide - Wildland Fire* and the NFES Fire Prevention Guides. It also draws on various resources and best practices of many NWCG Working Teams, individual agencies, and partners.

2. Wildland Fire Overview

2. Wildland Fire Overview
- A. Introduction
- B. Ecological Aspects of Wildland Fire
  - i. Fire Triangle
  - ii. Fire Behavior
  - iii. The Complexity of the Fire Ecology Message
- C. Defining Fire Regimes
  - i. Fire Regime Condition Class
- D. Fire Dependent Ecosystems of the United States
  - i. Impact on Animals
  - ii. Overview of Fire Dependent Ecosystems
    1. Midwest Tallgrass Prairie
    2. Southwestern California Chaparral
    3. Ponderosa Pine in the Southwest and Intermountain West
    4. Lodgepole Pine Communities of the Rocky Mountains
    5. Southern Pine Communities
    6. Jack Pine Communities of the Great Lakes Region
    7. Alaska's Boreal Forest and Tundra
    8. Atlantic Coastal Pine Barrens
    9. Eastern Deciduous Forests
- E. Fire Effects

Wildland Fire Overview
This chapter outlines the basic information communicators should know about wildland fire in order to effectively communicate this complex topic to various audiences. A concise section on the science of wildland fire and its role in ecosystems is included as background information. You can craft meaningful messages using this information, your existing knowledge, and the science of wildland fire in your particular area.

Introduction

Wildland fire is any non-structure fire that occurs in an area in which development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Three distinct types of wildland fire have been defined by the National Wildfire Coordinating Group (NWCG):

An excellent resource for a more detailed understanding of fire behavior concepts is the NWCG course S-190: Introduction to Wildland Fire Behavior.

- **Wildfire:** An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.
- **Wildland fire use:** The application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.
- **Prescribed fire:** Any fire ignited by management actions to meet specific objectives, e.g., the establishment/maintenance of healthy forests and grasslands or the enhancement of certain wildlife habitat. Prescribed fire is a well-established practice on public and private lands throughout the world, and is based on years of scientific research. Resource managers carefully calculate meteorological factors, fuels, slope of land, and other relevant conditions in planning prescribed fires. Utmost care is taken to protect human life and property, manage impacts of smoke, protect historical and archeological resources, and protect the ecological integrity of the physical and biological resources.

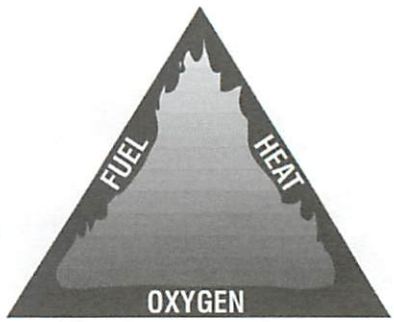
When communicating about wildland fire management issues, it is important to be aware of the basic scientific tenets of wildland fire, including the combustion process and the factors influencing wildland fire behavior. This chapter is intended to provide you with an overview of these topics.

Ecological Aspects of Wildland Fire

Depending on the expertise of the audience, you may choose to limit the discussion to a simple overview of the fire triangle, or expand the discussion to include the technical details of flame structure and fuel chemistry. This section is intended to provide you with an overview of the scientific processes occurring with wildland fires.

The Fire Triangle

The first step in teaching about wildland fire is to begin with the essentials as illustrated by the fire triangle and its three equal components: heat, fuel, and oxygen. The interaction of all three is required for the creation and maintenance of any fire. When not enough heat is generated or when water is used to reduce the heat level; when the fuel is exhausted, removed, or isolated; or when the oxygen supply is limited, then a side of the triangle is broken and the fire is extinguished. The underlying concept is that wildland fire personnel seek to manage one or more of the three elements to suppress an unwanted fire or guide a prescribed fire.



Heat

A heat source is needed for the initial ignition of wildland fires. Heat is also generated by the fire. Heat transfer is a critical issue in the study of wildland fire. For a fire to grow and spread, heat must be transferred to the initial and surrounding fuel. Heat allows fire to spread by removing (evaporating) the moisture from the nearby fuel, enabling it to ignite or travel more easily. The mechanism and the speed of heat transfer play a great role in wildland fire behavior.

Three mechanisms of heat transfer exist: convection, radiation, and conduction. All three contribute in different ways to the combustion process, depending in part on the fuel distribution, the wind speed at the fire site, and the slope of the terrain.

- **Convection** is the transfer of heat through the flow of liquids or gases, such as when hot air rises through a chimney. Convection currents are often responsible for the preheating of the higher shrub layers and canopy, carrying the ground fire upwards into the canopy.
- **Radiation** transmits heat by rays, such as from the sun or a flame. Radiation accounts for most of the preheating of fuels surrounding a fire. The temperature of these fuels can sometimes rise so high that the fuels ignite prior to contact with flames, spreading the fire.
- **Conduction** moves heat from one fuel particle to the next, as when the stove burner heats a pan and its contents. Conduction allows the heat to be transferred inside and throughout the fuel, rather than only heating the surface. Because wood is a poor heat conductor, meaning heat does not pass through it easily, conduction is usually not the primary mechanism of heat transfer in a wildland fire.

Helping your audience(s) understand the fire triangle concept is critical to helping them understand why certain actions are taken. Without this understanding, especially in a suppression situation, firefighters' actions may be misunderstood.

Fuel

The fuel side of the fire triangle refers to both the external and internal properties of the fuel. External properties refer to the type and the characteristics of the fuel material. Internal properties of fuel address aspects of fuel chemistry. Fuel is characterized by its moisture content, size and shape, quantity, and the arrangement in which it is spread over the landscape.

- The ***moisture content*** of any fuel will determine how easily that fuel will ignite and burn. Live trees usually contain a great deal of moisture while dead logs contain very little. Before a wet fuel can burn, the moisture must be converted to vapor through the heat process. The greater the moisture content, the higher the heat temperatures required to dry the fuel. The presence of moist fuel can affect the rate and direction that a wildland fire spreads. High moisture content slows the burning process since heat from the fire must first expel moisture.
- The ***size and shape*** of fuel in part determines its moisture content. Lighter fuels such as grasses, leaves, and needles quickly dry out, and therefore burn rapidly. Heavier fuels, such as tree branches, logs, and trunks, take longer to warm and ignite. In areas of light fuel, the temperature required for ignition is lower than in areas of heavier fuel. The oxygen surrounds lighter fuels and allows the fuel to burn with greater intensity, quickly exhausting the fuel supply.

Types of fuel include living vegetation, dead vegetation, (duff, twigs, needles, standing dead snags, leaves, and moss), organic subsurface material (peat and coal), and human built structures. Fuel can be defined as any combustible material.

- The ***quantity*** of combustible fuel in a given area is known as fuel loading. These fuels may be arranged in a uniform pattern and distributed continuously across the ground, allowing a wildland fire to travel uninterrupted. Or, the fuel may be distributed unevenly in a patchy network, forcing the fire to travel over rocks and other barriers by wind-borne embers.
- The ***vertical arrangement*** of fuel is also an important factor in wildland fires. Ground fuels are all of the combustible materials found below the ground surface, and include tree roots, duff, and organic material. Surface fuels are found at the ground level, including twigs, grass, needles, wood, and other vegetation. Ladder fuels are just above ground level such as tall grass and bushes and can carry flames into the tops of trees. Aerial fuels are standing vegetation including tree crowns, branches, leaves, snags, and hanging moss. Crown fires are able to burn independently of surface fires, moving through the treetops.

Oxygen

The third side of the fire triangle represents oxygen. Air contains about 21% oxygen; most fires require air with at least 16% oxygen content to burn under most conditions. Oxygen supports the chemical processes that occur during a wildland fire. When fuel burns, it reacts with oxygen from the surrounding air, releasing heat and generating combustion products, e.g., gases, smoke, particles. This process is known as oxidation.

Fire Behavior

All wildland fires begin with an ignition source. Lightning is a common ignition source of wildland fires. Nine out of ten fires, however, are started directly or indirectly by people, through debris burning, campfires, arson, discarded smoking products, sparks from equipment in operation, arced power lines, and other means. Fire behavior describes the manner in which fuels ignite, flames develop, and fire spreads. The fundamental influences on the spread of wildland fire include fuel type and characteristics, weather conditions in the area, and topography.

Fuel

Because of the complicated combustion process that occurs during the ignition and spread of a wildland fire, it may be useful to describe to your audience the difference between fire and flame. Fire is a chemical reaction, and flame is the visible indication of that chemical reaction. When a flame is visible, the combustion is termed "flaming combustion." With "glowing combustion" one will only see embers.

Fuels char at relatively low temperatures, but once charred can continue to burn by glowing combustion. As fire spreads, there is constant ignition of new fuels through one of the three heat transfer mechanisms described earlier, and the fire continues to advance.

Weather

Weather is the most variable of the factors that affect fire behavior. Wildland fires are affected by wind, temperature, and humidity in the burn zone. Strong winds can affect fire behavior by pushing the flames toward new fuel sources. Wind is able to pick up and transfer burning embers, sparks, and other materials that are capable of starting "spot fires." Blowing wind can also serve as a fuel drying source in moist areas. Wildland fires are capable of generating their own wind. Air above the hot flames becomes heated, causing it to rise. This movement allows fresh air to fill the vacuum provided; this fresh air supplies the fire with a fresh supply of oxygen. In essence, fires can generate their own winds, fanning their own flames.

During the day, sunlight heats the ground and the warm air rises, allowing air currents to travel up sloped landscapes. At nightfall, the process is reversed. The ground cools and the air currents now travel down the slopes. Often fires will burn upslope during the day and down slope at night. Temperature acts upon the spread of wildland fires because the temperature of the fuel affects how quickly or slowly they will reach their ignition point and burn. Because fuels are also heated by solar radiation, fires in the shade will not burn as quickly as those in the direct path of sunlight.

Humidity is a measure of the amount of moisture in the air. This moisture dampens the fuel, slowing the spread of flames. Because humidity is greater at night, fires will often burn less intensely at that time under normal circumstances, and therefore will not travel a great distance.

The combination of wind, temperature, and humidity affects how fast wildland fires can spread. These combinations will change throughout the day and night, and the presence of fire will impact each factor, causing even greater variation.

Topography

Topography of a landscape also affects the spread of wildland fire. Every wildland fire is different in the way that it behaves because of the changing combinations of so many factors, but topography remains constant and therefore allows for more constant predictions of how fire will behave in a specific area.

An explanation of topography includes the shape of the landscape, its elevation, the slope direction and its exposure to sunlight, and the slope steepness (aspect).

- The shape of the land determines how much sunlight or shade an area contains, affecting temperature and wind conditions. Certain fuels grow better under different conditions. In addition, if the landscape has barriers, including highways, boulders and rock slides, or bodies of water, the fire will not spread as quickly.
- Elevation and slope direction affect the type and temperature of the fuel to the degree in which there are shaded and sunny areas. Elevation also impacts how much wind and moisture the area receives.
- The amount of shade or sunlight, the temperature of an area, and moisture received by an area all determine the type of fuel available for wildland fires.
- Slope steepness is important in that it contributes to how quickly the fire will reach the crest of the land form. When a fire begins at the bottom of a slope, the fuels located uphill are preheated by the rising air, helping them to easily catch fire when they come in contact with flames. Fires that begin uphill may deposit burning material that rolls downward, allowing more fires to begin downhill.

The Complexity of the Fire Message

While helping your audience understand the basic concepts of fire, it is critical to convey the complexity. The science behind wildland fire requires knowledge of chemistry, physics, geology, meteorology, and ecology. That knowledge is then interpreted to help predict and explain fire

behavior. Each situation is different in that fire does not function within the framework of a static model.

Wildland fire, as it moves, involves a changing situation. Fire itself changes its own environment, e.g., winds. In essence, in managing a fire the professionals are mixing a recipe in which the ingredients are known but the quantities going in and out of the recipe are constantly changing as is the heat. Such analogies may help your audience better understand why wildland fire management is a demanding art and a science.

Defining Fire Regimes

Wildland fire is a natural process, and many ecosystems depend upon it. As we tell the story of fire to illustrate the science of wildland fire management, we also need to tell stories that promote coexistence with wildland fire. In discussing and addressing fire as a conservation issue, it is important to recognize and understand the different roles that fire plays in different ecosystems. The broad ecosystem categories of vegetation responses to fire below can be helpful in communicating general concepts to the public.

- **Fire-dependent ecosystems** are those where fire is essential and the species have evolved adaptations to respond positively to fire and to facilitate fire's spread, i.e. the vegetation is fire-prone and flammable. They are often called **fire-adapted** or **fire maintained** ecosystems. Many plants and animals in these landscapes depend on fire to reproduce and grow. If fire is removed, or if the fire regime is altered beyond its normal range of variability, the ecosystem changes to something else, and habitats and species are lost. Fire dependent ecosystems vary greatly and need to burn under an appropriate fire regime if they are to persist in the landscape.
- **Fire-sensitive ecosystems** have not evolved with fire as a significant, recurring process. In these ecosystems, most plants and animals lack adaptations to respond to fire and generally lack the ability to rebound after wildfire. Vegetation structure and composition tend to inhibit ignition and fire spread. A wide variety of fire-sensitive ecosystems in the tropics and elsewhere are threatened by land use activities and vegetation conversion efforts that either use fire or increase the probability of ignitions.
- **Fire-independent ecosystems** are those where fire normally plays little or no role. They are too cold (tundra), too wet (rain forests), or too dry (deserts) to burn. Fire becomes a threat only if there are significant changes to these ecosystems brought about by land use activities, species invasions, or climate change.

As communicators, the questions we must be able to answer for the public are: "What ecosystem type or vegetation structure are we trying to conserve and/or manage?" and "Are the fires that are occurring in that ecosystem helping to maintain it or are they causing the ecosystem to change?"

It is important for you and your audience to understand that fire regimes, like the entire natural world, are diverse and particular to their specific sites. Fire helps determine where different types of habitats exist around the world. Plants and animals have developed different responses to fire, with some dependent on fire and others sensitive to fire.

A fire regime is a set of recurring conditions of fire that characterizes a given ecosystem. The combination of fire frequency, intensity, severity, seasonality, size of burn, fire spread pattern, and pattern and distribution of burn circumscribe those conditions. Fire regimes can often be described as cycles because some parts of the histories usually get repeated, and the repetitions can be counted and measured, such as fire return interval.

An **ecologically appropriate fire regime** is one that maintains the viability of the ecosystem.

An **altered or undesirable fire regime** is one that has been modified by human activities to the extent that the current fire regime negatively affects the viability of desired ecosystems and the sustainability of products and services that the ecosystem provides.

Although fire is one of the most important natural disturbances in many of the Earth's ecosystems, inevitably, conservation practitioners addressing fire issues find that they must also deal with other threats or issues that, because they affect fuels, alter fire regimes. We cannot effectively restore ecologically acceptable regimes unless we also understand and address the underlying causes of alteration. Some general sources are listed below; however, you may have a source unique to your particular area that you need to communicate to your audience.

- Climate change
- Grazing or other land management practices
- Landscape fragmentation
- Rural and urban growth
- Arson
- Lack of or inappropriate fire management practices
- Crop production or non-compatible timber practices
- Invasive species or insect disease
- Loss of traditional and cultural fire use practices that promoted appropriate fire regimes
- Ecosystem conversion
- National policies

In many ecosystems, fire regime alteration is a slow and incremental process, sometimes occurring over decades, and is often linked to multiple sources of degradation related to the many ways that people utilize and interact with our landscapes. Therefore, the attention of the public and decision-makers often occurs after a triggering event, like prolonged drought and uncharacteristically severe fires.

Fire Regime Condition Class

Fire regime condition class (FRCC) is a standardized, interagency tool for determining the degree to which current vegetation and fire regime conditions have departed from historical reference conditions.

The Five Historic Natural Fire Regime Groups		
Fire Regime Group	**Frequency (Fire Return Interval)**	**Severity**
I	0-35 years	Low severity
II	0-35 years	stand replacement severity
III	35-100+ years	mixed severity
IV	35-100+ years	stand replacement severity
V	>200 years	stand replacement severity

The fire regime groups are intended to characterize the presumed historical fire regimes within landscapes based on interactions between vegetation dynamics, fire spread, fire effects, and spatial context. You can access fire effects/fire ecology data to learn more about fire regime characterizations and summaries on plant, animal, and vegetation communities for your specific area by exploring the Fire Effects Information System (FEIS; www.fs.fed.us/database/feis/).

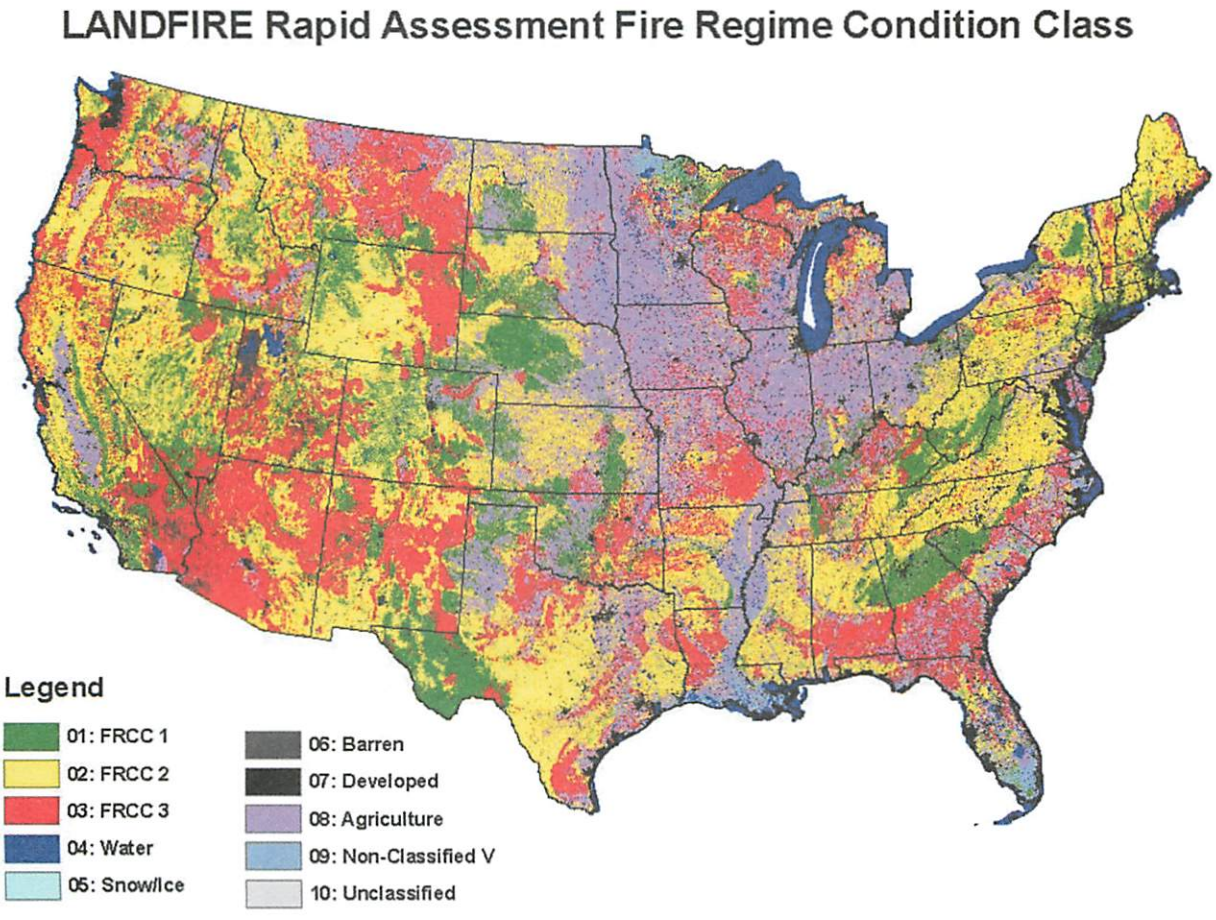
Condition class attributes is an approach to defining and interpreting the importance of fire frequency in ecosystems. This concept is useful in helping wildland fire communicators convey to their audiences the science and management behind wildland fire.

Current "condition class" is defined in terms of departure from the historic fire regime, as determined by the number of missed fire return intervals with respect to (1) the historic fire return interval, and (2) the current structure and composition of the system resulting from alterations to the disturbance regime.

Three "condition classes" have been developed to categorize the current condition with respect to each of the five historic Fire Regime Groups.

- **Fire Regime Condition Class 1**: For the most part, fire regimes in this Fire Regime Condition Class are within historical ranges. Thus, the risk of losing key ecosystem components from the occurrence of fire remains relatively low. Maintenance management such as wildland fire use and/or prescribed fire, mechanical treatments, or preventing the invasion of non-native weeds, is required to prevent these lands from becoming degraded.
- **Fire Regime Condition Class 2**: Fire regimes on these lands have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified in these lands. Restoring these lands to their historical fire regimes may require some level of restoration through the use of fire, mechanical or chemical treatments, and the subsequent reintroduction of native plants.
- **Fire Regime Condition Class 3**: These lands have been significantly altered from their historical range. Because fire regimes have been extensively altered, risk of losing key ecosystem components from fire is high. Consequently, restoring these lands to their historical fire regimes may require multiple mechanical or chemical treatments and reseeding before some application of fire such as prescribed fire can be utilized to manage fuel or obtain other desired benefits.

A complete definition, background information, and the nationally consistent methodology for calculating and mapping FRCC are available at www.frcc.gov.



Map generated from LANDFIRE Rapid Assessment data.
LANDFIRE is a multi-partner wildland fire, ecosystem, and wildland fuel mapping project. LANDFIRE's objective is to provide consistent, nationwide data describing wildland fuel, existing vegetation composition and structure, historical vegetation conditions, and historical fire regimes. For detailed information and additional maps and products go to www.landfire.gov.

Fire Dependent Ecosystems of the United States

A central tenet for communicators is "relate to your audience." Historically, most terrestrial ecosystems in the United States were dependent to some extent upon fire. Addressing wildland fire using local examples has the potential to better help people relate. Seven major ecosystems are used as examples of how to concisely frame local descriptions.

Ecosystems, or ecological communities, are geographic areas containing similar biological communities and abiotic conditions, such as temperature, rainfall, and seasons. They are tied through flows of energy. These ecosystems are often identified by the dominant plant communities found in the region. The plant species found in these biological regions are a function of many factors, including climate, interactions among species, and disturbance regimes such as fire. Fire occurs in nearly all terrestrial ecosystems, however, in some ecosystems wildland fire is one of the major factors in determining community structure and composition.

Fire disturbance regimes can be characterized by the following:

- Effects of disturbance agents
- Potential production of smoke emissions
- Hydrologic functioning
- Vegetative composition, structure, and resilience

Wildland fire occurs naturally and plays varying roles in nearly all ecosystems. Because different types of ecosystems produce and accumulate fuel more quickly than others, the wildland fire frequency and intensity are determined by the type and the stage of development of the ecosystem in which it occurs. Depending on the fire regime, many species evolve adaptation to fire, making fire important for competition with other species, or even necessary for reproduction. Fire, in a natural or prescribed form, is important to the maintenance and health of most ecosystems.

The community structure and species composition at any given site are responses to various aspects of disturbance. Over time, disturbances such as flood, drought, and fire have molded the composition, structure, and ecological processes of the world's ecosystems.

Organisms within these ecosystems have evolved to survive the disturbance patterns unique to an area. Species adaptations to disturbances can be thought of as the evolution of physical and behavioral traits which allow for reproduction and the continuance of a species. Many plant species have important adaptations that allow them to survive, thrive, and even require fire for survival. However, it is important to recognize that not all adaptations that protect plants are a response to fire, but may be a response to other pressures, such as grazing or drought. Following is a summary of plant species adaptations to fire.

- **Protection.** Many plants have characteristics that protect them as a species from being extirpated by wildland fire, i.e., fire resistant adaptations. The most common example of fire protection is the thick bark on some species of trees in fire maintained ecosystems, such as ponderosa pine and bur oak. In addition, some species have protective coverings over critical plant parts. Examples of these coverings are the needle and scale coverings over the buds on longleaf pine, and the below-ground meristem tissue (where growth occurs) in grasses.
- **Growth.** Several adaptations relate plant growth to fire, i.e., growth-related adaptations. Some trees, such as ponderosa pine, actually increase their growth rate in the years following a fire. This response is visible in the annual rings in the cross section of trunks. Other growth-related adaptations include dormant buds that begin growing after limbs and branches are burned away, stimulation of suckering from the stumps of burned trees, and lignotubers (dormant below-ground buds in some legumes).
- **Reproduction.** Several reproductive-oriented adaptations allow plants to take advantage of, or even require, wildland fire. Fire has been shown to trigger and/or increase seed release in some species, such as lodgepole and jack pines, and to stimulate flowering and fruiting in

some shrubs and herbs. Some seeds remain dormant until the seedcoat is scarified, or cracked, which can result from intense heat or fire. Some pines have serotinous cones, in which the seeds are sealed in the cone by a waxy pitch that requires fire to remove the seals and free the seeds for germination.

- **Germination.** Fire can also prepare seedbeds for germination by burning leaf litter. Some seeds require mineral soil for germination, and fire can release nutrients in the soil and make them available for sprouting plants. Likewise, fire can remove overstory plant material permitting sunlight to reach understory plants.

Sequoias depend on frequent fire. Fire prepares the ground with nutrient-rich ash on mineral soil so sequoia seeds can germinate.

These adaptations, in combination with the local fire regime at a specific site, play an important role in determining the composition of the plant community.

Impact on Animals

The immediate impact of wildland fire on animals is generally less intense, as both vertebrates and invertebrates have been shown to be fairly successful at avoiding being burned in fire. However, major changes in the plant communities following a fire have significant impacts on the animal communities that inhabit these ecosystems.

Over time, however, the impacts of human generated fire or suppression of fire can have major consequences for animals. For example, the movement of American bison to the eastern United States in the 1500s may have resulted from Native Americans burning in the east which opened more grazing for bison. Recent studies of ancient Aboriginal "fire-stick farming" practices in Australia beginning 50,000 years ago suggest fire impacts as the reason for extinction of certain large animals.

Overview of Fire Dependent Ecosystems

It is essential for you to stress the importance of fire on ecosystem health, and to inform audiences that wildland fire management practices for one ecosystem are not necessarily appropriate for another. This section provides a brief overview of fire-dependent ecosystems within the United States to illustrate how to frame stories when communicating with audiences about the role of fire.

Midwest Tallgrass Prairie

Historically, tallgrass prairies covered a large portion of the midwest. To the west, the tallgrass prairie graded into shortgrass prairie. To the east, the tallgrass prairie included increasing numbers of trees, first as scattered oak savannahs and gallery forests, eventually becoming forests with prairie openings. These extended eastward into the Ohio Valley.

Nature Conservancy Tallgrass Prairie Preserve, Oklahoma © Harvey Payne

Tallgrass prairie is primarily made up of grasses and forbs, with some shrubs and trees. Prairie plant communities are a result of fire and drought, although some community structure is in part from grazing by bison and elk. Drought acts both as a direct and indirect stress on the prairie ecosystem because it dries potential fuels and increases the chances that fire will occur. In pre-Colombian times, natural fire sources were primarily from lightning

strikes, although there is evidence that deliberate fires started by Native Americans were also common. Fires in the prairie usually occurred in five- to ten-year cycles, with moderate regularity. Fire in tallgrass prairies acts to burn above-ground biomass, killing woody plants, allowing sunlight to reach the soil, and changing the soil pH and nutrient availability. Grassland fires can cover large areas in a short time as fire fronts are driven by prairie winds. However, because grass provides a low quality of fuel, grassland fires usually are not intense.

Productivity usually increases following a fire in the prairie. Growth is stimulated by the removal of litter and preparation of the seedbed. In addition, perennials have greater seed production, germination, and establishment after a fire. The seeds of some forbs, such as prairie sunflower, scarify and leave dormancy following fire. Growth of native species such as big bluestem, little bluestem, and Indian grass all increase significantly following a fire. Fire promotes grasses at the expense of woody species; woody species that occur in savannahs are usually thick-barked species such as bur oak. Because of predominantly westerly winds across American prairies, trees are sometimes found on the eastern bank of streams and rivers that stop fires spread by these winds.

When fire is removed from a prairie ecosystem, woody shrubs and trees eventually replace grasses and forbs. Mowing is not a good replacement for fire in prairies because it does not reduce litter. Grazing is not a good replacement because livestock eat some grass species while leaving others untouched.

Almost exclusively, burning is prescribed for the restoration and maintenance of prairie reserves. In most managed prairies, prescribed fire is introduced on a two- to three-year cycle. The time of the year during which these fires are ignited is of primary importance. Plant recovery following a prairie fire is fastest in the spring and fall when soil moisture is high and plants are not producing seeds. If the area is burned when soil moisture is low, or when plants are starting to produce seeds, the recovery will take longer following the fire.

Southwestern California Chaparral

Chaparral is a general term that applies to various types of brushland found in Southern California, Arizona, New Mexico, and parts of the Rocky Mountains. True chaparral exists primarily in Southern California and describes areas that have a Mediterranean-like climate with hot, dry summers and mild, wet winters. The chaparral in this region is primarily fire-induced, and grows in soils that are shallow and unable to hold water. Generally, the terrain is steep and displays severe erosion. Variations in species cover throughout the area are attributed to the soil type and exposure, the altitude at which it grows, and the frequency of wildland fires.

Chamise (greasewood) is a common plant in this ecosystem. Other important shrubs include manzanitas, Ceanothus, and scrub oaks. Natural fires occur in 15- to 25-year cycles, with high regularity. Plant growth in southern California chaparral occurs during the wet winter months. This vegetation dries during the dry summer months when winds blow from the inland deserts toward the Pacific Ocean. Fires usually occur during the late summer Santa Ana winds, which are strong (up to 60 mph) and dry. These winds tend to drive fire rapidly through the dry brush.

Plants in this ecosystem are adapted to the Mediterranean climate, local soils, and the fire regime. Fire adaptations include vigorous stump sprouting after fires by many shrubs, including the manzanitas, Ceanothus, and scrub oak. Chamise produces dormant seeds that require fire for scarification; these seeds create a large seed bank during non-fire years. In addition, most chaparral plants seed quickly, usually within three to five years after sprouting. Many of the shrubs, especially chamise, promote fire by producing highly flammable dead branches after about 20 years. Another chaparral plant, Ceanothus, has leaves that are coated with flammable resins. Fires occurring at intervals greater than 20 years are often high intensity because of the large amount of fuel existing

in shrub tops. Many nutrients are locked in the foliage of chaparral plants. Through burning, these nutrients are recycled back into the soil.

After fires in chaparral, forbs are usually profuse on the newly opened floor. After a year, the plant community is dominated by annual grasses. Five years after a fire, chaparral shrubs once again dominate the ecosystem. For this reason, more frequent fires favor grasses over shrubs. Fire has not been successfully removed from this ecosystem, so how the community would respond to lack of fire is not well-known, although non-fire adapted trees and shrubs might replace the chamise, manzanita, and Ceanothus.

Wildland fire control in the southern California chaparral ecosystem is very difficult because of the existence of Santa Ana winds, the length of the summer season, and the heat and dryness present throughout the season. This ecosystem contains water-repellent soils, loose surface debris, and steep terrain, all adding to the high risk of unwanted wildland fire. Obstacles to using prescribed burning include the nearness of housing (wildland/urban interface) and the issue of smoke management. Burning also increases the amount of soil erosion, which is especially problematic in developed areas. Some work has been accomplished to replace the chaparral plant community with grasses, but this practice further threatens the existence of the species dependent on this ecosystem.

Ponderosa Pine in the Southwest and Intermountain West

Ponderosa pine ecosystems occur as transitions between grasslands and deserts at lower elevations and higher level alpine communities. These ecosystems are found from the southwestern mountains as far north as Washington and Oregon, and east to the Dakotas, sometimes as nearly pure stands of ponderosa pine, and sometimes mixed with other species, such as Douglas fir. This forest community generally exists in areas with annual rainfall of 25 inches or less.

The characteristic surface cover in a ponderosa pine forest is a mix of grass, forbs, and shrubs. The natural fire regime has a cycle of five to 25 years, with moderate regularity. These fires tend to be low intensity ground fires that remove woody shrubs and favor grasses, creating open, park-like ponderosa stands.

The life history of ponderosa pine is well adapted to high frequency, low intensity fires. These fires burn litter and release soil nutrients, thus providing a good seedbed for ponderosa pine seeds. For the first five years of their life cycle, ponderosa pine seedlings vigorously compete with grasses for survival and are vulnerable to fire. Eventually, at about five or six years of age, the tree begins to develop thick bark and deep roots and shed lower limbs. These factors increase its ability to withstand fire and decrease the possibility of a fire climbing to the crown; crown fires can kill ponderosa pines. Ponderosa needles on the ground facilitate the spread of low intensity ground fires and reduce grasses that can intensify ground fires.

In ponderosa pine stands, fire is generally prescribed on five- to ten-year intervals to reduce fuel loads. Shorter burn intervals have insufficient fuel built up to maintain the fire, and longer periods may run the risk of causing tree-killing crown fires. Prescribed fires usually result in maintenance of stand composition.

Douglas fir is commonly found in association with ponderosa pine, but is able to survive without fire. Additionally, Douglas firs possess characteristics that enable them to withstand fire when it does occur. For example, this species is more resistant to fire than most other conifers. Additionally, the Douglas firs' abundantly produced seeds are lightweight and winged, allowing the wind to carry them

to new locations where seedlings can be established. Douglas fir regenerates readily on sites that are prepared by fire. In fact, nearly all the natural stands of Douglas fir in the United States originated following fire. One of the main benefits of fire in these forest communities is the removal of fuel and consequent reduction of the chance of severe crown fires. Because Douglas fir exists in the presence of other types of trees, the life cycles of many species must be considered when timing a prescribed fire in this type of forest community.

Lodgepole Pine Communities of the Rocky Mountains

Lodgepole pines are found throughout the Rocky Mountains of the western United States, generally in unmixed stands at higher elevations. Major fires occur at intervals of 200 to 300 years in this ecosystem, and these fire events are often high intensity crown fires that kill trees. Each successional stage of a lodgepole pine community displays different reactions to fire.

At 40 to 50 years following a stand-replacing fire, herbaceous plants and lodgepole seedlings grow between snags and logs that were damaged by the fire. The forest tends to resist fire at this stage, in that the only fuels available are large logs that do not readily burn. From the age of 50 to 150 years, seedlings grow to a height of 50 feet, and the stands become so dense that little sunlight reaches the forest floor, therefore suppressing the growth of the understory. The sparseness of undergrowth also discourages the possibility of wildfire.

It is during the next successional stage of 150 to 300 years that the threat of wildland fire increases. Because of overcrowding, some of the lodgepole pines begin to die, which allows sunlight through, spurring vegetative growth. After 300 years, the original lodgepole pines die, making the forest highly susceptible to wildland fire. For example, the lodgepole pine stands in the Yellowstone area during the 1988 fires were 250–350 years old.

When fire does not occur, lodgepole pines are sometimes gradually replaced by Engleman spruce and subalpine fir, although the successional pathway is site dependent. Fire regimes in lodgepole pine communities can be very irregular, thus community dynamics are difficult to predict.

Wildland fire management in lodgepole pine communities can be problematic. Because there tend to be high intensity crown fires, allowing lightning ignited fires to burn can result in fires which are difficult to contain within management units. Prescribed fire is difficult to manage for the same reasons, and can endanger nearby human communities. Fire suppression, however, creates a fuel buildup that is difficult to manage, and suppression is not consistent with maintaining ecological communities.

Southern Pine Communities

Ron Myers

Southern pine forests consisting mainly of loblolly, shortleaf, or longleaf pines are found from Texas east to Florida, and north to Maryland. Various species of oaks are often present, especially when fire has not occurred recently. Shrubs can also be present, such as saw palmetto and bayberry. Grasses are also common, such as little bluestem and wiregrass. Lightning ignited fires in southern pine communities are common. More frequent fires favor longleaf pines, which are more fire adapted. Less frequent fires tend to favor shortleaf and loblolly pines. Frequent fires also create pine savannahs when understory shrubs are burned away, favoring the establishment of grasses beneath the pines. In cases where fire does not occur for 25 years or more, such as when fire is removed from the system or on wet sites where fire seldom occurs, hardwoods such as oaks and hickories gradually replace the pines.

Like many fire-adapted trees, longleaf pine requires mineral soil for seed germination, and thus ground fires prepare the seedbed by removing litter and releasing soil nutrients. The longleaf seedling grows slowly in the early years, devoting much energy to developing a thick root that is protected from fire, and to a dense protective layer of needles around the buds. Loblolly and shortleaf pines are less fire tolerant than longleaf pine, but the thick barks of these species also make them more fire tolerant than most other competitive tree species.

Jack Pine Communities of the Great Lakes Region

A mixture of pines and other tree species is found in the forests of the Great Lake states. Red, white, and jack pine grow among paper birch and aspen. Grasses, forbs, and shrubs such as big bluestem, little bluestem, raspberry, blueberry, and huckleberry grow under the trees of these communities. The communities of the Great Lakes states have had many disturbances since European settlement, making it difficult to determine the "natural" state of these ecosystems.

Dave Currie

Jack pines are small trees, rarely exceeding 80 feet (about 24 meters) in height. They occur in poor soils, usually in open "pine barrens," and often form savannahs when grasses are present on the thin soils. Fires occur in jack pine stands approximately every 125 to 180 years. Jack pine is well-adapted to fire. Serotinous cones, which have a waxy outer coating to protect the seeds, remain on the tree rather than dropping to the forest floor. Seeds can remain viable on the tree for 20 years or longer. When a fire occurs, the thick cone protects the jack pine seed from the intense heat. Jack pine seeds have been known to still be viable after exposure to heat at 1000 degrees Fahrenheit. That heat, however, opens the scales of the cone and releases the seed onto the ground where the fire has removed much of the existing vegetation and litter. Jack pine seeds require contact with mineral soil to germinate, so fire serves to prepare the seedbed, reduce competition from other plants, and release the jack pine seed. In addition, the short stature of jack pines makes crown fires a high likelihood; these very crown fires are necessary to release the seeds from dormancy.

When fire is withheld from jack pine stands, they are replaced by other boreal tree species, such as balsam fir, white spruce, and the hardwoods that occur in this ecosystem. Prescribed fire is used in jack pine stands in central Michigan in order to maintain habitat for the rare Kirtland's warbler, which requires young jack pine stands for nesting.

Alaska's Boreal Forest and Tundra

Alaska is a vast landscape covered with boreal forest and tundra, all prone to wildland fire. The boreal forest is found in southern Alaska extending as far north as Fairbanks. Tundra is found in the higher elevation of this zone. Tundra extends from the Brooks Range north to the Arctic Ocean.

While the boreal forest has large vegetation (e.g., spruce and birch trees) and nutrient-laden soil, the tundra is a low landscape comprised of scrubby and herbaceous vegetation, often only a few inches high. Much of the tundra soil and its nutrients are locked in permafrost. Often the soil is shallow; in some places it is no deeper than the shallow root structure of the tundra vegetation.

On the south-facing slopes of the boreal forest are spruce, birch, and aspen. North-facing slopes contain mostly black spruce and birch. Both of these slopes exhibit a unique succession; the successional stages are greatly impacted by wildland fire.

Following a fire, cottongrass, fireweed, and other herbaceous plants invade. Shrubs and berries move in after a few years only to be replaced by more mature trees such as willow, aspen, and birch. Eventually the spruce gets established and dominates, usually until the next fire. The heavy accumulation of litter makes these forests most susceptible to fire.

Fires in the boreal forest and tundra typically burn in a patchwork, leaving a mosaic across the landscape. Time of year, moisture present, wind speed and direction at the time of the fire, and biomass accumulation since the last fire, etc., all add to the rendering of the mosaic.

Because of Alaska's cool year-round temperatures, vegetation decays at a very slow rate, thereby releasing nutrients at a very slow rate. Following a fire in the boreal forest or tundra, large amounts of nutrients are released. Plants exploit this opportunity, especially the early successional plants. In turn, wildlife exploit the lush growth. Consequently, Alaska's plant and animal communities are highly dependent on fire.

Atlantic Coastal Pine Barrens
Source: http://edc2.usgs.gov/publicationspdfs/ID559.2003.pdf (US Geological Survey)

The Atlantic Coastal Pine Barrens is a disjunctive ecoregion covering approximately 6,200 square miles of the coastal plain of New Jersey, Long Island in New York, and Cape Cod, Martha's Vineyard, and Nantucket in Massachusetts, as well as nearby islands. Hydrology, soils, fire regimes, and vegetation combine to distinguish this ecoregion from neighboring ecoregions. The region has a wide variety of ecological systems, including cedar swamps, meadows, stunted pitch pine and oak forests, sphagnum bogs, heathlands, coastal salt ponds, dune systems, and the Nation's only maritime grasslands on Martha's Vineyard and Long Island.


The Nature Conservancy

Rainfall averages about 48 inches per year, but the soil is sandy, extremely porous, and drains very quickly. Soils and water in the ecoregion are generally very acidic, which limits naturally occurring flora, fauna, and suitable agricultural crops. Acid-tolerant shrubs, such as those of the heath family (blueberries, laurels, staggerbush), are common. Agricultural activity in many areas is limited to acid-loving crops, such as blueberries and cranberries, although parts of the ecoregion with richer soils support fruits, vegetables, and other crops. Aquatic fauna must also be acid-tolerant, resulting in relatively few species of freshwater fish and amphibians.

Historically, fire is the major disturbance factor influencing vegetation composition in the ecoregion. In its natural state, the landscape is swept by frequent fires, giving the advantage to species able to survive, such as pitch pine, scrub oak, heath shrubs, and bracken fern.

Eastern Deciduous Forests (Source: www.nearctica.com)
NOTE: Only certain species in these forests are fire dependent.

The Eastern Deciduous Forest occupies the eastern half of the United States and southeastern Canada. The northern boundary of the Eastern Deciduous Forest blends gradually into the Northern Boreal Forest (Taiga) in New England and southern Canada. There is never a point where one can say "This is where the Northern Boreal Forest becomes the Eastern Deciduous Forest." The western boundary is equally nebulous. A rough line of demarcation between the Eastern Deciduous Forest and the Prairie Biome is the Mississippi River. However this boundary really is ill-defined. Along the western margins of the Eastern Deciduous Forest, patches of forest and prairie intermingle depending on purely local conditions. In fact, small pieces of prairie reach as far east as Pennsylvania and Maryland. The southern boundary of the Eastern Deciduous Forest lies in central Florida. Southern Florida is given over to a Subtropical Region.

The Eastern Deciduous Forest is defined by the dominance of deciduous trees in the ecosystem. Deciduous trees are almost all angiosperms such as oaks, maples, beech, hickories, and birches that drop their leaves. Evergreen conifers do live in the Eastern Deciduous Forest, but are rarely as common or dominant as the deciduous trees except under particular types of local conditions.

The Eastern Deciduous Forest develops under a particular set of climatic conditions. Winters are cold, but relatively mild compared to the winters further north in the regions of the Northern Boreal Forest and the Tundra. The summer is similarly longer than further north and temperatures are higher. Possibly the most important climatic feature of the Eastern Deciduous Forest is precipitation, both rain and snow. Total precipitation throughout the year is higher in the Eastern Deciduous Forest than anywhere else in North America except for the tropical and subtropical areas to the south and the isolated spots of Temperate Rain Forest found along the Pacific Coast. Almost as important is the relative constancy of precipitation throughout the year.

The species composition of the Eastern Deciduous Forest has changed over time. From 3,500 to 1,500 years ago, oaks were the dominate species. As the amount of burning increased from 1,500 to 240 years ago, chestnuts became the dominate species. In the past 200 years, the amount of burning has decreased and oaks again are becoming the dominate species.

None of the previously described ecosystems exist as a blanket across the areas specified in their description. This is particularly true of the Eastern Deciduous Forest. Notice, for instance, that the Southern Pine Communities occur within much of the same geographic range as the Eastern Deciduous Forest. This area includes many different combinations of climate and geology from the central lowlands below the Great Lakes, across the Appalachian Mountains, and onto the coastal plain. One result is a general transition, from North to South, of species like beech and maple to more oak and pine, and, generally, more fire-adapted systems with progressively shorter fire return intervals. In the coastal plain, where much of the Southern Pine Community exists, evergreen species, including hardwoods, become much more common as well. Another aspect of this region's diversity, especially in the Appalachians, is a mixture of different communities on different slopes and elevations. As a result, fire-adapted oak and pine communities occupy some areas, while mixed hardwoods and fire-sensitive conifers occur on sites which burn less frequently.

Fire Effects

The definition of **Fire Effects** is the physical, biological, and ecological impacts of fire on the environment. Both individual species and an integration of species and ecosystem responses to fire are influences by fire season, fire behavior and characteristics, fuels, air quality, soils and watershed, plants, and wildlife. Variation in fire effects may occur within ecosystems because of differences in site characteristics, fuel conditions, and weather prior to, during, and after fire. A fire may have different effects upon the same site if it occurs in different seasons or within the same season but different fuel. Fires affect animals mainly through effects on their habitat, which can be either beneficial or harmful.

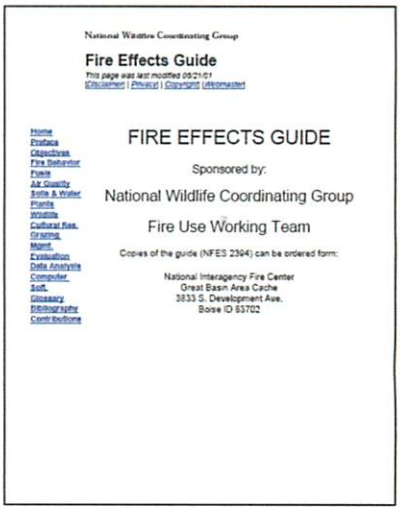
In addition, cultural resources including artifacts, structures, and traditionally significant gathering places from both prehistoric and historic eras can also be affected by wildfire. Therefore, you may need to discuss with your stakeholders the effects of a particular wildland fire in your area on both the cultural and ecological values and resources.

An example of fire effects is the impact to air quality caused by smoke. See Chapter 3 for more information on this topic.

Understanding fire regimes, fire behavior and fire effects, and the differing needs of multiple species must be communicated to your audiences. Resource materials are available to guide you in developing messages on the ecological, physical and cultural impacts of fire:

Department of Agriculture, Forest Service, Rocky Mountain Research Station "Rainbow Series" on *Effects of Wildland Fire on Ecosystems*. This five-volume series covers air, soil and water, fauna, flora and fuels, and cultural resources (RMRS-GTR-42): www.fs.fed.us/rm/publications/.

National Wildlife Coordinating Group's (NWCG) publication *Fire Effects Guide* (NFES #2394): www.nwcg.gov/pms/RxFire/rxfire.htm.


National Wildfire Coordinating Group

Fire Effects Guide

This page was last modified 05/21/01

Disclaimer | Privacy | Copyright | Webmaster

Home
Preface
Objectives
Fire Behavior
Fuels
Air Quality
Soils & Water
Plants
Wildlife
Cultural Res.
Grazing
Mgmt.
Evaluation
Data Analysis
Computer
Soft.
Glossary
Bibliography
Contributions

FIRE EFFECTS GUIDE

Sponsored by:

National Wildlife Coordinating Group

Fire Use Working Team

Copies of the guide (NFES 2394) can be ordered form:

National Interagency Fire Center
Great Basin Area Cache
3833 S. Development Ave.
Boise ID 83702

3. Fire Management

3. Fire Management
- A. Wildland Fire Management – Agencies and their Roles
  - i. National Interagency Fire Center (NIFC)
  - ii. National Wildfire Coordinating Group (NWCG)
- B. History of Humans and Fire
  - i. Historical Perspective
  - ii. Today's Societal Influence
- C. Public Perceptions and Attitudes Toward Wildland Fire
  - i. Motivation and Education

Included in this chapter is an overview of the interagency fire management network and an introduction to the history of wildland fire and societal influences. Fostering communication with your audiences requires messages that address human dimensions issues, therefore a section on public perceptions and attitudes is included.

The National Interagency Fire Center

The National Interagency Fire Center (NIFC) is located in Boise, Idaho, and coordinates and supports operations for managing wildland fire and other natural disasters throughout the United States. The fire center also addresses fuel load management and public education/outreach. The center is located on a 55-acre site administered by the Bureau of Land Management. Operating costs and responsibilities are shared by the cooperating agencies listed below.

For information regarding U.S. fire policy, visit the References section at www.nifc.gov. From this site, you can access the individual agencies' sites for more information.

Forest Service (USFS), U.S. Department of Agriculture

USFS manages national forests and grasslands. USFS also represents state wildland fire organizations through the U.S. Forest Service's Cooperative State and Private Forest authorities.

U.S. Fish and Wildlife Service (FWS), U.S. Department of the Interior

FWS manages national wildlife refuges, waterfowl protection areas, and national fish hatcheries. The FWS national Branch of Fire Management is headquartered at NIFC.

National Park Service (NPS), U.S. Department of the Interior

NPS administers national parks, monuments, historic sites, natural areas, and other federal lands. Its national Branch of Fire and Aviation is located at NIFC.

Bureau of Land Management (BLM), U.S. Department of the Interior

BLM manages and provides fire protection for millions of acres and is the host agency at NIFC. BLM's National Office of Fire and Aviation is headquartered at NIFC.

Bureau of Indian Affairs (BIA), U.S. Department of the Interior

BIA provides wildland fire protection for Indian reservations and other trust lands. BIA's National Wildland Fire and Aviation staff is headquartered at NIFC.

National Association of State Foresters (NASF)

The NASF is a non-profit organization that represents the directors of the State Forestry agencies from all 50 states, eight U.S. territories, and the District of Columbia. A representative of the NASF has a permanent position located at NIFC.

National Weather Service (NWS), U.S. Department of Commerce

NWS provides vital weather analysis, forecasts, and training to all fire management agencies. During fire seasons, NWS provides daily weather briefings to NIFC.

Office of Aircraft Services (OAS), U.S. Department of the Interior

OAS provides aircraft, and technical and administrative aviation services to governmental organizations. OAS, part of the Office of the Secretary of the Interior, is located at NIFC.

U.S. Fire Administration (USFA), U.S. Department of Homeland Security

The U.S. Fire Administration is an entity of the Department of Homeland Security which coordinates with other federal agencies and partners with fire protection and emergency service communities to reduce life and economic losses due to fire and related emergencies. The USFA provides public education, training, technology, and data initiatives.

Because wildland fire does not acknowledge jurisdictional boundaries, no single federal, state, local, tribal, or volunteer agency alone can handle all wildland fires that may occur in its jurisdiction. These groups work together to exchange support, protection responsibilities, information, and training to protect lives, property, and natural resources.

NIFC provides valuable coordination and support for these cooperative firefighting efforts. It also provides assistance and support for other natural disasters at the request of the Department of Homeland Security - Federal Emergency Management Agency (DHS/FEMA) and the Nuclear Regulatory Commission (NRC). In addition, it provides support to Canada through a mutual aid agreement and to other foreign countries through the U.S. Department of State, Office of Foreign Disaster Assistance.

NIFC provides:

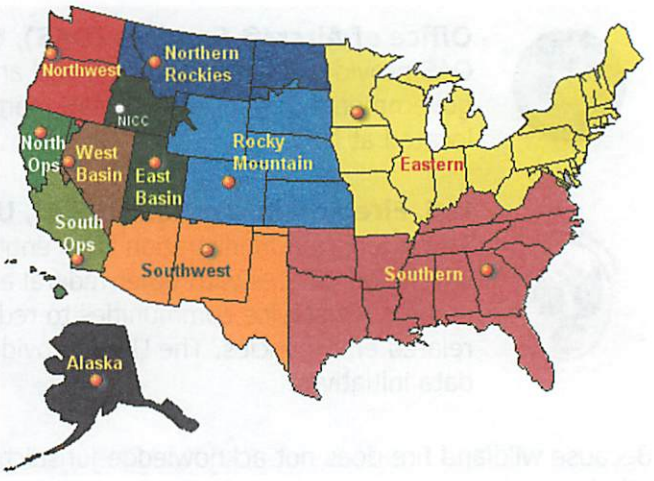
- Aerial imagery
- An air tanker base
- An equipment and supply cache
- Equipment development
- Infrared mapping
- National contracting
- National fire information/news
- National policy and guidelines
- Telecommunications
- Remote automatic weather stations
- Research and education
- A smokejumper base
- Technical and scientific expertise
- Training and consultation
- Transport aircraft for crews and equipment

NIFC also hosts the **National Interagency Coordination Center (NICC)** that is tasked to quickly locate and mobilize emergency personnel, equipment, supplies, and aircraft nationwide.

The **National Multi-Agency Coordination (NMAC) group** is another program facilitated by NIFC, and includes the fire directors from BLM, FWS, NPS, BIA, USFS, NASF, and USFA. When the national fire situation becomes severe, the NMAC identifies national or interagency issues and sets priorities for allocating resources. When appropriate, representatives from the General Services Administration (GSA), a military liaison, and state foresters may be added to the group.

Responsibilities for mobilizing fire resources are tiered. At the local level, wildland fire is initially managed by the local agency that has fire protection responsibility for that area. Engines, ground crews, smokejumpers, firefighters, helicopters with water buckets, and air tankers carrying retardant may be used for initial suppression. Various local agencies may work together, sharing personnel and equipment, to fight new fires and those that escape initial action.

If a wildland fire grows to the point where local personnel and equipment are not sufficient, the responsible agency contacts the nearest **Geographic Area Coordination Center (GACC)** for help. The GACC locates and dispatches additional firefighters and support personnel, including incident management teams, engines, bulldozers, other aircraft, and supplies. The GACC can also contract for private goods and services if government support is not available.



During busy fire seasons, fighting wildfires may exhaust the supply of state, local, and geographic area personnel and equipment. In these cases the GACC contacts the National Interagency Coordination Center (NICC) at NIFC and relays requests from the fire. NIFC locates and mobilizes the closest available resources throughout the nation.

National Wildfire Coordinating Group (NWCG)

The National Wildfire Coordinating Group (NWCG) provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions. Its goal is to provide more effective execution of each agency's fire management program.

NWCG is made up of the following:

- USDA Forest Service
- Department of the Interior agencies:
  - Bureau of Land Management (BLM)
  - National Park Service (NPS)
  - Bureau of Indian Affairs (BIA)
  - Fish and Wildlife Service (FWS)
- State forestry agencies through the National Association of State Foresters
- U.S. Fire Administration, U.S. Department of Homeland Security
- Intertribal Timber Council

Insight into how the NWCG works as well as a list of working teams and advisory groups involved with the group can be found in the *NWCG Making A Difference* brochure.

This brochure is available for purchase at www.symbols.gov.

NWCG Creed

- We believe the goal of effective wildfire management is best served through coordinating the resources of all fire management agencies, irrespective of land jurisdiction.
- We believe in the concepts of full partnership, trust, and mutual assistance among the fire management agencies.
- We strongly support professionalism in all facets of fire management.
- We strive to bring the best talent to bear on vital issues in a timely manner, irrespective of agency affiliation.
- We strive for economy, efficiency, and quality in all activities, and practice concepts of total mobility, closest forces, and shared resources without geographic limitations.
- We constantly search for areas of agreement to further the effectiveness of the wildfire management program.

Functions

The people who serve on the NWCG are not line officers, but staff leaders who have much influence on the policy and funding of their respective agency program. Agreed-upon policies, standards, and procedures are implemented directly through regular channels of each participating agency.

NWCG Working Teams

The NWCG operates through interagency "working teams" to provide a means for exchanging knowledge about all dimensions of fire management. Individuals or agencies can interface with the NWCG to retrieve information, make recommendations, or raise issues by contacting agency representatives of the parent group and/or the working teams, the group or working team chairpersons, or the executive secretary.

Other organizations also participate on NWCG working teams, such as International Association of Fire Chiefs, National Fire Protection Association, The Nature Conservancy, and others.

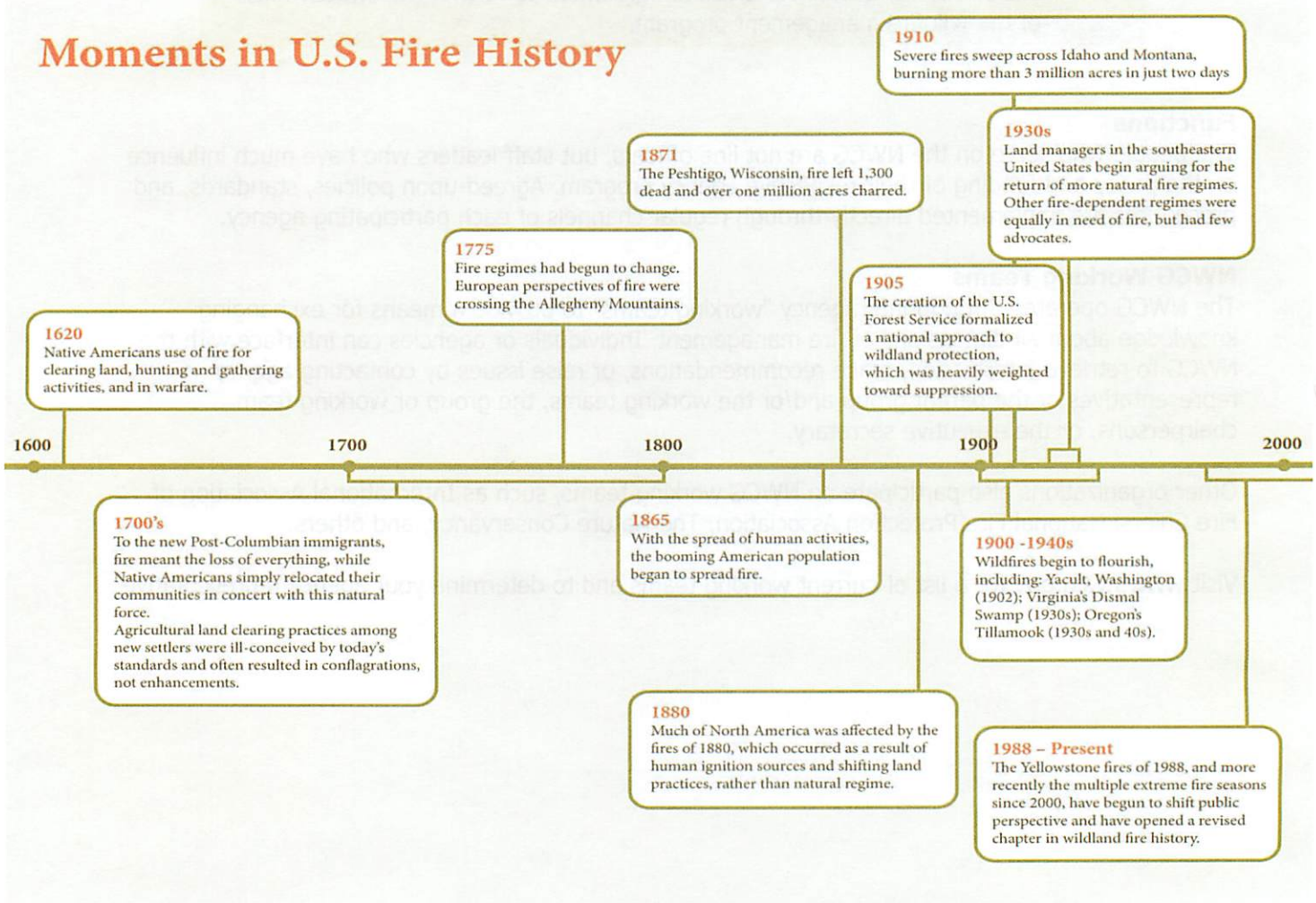
Visit www.nwcg.gov for a list of current working teams and to determine your agency representative.

History of Humans and Fire

The agencies above recognize that ecosystem health and sustainability are based largely on natural fire regimes. They use prescribed fire to maintain or restore fire-adapted ecosystems, control invasive species, rejuvenate and manage habitats, and reduce hazardous fuels. However, this approach has not always been the case in North America.

Consult Chapter 10 for recommended reading on more detailed fire history.

North American wildland fire history is sometimes interpreted as events, mostly large wildfires. Though it is not all-inclusive, the following timeline highlights several factors that have shaped our current fire management landscape.



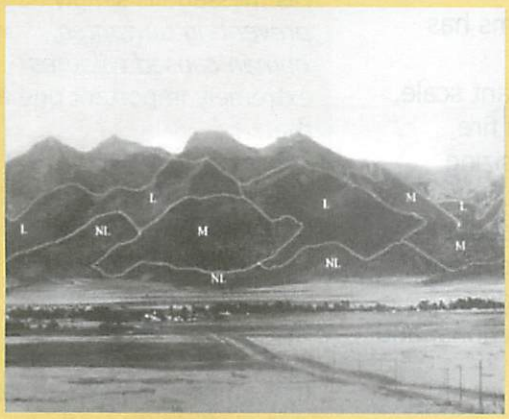
Historical Perspective

Long before humans arrived in North America, there was fire. It came with the first lightning strike and will remain forever as a natural disturbance force affecting and defining ecosystems. Human activities also influence ecosystem change. The oral history of Native Americans is rich with stories about fire and how fire came to humans and their drawings depict the use of fire for clearing land, hunting and gathering activities, and in warfare. European settlers suppressed fire to protect their agricultural crops and communities. Land management activities such as clearing land and leaving behind logging slash, combined with suppression, often resulted in large conflagrations under drought conditions.

For many years, fire was aggressively excluded to protect both public and private investments and to prevent what was considered the destruction of forests, savannahs, shrublands, and grasslands. While the destructive, potentially deadly side of fire was obvious and immediate, changes and risks resulting from these fire exclusion efforts were difficult to recognize and mounted slowly and inconspicuously over many decades.

Some fire managers advocated the use of prescribed fire in the 1930's, but it wasn't until the rise of the environmental movement in the 1960s and 1970s that the public became aware that total wildland fire suppression may be harmful to ecosystems. During this same time, researchers found that people preferred naturalness in wildlands, including naturally occurring woody debris, but disliked woody debris created by commercial logging activity (Shelby and Speaker, 1990). To remedy this, scientists in the late 1970s recommended prescribed fire as a method of protecting, maintaining, and enhancing forest resources while reducing unsightly logging debris. As a result, the benefits of re-introducing fire to ecosystems where it had been suppressed became more widely accepted.

Impact of Fire Exclusion



The landscape in the left is typical of landscapes throughout the West. Much of the diversity (patchiness, structure, and composition) is affected by the exclusion of fire. The picture on the right illustrates the affect of mountain pine beetle. Bark beetles through out the country (spruce bark beetle in Alaska, mountain pine beetle in the Rockies, and in the Southwest states of Arizona, New Mexico, and Colorado) are reaching pandemic levels. Bark beetles are a natural process, but vegetation and composition resulting from fire exclusion has expanded their impact from a small (patch size) scale to landscape levels.

The impact of fire exclusion on vegetation structure and composition and bark beetles leads to fuels that when ignited, burn hotter, spread faster, last longer, and cover more area than they did under more natural conditions.

There is growing recognition that past land use practices, combined with the effects of fire exclusion, has resulted in heavy accumulations of dead vegetation, altered fuel arrangement, and changes in vegetative structure and composition. When dead fallen material (including tree boles, tree and shrub branches, leaves, and decaying organic matter) accumulates on the ground, it increases fuel quantity and creates a continuous arrangement of fuel. When this occurs, surface fires may ignite more quickly, burn with greater intensity, and spread more rapidly and extensively than in the past. On the other hand, uses such as grazing can sometimes reduce fine fuels, precluding periodic surface fires that would typically burn these areas. Without fire, encroachment of woody species may occur in some savannah and grassland ecosystems.

Fires in areas of altered vegetation and fuels can adversely affect other important forces within an ecosystem, such as insects and disease, wildlife populations, hydrological processes, soil structure and mineralogy, and nutrient cycling. Any of these components, if altered greatly by usually severe fire, can seriously diminish the long-term sustainability of the land. In addition, effective protection from, and control of these large fire events will likely be much more difficult.

Today's Societal Influence

Fire is a unique tool that land managers can use to complement agency missions and land management objectives. In order to successfully integrate fire into natural resource management and apply it on an ecosystem-scale, managers, partners, and the public must have an understanding of historic fire regimes, as well as knowledge of the current conditions of each system. Then all parties must work together in the land management planning and implementation process according to agreed-upon goals for the public welfare and the health of the land.

Although the basic concept of restoring fire to ecosystems has gained broader acceptance, several factors hinder the reintroduction of wildland fire on an ecologically significant scale. The public is slow to accept fire as a legitimate wildland fire management tool, largely due to past programs emphasizing complete fire suppression over ecosystem management. In addition, sometimes it takes years to reach agreement about appropriate treatments and to take action. In some ecosystems, little or no information is available about disturbance regimes, historical fire patterns, response to past management actions, and likely future responses.

Another constraint is that fire management plans are not in place in all areas, thus precluding managers from using wildland fire use as a management tool. An additional contributing factor is that our landscape is interspersed with fixed human settlements so that fire management agencies cannot accommodate fire under a completely natural regime. Prescribed fire and wildland fire use may benefit ecosystems, but these fires and the smoke generated by them may compromise public health and safety. This is especially true in the wildland/urban interface (WUI) where communities meet wildlands and a substantial human presence coexists uneasily with areas of fire-prone forest, brush, and grassland vegetation. Therefore, today's land management agencies are committed to balancing fire risks, including the risk of escaped fires, to communities with the benefits of fire.

Only YOU...

Among the most successful public awareness icons in history, Smokey Bear is a valuable tool for fire communicators. Contrary to common misconceptions that Smokey's message is one of fire exclusion or suppression. His message is simply *preventing unwanted, human caused wildfires* – an extremely important one at that.

This message is as true today as it was when Smokey first appeared in 1944. It is important for everyone in the fire community to understand that Smokey's message *does not conflict* with land managers' parallel need for prescribed fire and other fire management tactics.

Due to concerns over fire risk and smoke management and its impact on human health, transportation, agriculture, atmospheric carbon loading, and global warming, managers may choose to use alternate methods to restore ecosystems and reduce hazardous fuels in the WUI, including biological (e.g., grazing animals), mechanical (cutting or mowing), or chemical (herbicides) treatment of vegetation.

WUI Defined
The wildland/urban interface refers to a set of conditions under which a wildland fire reaches beyond natural fuels (such as trees and brush) to homes and their immediate surroundings. Chapter 9 of this *Guide* addresses the WUI in detail.

While other techniques may be used, they cannot always replace the ecological role that fire plays. Fire not only reduces the buildup of dead and downed fuel; it performs many other critical ecosystem functions. Fire can recycle nutrients that might otherwise be trapped for long periods of time in the dead organic matter that exists in many environments with slow rates of decay. It can also stimulate the production of nutrients and improve the specific conditions, including seed release, soil, light, and nutrients, that are critical for the reproduction of fire-dependent species.

Smoke is perceived as a factor that may affect land managers' ability to use larger and more frequent wildland fire for restoration and maintenance of fire-dependent ecosystems. Several federal air quality programs under the Clean Air Act (CAA) regulate wildland fire emissions. The Environmental Protection Agency (EPA) is required to set air quality standards for pollutants that affect public health. States are then required to submit plans to ensure measures will be taken to meet those air quality standards. Local areas may also develop plans that may be more (but not less) restrictive than state and national standards.

Educate your audiences that the use of prescribed fire can ultimately help reduce impact of smoke from wildfires.

In areas where air quality standards are violated, measures must be taken to reduce emissions. Emission control measures for fires that are used to meet management objectives include smoke management techniques that minimize and disperse smoke away from smoke-sensitive areas. Smoke from fires may also cause standards to be exceeded in communities miles away from the source. Currently, prescribed fires are not considered to be a significant cause of non-attainment. But with increased burning to reduce fuels and restore or maintain ecosystem health, this may change. In many areas, fire managers and local air quality authorities have successfully worked together to accomplish fire and land management objectives, resolve conflicts with smoke emissions, and avoid violation of air quality standards. With guidance from the national level to provide consistent interpretation, further cooperation at the local level will help to achieve a balance of air quality and other ecosystem goals.

Public Perceptions and Attitudes toward Wildland Fire

The history of humans and fire in North America illustrates the importance of public perceptions and attitudes in managing wildland fire. Because successful fire management programs depend on public support and collaboration, you need to develop communication products and education programs that reinforce people's values and perceptions. To do this, demonstrate that an issue impacts them before attempting to educate them or convince them of a different perspective. Once you've caught their attention and they are more receptive to your message, they will be more likely to respond to new ideas and be more willing to participate in supporting needed change.

Citizens must be partners in wildland fire management. To do that, you need to understand their perceptions and attitudes in order to develop communication products that convey the information you want them to have by building on the values they hold dear and the perceptions they believe to be true.

Public attitudes and perceptions tend to shift with events. To be an effective educator, you must be aware of your audience and their perceptions and attitudes before communicating your message. Otherwise, your message may be outdated or even unnecessary.

Finally, your messages will change, as they have for fire suppression. It's important to be upfront regarding the reasons for changes – and what it means for people in the community.

Motivation and Education

You want to encourage the public to take action on the issue you are advocating – whether it's creating defensible space around their homes, knowing what to do if fire approaches, calling for more prescribed burning and other fuels reduction around their communities, or supporting research, management, education, and employment opportunities in the wildland fire management arena.

People are generally not motivated by lectures on why they ought to do something. They are more apt to change behavior if they come to a conclusion themselves. Therefore, communicating relevancy should be your first course of action. Engage people with compelling stories, told by compelling storytellers. These may not be agency personnel. Research and experience tells us that people often are most influenced by their peers. Major events such as destructive fires in neighboring communities can also be motivating factors. Adapt and customize information to your specific audience and be inventive by using many different forms of communication. The following chapters provide you with the tools to do this.

The USFS North Central Research Station has been conducting social science research in the area of fuels management. Visit the Web site below for information. Fact sheets also are provided in the appendix of this guide. www.ncrs.fs.fed.us/4803/focus/fire/fuels_mgt/

4. Communication Planning and Strategy
- A. Introduction
  - i. What Communication Can/Cannot Do
  - ii. Perspective from Wildland Fire Communicators
  - iii. Surround Sound Strategy
- B. Best Practices: Communication Planning
  - i. Situation Analysis
  - ii. Objectives
  - iii. Audiences
  - iv. Messages
  - v. Strategies
  - vi. Tactics
  - vii. Action Plan/Timeline
  - viii. Evaluation
  - ix. Budget
- C. Community Outreach
  - i. Public Presentations
- D. Special Events
  - i. Event Planning
  - ii. Logistics
  - iii. Special Event Team
  - iv. Sample Timeline for Events
- E. Working with News Media
  - i. General Media Relations Tips
  - ii. News Writing
  - iii. News Conference
  - iv. Event Announcement
  - v. Inviting Media to an Event
  - vi. Event Publicity
  - vii. Photos
  - viii. Media Days
  - ix. Tips for Calling Media
  - x. What to Say When Calling Media
  - xi. Arranging an Interview
  - xii. Interview Tips
  - xiii. What to do When a Media Representative Calls YOU
- F. Crisis Communication
- G. Youth Education Programs
  - i. Youth Organizations

Communication Planning and Strategy
Fostering communication with various audiences is the crux of this *Guide*. The Communication Planning and Strategy chapter outlines concepts to be considered when designing a communications plan, and offers descriptions of sample tactics. This chapter is written in a general sense, not tied to specific types of fire communication such as education, prevention, or mitigation. Subsequent sections will address sample messages and tactics for specific types of outreach.

Introduction

"Everyone in the organization is responsible for communicating fire messages" is a case often made. However, this admonition does not relieve organizations of the responsibility for planning their communications. Ecological communication planning targets specific messages to a specific audience for a specific response. Those who "fail to plan, plan to fail." Systematic communication planning is required for wildland fire messages to become heard, acted upon, and impact policy and practice.

Communication planning for wildland fire management is not a universal solution, but is a tool to building understanding and support of wildland fire management practices at all levels. While few users of this Guide will have responsibility for national programs, most of us can influence wildland fire communication planning at the local or regional landscape level from which national efforts will be built.

A communication plan is a road map to delineate important issues and ensure consistent message delivery to key audiences. There is no "right way" to develop a communication plan. Experienced communication professionals develop their own preferred method depending upon the need. But first, let's review what communication can – and cannot – do for you.

What Communication Can Do:

- Build an image
- Increase understanding
- Focus attention
- Break through background noise
- Optimize perceptions
- Influence opinion and behavior
- Foster credibility
- Put issues into perspective
- Create consistent agency messages

What Communication *Cannot* Do:

- Control media coverage
- Control messages
- Control spokespeople quotes
- Eliminate competitive side of story
- Eliminate the negatives
- Compensate for inadequacy
- Create or maintain a positive image that is not deserved

A Perspective from Wildland Fire Communicators

As illustrated in Chapter 3, public perceptions greatly influence wildland fire management. Perceptions of the risks associated with fire and its deeply rooted belief that "fire is bad" pose an immense communications challenge. ***Perception is reality*** in the minds of your audience, so communicators must learn about your target audiences' knowledge, attitudes, concerns, and needs about wildland fire. Try thinking of communicating about wildland fire as conveying information to fulfill your target audiences' needs and wants.

In *A Study of Wildland Fire Communications* (Clute, 2000), wildland fire communicators drew the following overarching considerations when preparing a communications plan.

- Incorporate evaluation into all of your communication activities and products. Evaluative feedback should be thought of as a continually occurring process to provide information for communication product revisions and for future communication product development.
- Be creative in your approach to wildland fire communication. Why communicate in the same manner you have been if you are getting little "value" for your efforts? Think like the members of your target audiences, and make obtaining wildland fire information worthwhile and easy for them.
- Develop generic, yet flexible, wildland fire information packets for different target audiences, such as homeowners, media, etc. Prepare these products for everyday use, but particularly

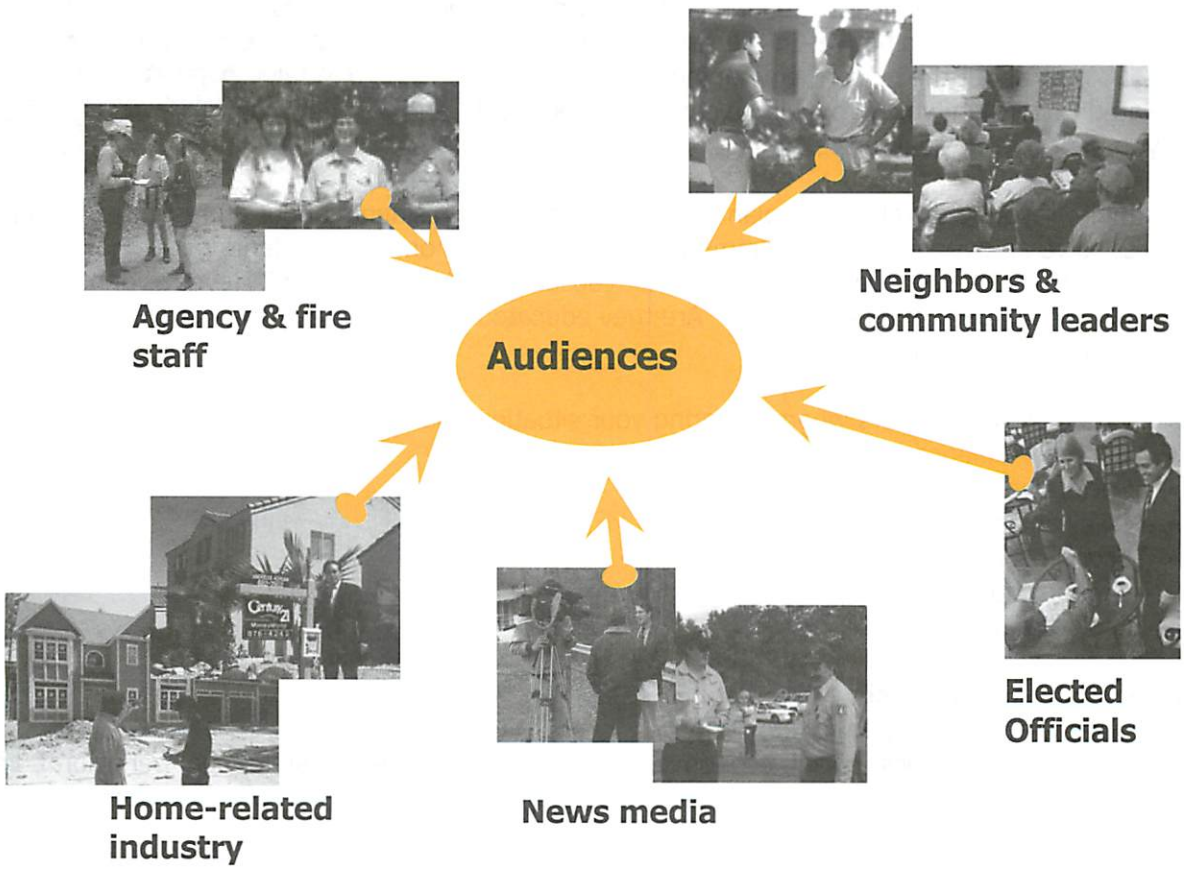
for times of high fire risk when demands upon you will be the greatest given your audiences' increased interest in wildland fire.

- Collaborate — especially with other wildland fire communicators and organizations. But do not forget about other important stakeholders outside the field of natural resources, such as non-governmental organizations, business associations, and local citizens' groups.
- Help to reduce wildland fire jargon by using easy to understand, commonly used language and terminology. Interpret the science of fire and fire management.
- As one communicator observed in the study, "The public does not like to be surprised by wildland fire!" Therefore, keep your "customers" informed about wildland fire and its management. Address your target audiences' needs and wants in a timely manner.

Surround Sound Strategy

As you prepare your communication plan, think about all the potential sources for reaching your audiences. Surround key audiences with your messages, and encourage them to spread the word among their circles.

Example communications plans are provided in the Appendix.



Best Practices: Communication Planning

Following is a collection of planning concepts and examples from a variety of sources, including federal and state agencies and professional communications firms. This section is designed to help those responsible for wildland fire communications prepare effective communications plans that will support your wildland fire management programs. While the goal of your plan may be different in each situation, the principles of communication planning remain the same. This section addresses the following concepts:

- Situation Analysis
- Objectives
- Audiences
- Messages
- Strategies
- Tactics
- Timeline
- Evaluation
- Budget

Example plans are included in the appendix for your reference, with approval from the agencies that provided them. Additional materials and resources are available online: *www.nwcg.gov/teams/wfewt/wfewt.htm*.

Situation Analysis

Before beginning development of your communication plan, take time out to consider the current situation that is driving the need for your communication initiative. In the situation analysis, record what you know about the current environment (social, economic, and related factors) in which you will be conducting outreach, and what you expect your goal to be.

Situation Analysis is often referred to as Background or Purpose Statement. Parts of this section may include Overview, Opportunities, Challenges, and/or Lessons Learned.

For example, if you're developing a plan to communicate with residents about a prescribed burn in their area, give an overview of the community and background on how residents might view the project. Has there been a large fire recently that caused heightened concern? Have residents been vocal about prescribed burns in the past? Are they educated about the need for a prescribed burn? Is smoke management an issue?

Consider the following factors when preparing your situation analysis:

- General Audience Analysis
- Social and Psychological Data
- Political Data
- Economic Data
- Organization Data
- Ecological Data

General Audience Analysis

- What are your target markets? Why?
- What characteristics (social, economic, geographic, language, life-style, age, behavioral, and psychographic [e.g., "people living in region X are more likely to believe...."]) can be used to identify these groups or markets?
- What are their levels of knowledge, experience, and beliefs with or about wildland fire?
- What do they value?
- How do they organize politically? Socially (i.e., family, religious, informal networks)?
- What are their preferred sources of information?
- What information sources are most valued and believed?
- How will they benefit from this information?

- What are their relations with their environment?
- How does wildland fire influence these environmental relations, perceptions of environmental and management organizations, and economic relations with the land?

Social and Psychological Data

- Is the local community focused on the issue of wildland fire? Why? Why not? Implications?
- Is there a demand for information? Is the demand hidden (latent)?
- What is the perceived impact of fire on this community?
- Who are involved as communicators? Leaders?
- Who are the groups of people to be targets (schools, religious groups, industry, and recreational groups such as hunters)?
- Who formally and informally leads the groups?
- Are there informal groups and leaders who do not belong to identifiable (formal) groups who must be included?
- What are the perceived risks and personal values held by communities in fire-prone ecosystems?
- What other specific social and psychological data will be needed in order to plan?

Political Data

- What are the legal guidelines governing wild-land fire management options (national, regional [e.g., airsheds], state, local)?
- Where do the mission and policies of organizations managing or affected by wildland fire complement and conflict?
- What is the role of and who are the members of non-government organizations, coalitions, community groups, tribes, and similar groups?
- Who are and what is the role of the opinion leaders (and how do you access them) of the informal community, i.e., those casual groups that always come together at the local gathering places?

Economic Data

- What are real and perceived economic (individual, local, and regional) impacts of wildland fire? Who has the data? Who can help you generate the data?
- How will wildland fire affect what sectors of the economy?
- How are the amenity values and impacts calculated?
- What are the lost opportunity costs?
- What is the value of preventing fires?
- What is the cost of prevention vs. suppression?

Organization Data

- What knowledge, skill sets, and attitude (personnel) sets do you need to effectively communicate wildland fire messages?
- What financial, technical, and organizational skills are the better mix to effectively communicate within your sphere of influence?
- What are the public perceptions of the organization(s) that frame and lead the wildland fire communication efforts?
- Where multiple organizations are involved in originating the message, are there conflicts among the messages or priority of messages?
- Do organizations originating the messages vary in their mission and goals from the recipient organizations, groups, and communities?
- Have other organizations developed programs or materials about wildland fire? If so, have they been effectively utilized? Can they be applied to your situation?

Ecological Data

- What do you know about the ecological history including the historical fire regimes of the ecosystem?
- What do you know about the ecosystem in terms of genetic diversity, species composition, and communities and associations within?
- What do you know about the dynamics (permanence, diversity, and resiliency) of the ecosystem and the role of wildland fire on impacting these factors?
- What are the physical and meteorological characteristics that impact wildland fire and options for management within the ecosystem?
- Which of these data exists? What is the priority of need relating to the acquisition of these data? Who can supply required data, at what costs within what period of time? And how will you evaluate and synthesize the data provided?

Data should not be equated with knowledge or wisdom. Data only becomes information after it is synthesized within the context of the bigger questions.

Communicators often gather the best data they can and communicate "what science tells us we must do," equating data as science. "Data dumping" only baffles listeners; recipients must understand how to interpret and use data. Informed decision making is the aim of communication planning. The community of users of data and information will then determine over time what constitutes knowledge and wisdom.

Objectives

The objectives outline exactly what you want your plan to accomplish. Objectives should be specific and measurable, which will also help gauge the success of your efforts. For example, if one of your objectives is to increase awareness, consider a benchmark survey before you begin. This will aid in evaluation of how much awareness increased after the program.

Example objectives:

1. Increase community awareness about the long-term benefits of prescribed burns by 25 percent over a two-year period.
2. Generate support from community leaders, elected officials, and other influencers in fire management planning efforts.
3. Increase Web site traffic from 20,000 to 25,000 visitors per month by fiscal year end.

Audiences

Defining your audience is one of the most important elements of communication planning. It is important that you address every group or organization that might be impacted by your plan so you can ensure your communications are appropriate for the audience. Be sure to consider both internal and external audiences, as well as the people who influence your audience.

You may be surprised that staff within your own agency may not understand fire management. To ensure consistent communication with external audiences, be sure to communicate with your internal audiences.

Internal audience examples:

- Agency leadership
- Staff beyond fire management, including those who interact directly with the public (e.g. interpretation, visitor's center)
- Fire management staff
- Partners & non-governmental organizations

External audience examples:

- Residents and absentee landowners in the wildland/urban interface
- Visitors to public lands
- Educators
- Local, regional, state, tribal and national elected officials
- Journalists/news media, weather forecasters

News media are not simply a vehicle for reaching your audience; they can be an audience in themselves. It is important to educate media on the issues surrounding fire management so they are able to provide context for their readers/viewers/listeners. Consider providing them with background for covering wildfires. The Virginia Department of Forestry's Web site includes a sample. www.dof.virginia.gov/fire/resources/media-guide.pdf

Messages

The cornerstone of any communication program is a set of consistent, compelling messages for use in all proactive and reactive communications. Messages should be actionable messages where appropriate so that, in addition to educating, they will motivate the audiences to act on what they have learned. You may be asking that audiences be informed and supportive of agencies' wildland fire efforts, or that they get involved in local activities.

Key messages are general concepts that agencies and organizations are encouraged to incorporate into their discussions, print materials, and other resources used in communication, education, information, and prevention efforts. Key messages are umbrella statements that require additional supporting points and examples for context.

Supporting points provide detail for the key messages and enable communicators to further explain the roles of: wildland fire in the ecosystem, land management agencies, tribes, and partners.

Use local and regional examples to place messages into context for your audiences, connecting with them on a personal and emotional level.

For example, the National Wildfire Coordinating Group (NWCG) Wildland Fire Education Working Team has developed a set of core messages for agencies to use in communicating the role of wildland fire. These messages have been through an extensive interagency development and review process, and have been approved by the NWCG:

- Wildland fire is an essential, natural process.
- Society's influence has altered historic fire cycles, leading to a dangerous and difficult buildup of vegetation in our wildlands.
- Land management agencies are committed to a balanced fire program that will reduce risks and realize benefits of fire.
- Improving the health of the land and reducing risks to communities requires partnerships among federal and state agencies, tribal governments, fire departments, communities, and landowners.
- Public education is necessary to the success of fire management programs.

The complete messages, along with supporting points, are available in the *Education* section of this *Communicator's Guide*, or online at: *www.nwcg.gov/teams/wfewt.*

Strategies

Strategies define the general path you are planning to take to reach your objectives. They help identify the roadmap to success, without getting into the specific directions. In the tactics section, you will get into the specifics of exactly how you are going to implement your strategies. Strategies should tie directly back to objectives.

Remember: fire does not recognize jurisdictional boundaries. Consider your neighboring agencies, tribes, and related organizations and indicate where you will need to coordinate efforts – especially if your outreach could impact their goals.

Example strategies to support the above Objective 1 *Increase Community Awareness* might include:

1.A. Proactively communicate clear, consistent messages about the benefits and risks associated with prescribed burns through all communications.
1.B. Provide news media, community leaders, elected officials, and other influencers with the knowledge, tools, and motivation they need to communicate with their constituencies.
1.C. Facilitate grassroots support and peer-to-peer communication through targeted community outreach.

Tactics

Tactics are the specific activities you will complete as you implement your plan. Each tactic should directly relate to your strategies and support your objectives. This section should be detailed and can be divided with different tactics for each audience. Be as creative as possible with tactics and consider your audiences and how they may be influenced.

Communications is more than sending press releases to the media. While media outreach is often important, you may also want to consider tactics such as advertising or direct outreach to communities, officials, businesses, and others.

Example tactics that support the above Strategy 1.B. – *Provide Tools for Influencers*:

1.B.i. Community Leaders

1.B.i.a. Facilitate one-on-one meetings with local community leaders and/or elected officials and a member of the fire management team to educate officials about the prescribed burn.
1.B.i.b. Provide newsletter copy and encourage leaders/officials to include information on their Web sites and/or in constituent newsletters.
1.B.i.c. Provide talking points and encourage leaders/officials to communicate with the public during meetings and events.

1.B.ii. News Media

1.B.ii.a. Conduct briefings with news media to make them aware of the benefits of the prescribed burn as well as the risk. Provide background information and online resources.
1.B.ii.b. Invite local morning television talk shows, weather forecasters, or radio drive-time shows to conduct an on-air interview with a representative of the entity about the prescribed burn. Suggest the location of the planned burn to show viewers the need.
1.B.ii.c. When sufficient time has passed to begin to see noticeable effects from the prescribed burn, encourage media to do follow-up stories about the benefits.

Example tactics that support the above Strategy 1.C. – *Facilitate Grassroots Support*:

1.C.i. Collateral Materials

1.C.i.a. Develop a detailed brochure/flyer for homeowners and absentee landowners explaining exactly where and why a prescribed burn will occur. Provide background on the long-term benefit of the prescribed burn.

1.C.i.b. Develop "Tell-a-Friend" cards and supply four to five cards in each packet so users can share with family, friends, and colleagues. The front of each card will include the projected date, time, and location of the prescribed burn. The back of the card will include facts about the benefits this specific burn will have on the area, as well as tips for managing smoke impact and other potential adverse effects. The card also will direct readers to the Web site for more information.

1.C.ii. Community Outreach

1.C.ii.a. Conduct presentations at homeowner association meetings. The fire management team will provide an overview of what will take place. Enlist a well-respected and well-informed homeowner who is supportive of the effort to speak from personal experience about the benefits of the planned burn.

1.C.ii.b. Host a booth at community festivals to disseminate collateral materials.

Following is a sample list of general tactics and materials to consider as you develop your communications plan.

- Community workshops and/or presentations during meetings of resident associations, civic and social groups
- Meetings with community leaders and elected officials
- Online resources such as dedicated Web page, electronic newsletters, e-mail notification
- Editorial briefings, one-on-one media interviews
- Press conference (Limited use recommended, such as when you have hard news to report, or an award to present)
- Byline articles in magazines or news briefs for inclusion in community newsletters, church bulletins, Web sites, bill inserts and mailings by utilities, insurance, real estate, and other home-related industries
- Public service announcements
- Toll-free hotline
- Detailed press kits, including backgrounders, fact sheets, spokesperson profiles, photos/artwork
- B-roll video footage *(NOTE: Do not produce pre-packaged video news releases [VNR]. B-roll footage is more cost-efficient, and more likely to be used by news media.)*

Action Plan/Timeline

Timelines are a great tool to ensure the entire team stays on task and meets pre-determined deadlines. Include enough time to develop materials and allow time for the approval and printing processes. Assign a specific person who is responsible for each task.

Evaluation

Establish a plan for measuring the success of your program. Refer back to your objectives to determine what evaluation tactics will be necessary. Also consult your agency's management team to help determine what is required. Consider thinking beyond a written report of activity to include specific outcomes of your efforts. Evaluation can range from basic to complex, depending on the scope of your project. The findings of the evaluation can improve the selection and implementation of future program strategies and tactics. A few examples of evaluation tactics are outlined below.

- Direct evaluation – Measures against quantifiable goals, such as number of activities you wanted to achieve. This may include number of calls made, letters sent, Web site visits, etc. The goal may be the number of news story placements, number of meetings, or number of people directly reached. However, keep in mind that these numbers are not an effective measurement of ***impact*** on your audience, because they do not show that the message carried through or that you motivated people to take action.
- Process evaluation - Includes measures of how well the communication plan was implemented. Did your team work well together? Did you implement all activities in the plan? Did you stay within budget?
- Outcome analysis – Measures the impact of your efforts. These can range from short term to long term, simple to complex.
    - One short term measurement tool is media content analysis. Review all the news coverage, and determine the percent of the stories that are positive, negative, or neutral. In cases such as prescribed burns, neutral may be the most likely goal. Media content analysis also can measure whether the messages you delivered are the ones the reporters published/aired.
    - A long term measurement tool is surveys of your audience. For example, to measure performance that involves public awareness, consider audience surveys or focus groups. Periodic surveys of the general public will track unaided and aided awareness and public tendency to be influenced by a message. Surveys may also be conducted among special audiences as part of the evaluation process. You may also consider working with professional communication evaluators from local colleges, universities, or private consultants.
    - Sometimes information used to evaluate communication programs may be available as secondary research, such as studies on industry trends or attitudes.

Budget

Budget planning can take place at the beginning of your communication planning process, or after you've determined what you want to accomplish. First consult with your agency's management team to determine the resources you have available. You may be asked to develop your plan first and make recommendations on staff hours and out-of-pocket expenses. Be as detailed as possible, and prioritize your plan so you know where you can trim your activities if necessary.

Community Outreach

Local fire departments and volunteer firefighters can be effective messengers for your outreach efforts. They know the communities well and share many goals with state and federal agencies.

It has been found through focus group research as well as general encounters with homeowners and social marketing research, that individuals are greatly motivated by local influencers and peer-to-peer recommendations. While federal, state, tribal, and local wildland fire organizations are making progress with prevention and public education efforts, an organized outreach initiative at the grassroots level can enhance these efforts by systematically identifying and enlisting influential "buzz generators" (or early adopters) who have an ability to affect change in their communities.

- Conduct presentations for neighborhood associations, homeowners groups, and tribal organizations.
- Participate in high traffic events (county fair, community festival, tribal fair, etc.) to raise awareness of your fire message among the broader community.
- Meet with leaders in the community who frequently advise residents (e.g. real estate and insurance agents, contractors, landscapers, tribal housing authority, HUD, fire prevention officers, fire marshals, fire chiefs, city council members, city managers, city planners, tribal council members) to educate them about the role of fire and the steps that can be taken to reduce wildland fire hazards.
- Identify other members of the community who are enthusiastic about your message and want to help spread the word among their circles.
- Gather testimonials from program participants to help demonstrate to other communities and reservations the value of an education/prevention/mitigation program.
- Develop interpretive programs (presented in Chapter 7) or youth programs (presented in this chapter).

Public Presentations: The Four C's of Persuasive Communication

Repeated studies have shown that public attitudes can be persuaded and positions of opposition can be mitigated with credible, face-to-face presentations. When developing presentations, consider a discussion flow that addresses core audience questions with the "Four C's:" Credentials, Connection, Context, and Catalyst.

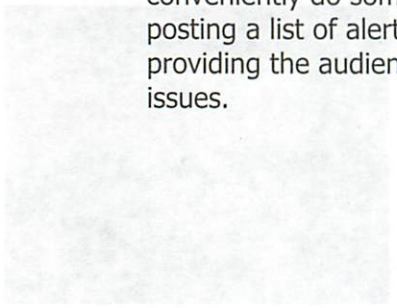
1. **Credentials: Why should the audience believe the speaker?**
   - ***Credible information sources.*** For technical discussions, presenters who are considered "experts" in the field they are addressing are generally ranked more believable by audiences. This means scientists, engineers, and senior technicians may be more persuasive than line employees, public information officers, bureaucrats, and managers.
   - ***Personal testimonials.*** A peer who has had a personal experience with the subject matter can be among the most impactful presenters for public audiences. "I did it, you can do it to." Or "Don't let what happened to me happen to you."
   - ***Third party views.*** Audiences generally assign more credibility to presenters who they perceive are not visibly connected with the topic, and who do not directly benefit from the purpose of their arguments.

2. **Connection: Why should the audience care about what the speaker has to say?**
   - ***Personal identification.*** Audiences respond best when their vested interests are addressed directly. We can guess that most attendees to public meetings will already have a vested interest (homes, business, timber, health). The effective presenter should know these interests and directly address them in the presentation. How will a prescribed fire or community wildfire protection plan help them? What are the immediate and long-term benefits to them (as opposed to the forest or ecosystem benefits which often are intangible or future benefits).
   - ***Confirmation of what is already known.*** The American public is well accustomed to the prevalence of catastrophic fires, global warming, and climatic change. Confirming these points as causal factors for the need for prescribed burning or other mitigation efforts helps to better ensure success of persuasion.

3. **Context: How does the topic fit in the audience's lives?**
   - ***Address the impact.*** What impact will the issues discussed at the public meeting have on the audience? Will their daily activities need to change? Will they experience an impact, such as smoke? What are the long-term benefits?
   - ***Illustrate the issues.*** As much as possible, a presentation will be effective that can show through real stories and/or visual support the changing status and condition of wildlands over the last 50 years, and the post condition of wildlands following prescribed bums.

Several sample presentations are included in the appendix.

4. **Catalyst: What can the audience do, and how?**
   - ***Effective calls to action.*** Studies have demonstrated the most convincing and persuasive presentations are those where the audience is asked at the conclusion to conveniently do something. Filling out a survey, discussing the issues with their children, posting a list of alerts or safety measures in their homes are all small examples of providing the audience with easy action steps that help to certify their acceptance of the issues.



Special Events

Like any communication activity, a special event must have a clearly defined objective, audience, and action plan. This section outlines basic considerations as you develop your special event plan. Special events may include community fairs and festivals, state fairs, sports events, cultural festivals, school programs, civic center programs, parades, and more.

Event Planning

1. **Have clearly defined fire prevention objectives for the event** – As with any project or program, wildfire prevention events must have clearly stated objectives that are measurable and understood. These objectives should come from the agency's fire prevention plan.

2. **Understand the event you are dealing with** – Every event has its unique language, culture, and organizational structure. Likewise, they all have unique audiences or groups of followers. Some cater to "sophisticated" urbanites while others tend to attract a down-to-earth rural following. Some attract adults only, while others tend to be family oriented. You can never know too much about the activity you are dealing with.

3. **Determine the scope of the project** – Decide what you want to do, what you want to accomplish, and the target audience you want to reach.

4. **Involve the team/event sponsor from the beginning** – By taking the partnership approach, both the team or event and the fire prevention agencies benefit. By involving all of the partners from the beginning, this mutual benefit becomes obvious and ownership is created. Early involvement also avoids wasted efforts on aspects of the activity that may not be possible.

5. **Understand the benefits to the partner, as well as to the wildfire prevention program** – As in any partnership, there must be mutual benefits to all parties involved. For the team or event, the enhanced public image created by association with the costumed characters or simply the general promotion of the activity may be the major benefit. Wildfire Prevention agencies achieve increased visibility or possible funding assistance from the partnership. Whatever the situation, the benefits must be clear and mutual to all parties involved.

6. **Operate from a written action plan** – The key to success for executing any event is a written action plan that displays the objectives, responsibilities, timeframes, and logistics. A well written plan will contain these items and help everyone work towards the planned goal.

7. **Have adequate staff to execute the event** – The complexity of activities associated with an event may vary with each event. The number of personnel needed will also vary. As with any project or program, staff positions needed to manage the event in a safe and efficient manner. Refer to your action plan.

8. **Allow adequate lead time** – The amount of lead time to get ready will vary with the type of activities planned. If custom promotional materials or giveaway items are to be produced, you must allow time to design, procure, and produce these items. Cooperative Forest Fire Prevention (CFFP) produced items generally take less lead time. Allowing lead time in the planning stages allows you flexibility to deal with contingencies (emergencies).

9. **Plan for contingency actions** – Things don't always go as planned. You should have alternatives for the key components of your program.

10. **Focus on quality rather than quantity** – It is better to do a few well planned activities than many poorly planned. Start small and add activities as the event manager becomes more experienced. Variety is a key to an effective program but should not be achieved at the expense of quality.

11. **Plan a critique and follow-up** – The courtesy of thanking participants and helpers may help cement a relationship for future events. A formal critique and evaluation of each event is necessary to determine the effectiveness of the event and identify any needed changes.

Logistics

Once you have determined which activities will take place during the event, you will need to evaluate the following:

- **Permits** – Pending the event location, you may need an official permit or written permission to use the space.
- **Entrances and exits** – You'll need to know where to enter and exit the event.
- **Public entry gates** – Knowledge of these locations will help you determine the most effective prevention signing and promotional material distribution.
- **Concessionaire booths** – Locate your activities and displays where they will not interfere with other concessions and where your efforts will not be overshadowed or disrupted.
- **Banner space** – Check with your Event Contact regarding banner space and limitations. Always check before hanging your banners. Banners should be at least 36" x 72". Potential spaces for hanging banners include public entrances, grandstands, fences, etc. Look for high traffic, high visibility areas that do not conflict with other advertisements. Hang banners and posters neatly and remove promptly after the event.
- **Parking space for agency vehicles** – Your parking area should be pre-determined by your event contact. Park in a manner that will not interfere with event operations. Display parking permits in a highly visible location.
- **Dressing room for costumed character** – Work directly with the event committee or contact in determining the best location. Avoid areas with heavy traffic, such as public restrooms. Provide for privacy.
- **Safety considerations** – Minimize interference with other event activities. All activities should take place in areas that provide maximum safety to participants. Costumed characters attract children. This can create a hazard if not properly controlled. Some important safety precautions for event management are:
  - **Watch for potential ground hazards** – Be on the lookout for cables, ropes, boards and uneven ground at the event site.
  - **Avoid restricted areas** – Please honor the wishes of sponsors, partners, or cooperators in staying clear of such areas.

Special Event Team

- **Event Manager** – Key person responsible for developing, implementing and executing the event plan. Persons selected for this position should be well-versed in the organization of special events and public appearances. There should be only one event manager per event. Decide which agency, if there is more than one, will be the lead agency. The lead-agency provides the event manager and coordinates with cooperating agencies.
  - The event manager supervises and facilitates event activities and operations. The event manager conducts briefings with event staff to ensure proper execution of the event

plan. He/she will provide a "schedule of event activities" to all event staff. This should include clear direction and correct time tables. The event manager should not be directly involved in event operations but should be immediately available as a decision maker, facilitator, and trouble shooter.

- Documentation is the responsibility of the event manager. Valuable information can be obtained by de-briefing personnel at the end of each activity or event. This information will be used for completing the event evaluation.
- The event manager provides the leadership, enthusiasm, and motivation to set the tone for a successful event. He/she must ensure that activities for the event are carried out in a timely, friendly and professional manner. The event manager is also responsible to ensure that promotional materials are ordered, delivered on time, and distributed properly.

- **Photographer** – Provides a visual history of the event. This documentation phase is very important for local, regional, and national use in reports, newsletters, etc. Selection of the camera used should be based on the event conditions such as low light (flash), distance shooting (telephoto), and user abilities (automatic function). Digital cameras are preferred for convenience of sharing images electronically, but be sure you have high enough resolution for print quality. A minimum of 300 dpi (dots per inch) at the dimension size the image will be printed (e.g. 4" x 5") is generally required for print.
- **Costumed Character** – It is important the person selected to serve as the costumed character be experienced or trained at doing the job. The costumed character's must possess a basic understanding of the character standards and guidelines and uphold the character image and ethics. The costumed character should, ideally, be a person in good physical condition who can stand the rigors of the heat generated while wearing the costume, as well as perform the other physical duties involved with the event. The costume also should be kept clean and treated with respect.
- **Character Escorts** – Assist and supervise the costumed character during activities at an event. The escorts should be well versed in the various activities and limitations that can be accomplished by the costumed character. All agencies involved in the event should be allowed to provide an escort wearing the appropriate field uniform, as per agency policy.
- **Agency Public Affairs Officer** – Provides assistance with pre and post-event publicity, activity documentation, liaison with the news media, photography and announcer scripts.
- **Volunteers –** Augment your workforce and reduce program cost. Examples of organizations that may be willing to volunteer are volunteer fire departments, scouting organizations, senior citizens, Volunteers-in-Prevention, local equestrian clubs, community service clubs, high school activity clubs, etc.

It's critical that individuals who portray costume characters – particularly Smokey Bear – be properly trained to represent the icon. Strictly adhere to the guidelines for the character. For example, FSH 5109 offers a description of Smokey Bear.
www.symbols.gov

Sample Timeline for Events

3-6 months before the event:

- Formalize agreements for financing the event with all organizations and agency representatives.
- Select site for event and formalize cost, if any, for facilities and services with the facility manager.
- Plan the program for the event.
- Order all materials and supplies needed.
- Begin publicity; mail out brochures.

3 months before the event:

- Check to be sure all materials and supplies have been received.
- Check with the manager of event site for detailed arrangements.
- Event schedule.
- Layout of facilities.
- Equipment available.
- Any logistic concerns.
- Give event host copy of your schedule.

2 months before the event:

- Deadline for all equipment and material arrangement.

3 weeks before the event:

- Mail out publicity a second time.
- Send out invitations for the event.

1 week before the event:

- Prepare press kits.
- Review event activities, roles, and responsibilities.

Day before the event:

- Inspect site (if necessary).
- Check on catering, entertainment, etc., provided by community partners.
- Set up and check out equipment (podium, stage, sound systems, etc.).
- Review schedule with team players.
- Set up event area (if necessary).
- Call media contacts to confirm attendance.

Day of the event:

- Post signs.
- Set up sign-in table.
- Greet media and guests.
- Begin and conduct event.

1 week after event:

- Mail a follow-up letter to event participants expressing appreciation for their participation.
- Follow-up with media as appropriate.

Working with News Media

News media can be a valuable partner in sharing your news with the public. It is important to establish relationships with news media, and entrust yourself as a reliable source for information.

Working with local media to share your story with their viewers, readers, and listeners is a great way to generate awareness for your efforts. It can also educate more homeowners in your community and surrounding areas about how to prepare their communities for wildfire and get involved in Firewise Communities activities.

If your agency has a public affairs or media relations specialist who is available to assist you in generating awareness for your efforts, please contact him/her immediately and work within his/her guidelines.

Consider completing the NWCG course *S-203: Introduction to Incident Information* before working with news media.

Advice and technical support in working with the media is available from agency Public Affairs Specialists or Public Information Officers. Most of these specialists work with the news media on a regular basis and have established invaluable contacts. If you plan to work with the media, contact your agency Office of Public Affairs or Public Information Office ahead of time to ensure that efforts are coordinated.

General Media Relations Tips

- Consider the media as an ally, not an adversary. Build a strong, positive partnership with the media. Reach out to the media when you have a story to tell, and make yourself available when the media need information from you.
- Provide equal access — release the same information at the same time to everyone. Being labeled as a source that "plays favorites" can hurt your credibility. The exceptions to this are when a reporter calls on his/her own initiative and wants to do a story on fire prevention, or when you have a story idea that fits a specific media outlet.
- Remember that reporters are extremely pressed for time. Approach them in an intelligent, concise manner. Be mindful of deadlines.
- Invite media to cover your public events. Also consider posting it in local newspaper or TV community calendars.
- Encourage reporters to visit sites where they can see fire management/prevention/mitigation techniques are being/have been applied.
- Know the reporter's publication/program and audience. *EXAMPLE: TV stations are more likely to cover events with large numbers of participants, action, and photo opportunities. Newspapers may cover any event, even if no photo opportunities exist.*
- Always prepare for an interview. Review the enclosed tips and appropriate message points prior to interviews.
- If you are uncomfortable with a reporter's questions, or if he/she requests comment on something beyond the scope of your local program, please politely offer to put the reporter in touch with your agency's national media relations team.
- Follow up to be sure the reporter has everything he/she needs for the story.
- If your program is currently facing any controversies that have caused backlash from media or the community, please consult your agency's public affairs team prior to your outreach.
- **THERE IS NO SUCH THING AS "OFF THE RECORD."** However well intentioned, reporters are not obligated to refrain from publishing any information you share, regardless of the nature of the conversation. Don't share information with a reporter that you would not be comfortable seeing in print/on air.
- Avoid saying NO COMMENT. Let the reporter know that you are not in the position to respond to certain questions without "no comment" being the soundbite on the evening news. Offer a brief explanation, such as: "The fire is currently under investigation" or "We are not in a position to provide details at this time."

News Writing

There are several distinct tools used in news writing, such as news releases, media advisories, pitch letters, and letters to the editor. Each has a distinct purpose, and thus a distinct style. Fact sheets also are a critical news writing tool. Fact sheets are covered in the Communication Materials chapter.

I. News Release

The news release is the tool most commonly used to generate media interest in policies, programs, and activities. The purpose of a news release is to disseminate information. News releases should be well-written, informative, interesting, and brief. The content should be timely and newsworthy.

As you prepare your news release, use the 5 "W's" (and the "H") to organize and present your thoughts:

1. **Who** is involved, said/did something, to whom did something happen?
2. **What** was said/done, or will happen?
3. **When** did/will the story/event take place?
4. **Where** did/will it take place?
5. **Why** did/will it happen?
6. **How** did/will it happen?

Use a media advisory, described below, instead of a news release to announce press conferences, media days, show-me tours, or special events.

The order in which these facts appear depends on their importance in the story — the most critical go first. Avoid bureaucratic or technical jargon. Use small words rather than big ones.

Your news release should be formatted according to the specifications of your agency. Contact your public affairs/information officer to learn your agency's distribution approval policy. You agency may require review and signature by your public affairs/information officer before sending anything to the media. Your public affairs/information officer should also be able to provide a sample news release. Following are some general guidelines.

- Be sure to include the name and phone number of the best person to contact for more information.
- On the top left side of the first page, type "FOR IMMEDIATE RELEASE."
- Develop a headline that captures the gist of the release. Keep it as short as possible and incorporate powerful words.
- Start your release with a dateline, the city from which the story originates, (e.g., Boise, Idaho –) followed immediately by the first paragraph.
- Tell the most important part of the story in the lead (the first paragraph) by incorporating the "five Ws."
- After the lead, elaborate on details in descending order of importance.
- Include quotes from the appropriate manager or appropriate staff member. Make sure that person approves the quotes before you distribute the release. The first quote should appear in the third or fourth paragraph.
- Within the body of the release, stick to the facts without speculating or giving opinion. Opinions should be reserved for quotes only.
- Don't use bureaucratic and scientific words, phrases, clichés, slang, or agency terminology.
- Try to keep the release to one or two pages. If you need to go more than one page, type "-more - " at the bottom of the page. Type "###" and center it below the last line to indicate the end of the release.
- Sometimes, particularly if you are in a remote area, you can increase the amount of coverage your news release receives by accompanying it with photographs for newspapers, videotape for television stations, and audiotape for radio stations. Photographs should be high contrast black and white glossies. For assistance in shooting videotape and recording audiotape for news releases, contact your Public Affairs Office.

II. Media Advisory

The media advisory is used as an invitation to encourage media to cover press conferences, media days, show-me tours, or special events. The media advisory should be kept to one page, and should answer the following questions about your event:

- **WHAT** will happen at the event. Write a brief description of your event.
- **WHO** will be present. List speakers, special guests and any other key participants in your event/announcement. Be sure to include correct spelling of names along with appropriate titles
- **WHEN** it will take place (date and time)
- **WHERE** it will take place, including and address, city, state and any other pertinent details.
- **WHY** it is happening. Write a few words explaining the importance of the event. Why should the reporter want to come to it?
- **STORY ANGLES** that may interest media. Be sure to include any special photo or interview opportunities, tips, or "news you can use" information.
- **CONTACTS** for media call for more information. Be sure to include a cell phone number and e-mail address.

The advisory should be distributed two to three days prior to the event. Follow up via phone the day before the event and/or the morning of the event to encourage attendance.

III. Pitch Letter

A news release is not the only format for inviting news media to write a story. In fact, a well-written letter addressed to a specific reporter or editor is often the most effective way to get attention. This approach also interests the reporter as something specifically for his/her media outlet. For example, pitch letters are a good choice when you don't have hard news, but want to share examples of recent successes or ongoing activity. Consider the following as you prepare your pitch letter.

1. What is the story angle or approach you are offering?
2. Write a brief paragraph identifying the problem or issue you plan to address.
3. Write one to two brief paragraphs identifying your solution to the problem or position on the issue.
4. Make an offer of availability for an interview or to provide additional information.
5. Write an enticing lead. Why is this step last, you may ask? Because the first step is to think through the story you want to tell. Then go back to the first paragraph and write a compelling line to engage the reader.

IV. Letter to the Editor

A letter to the editor is a compelling tool to advocate a position or address current events. Following are some tips for preparing a letter to the editor.

1. Choose one issue for your letter
2. Identify your organization and state the purpose of your letter
3. Write a brief background on the issue
4. Give your analysis or opinion in one brief paragraph
5. State a solution and make a call to action. What do you want the reader to do with the information you've presented?

News Conference

News conferences provide an opportunity to share important information with multiple media sources at once. However, use news conferences sparingly and limit them to important "hard news" subjects. Following are other tips to consider:

- The best time to hold a news conference is between 10:00 a.m. and 12:00 p.m. This helps ensure that most reporters meet their deadlines.
- Avoid weekends, Mondays and Fridays as many media outlets are short-staffed on those days. Midweek days will usually provide better exposure for your message.
- Write a media advisory to announce the date, time, location, and subject of the news conference (see below). However, do not disclose details about the subject you are going to discuss because the media will use that information to write the story and skip the news conference. If a reporter calls and wants to talk about the topic before the news conference, politely refuse. If the story appears in one media outlet before the news conference, the rest of the media are less likely to attend.
- Review information about contacting media below.

Event Announcement

If you wish to use the news media as a vehicle to publicize a public event, prepare a concise news release to announce your event. The release should explain what will take place and why, include a quote from a local individual involved with your efforts, and explain the program. The release should be distributed to media at the same time invitation packets are distributed to your invitation list. In addition to reporters, send the release to the calendar section of your local newspaper.

Inviting Media to an Event/News Conference

When inviting media to an event or news conference, call to determine the name and contact information for the appropriate person to receive your announcement. In general, your media advisory and phone calls will be addressed to the following contacts:

- NEWSPAPER: City editor, managing editor, or environmental reporter
- TELEVISION: Assignment editor
- RADIO: News director

At least two days prior to an event or announcement, contact local newspaper, radio and TV stations and invite them to send a reporter and photographer to the event. You may want to contact the media further in advance – especially if you have a specific reporter in mind. However, media most likely will not be able to confirm attendance until the day of the event. Use your Media Advisory as a written follow up.

Event Publicity

If you have a well-attended event, consider working with local media to generate awareness for the agency/community's efforts to address local wildfire issues. This can be done in a number of ways.

- Enlist a reporter to attend the event and report on the program. It's best to do your homework to identify a reporter who covers wildfire issues and/or the environment.
- Distribute a news release via e-mail/fax on the day of the event, or a few days prior. Bring copies of the press release to the event to hand out to media who attend.
- Take photos at your event and send copies to the newspaper with your news release, preferably within 24 hours of the event. Be sure to include a caption to identify the people in the photo with their name, title, organization, and a brief explanation of what is taking place in the photo.

Photos

If distributing photos, be sure to include the names and titles of the individuals in the photos and an indication of where the photos were taken. Federal and state agencies must use a release form to get permission from non-agency individuals in the photograph. This signature allows you to use the photo of them in newspapers, exhibits, Web sites, and other materials.

To clarify issues affecting accurate reproduction and management of digital image files, consult the Universal Photographic Digital Imaging Guidelines. http://www.updig.org/guidelines/index.html

Media Days

"Media days," "show me trips," or similar activities provide opportunities for reporters to go to the field to generate firsthand understanding of fire information/prevention/mitigation. For example, you could conduct a trip to show reporters examples of protected, and vulnerable, homes in the wildland/urban interface and demonstrate the steps homeowners can take to protect their property from wildfires. Following are a few tips as you plan your day.

- Determine the audience you need to reach and the message you want to convey. Develop a trip that will achieve your goals.
- Select the closest possible location - preferably no more than a 30-minute drive from the news media's office location. The closer the site, the more reporters you will attract. Schedule the trips for early to mid-morning so that reporters can meet afternoon deadlines.
- Have a variety of fire specialists on hand to provide information and answer questions.
- Plan activities. Taking a group out just to stand and talk to them about protecting a home from wildfire isn't nearly as interesting as showing them how a homeowner can clear brush around their property. Make sure there are lots of visual photo opportunities. Newspaper and television reporters need pictures to tell the story.
- Try to provide more than one story angle. Make a reporter's effort worthwhile by giving them an opportunity to cover several different stories on the same trip. These could be fire related or they could feature other natural resource management activities. For instance, on your way back from the wildland/urban interface, you could stop at a campground and demonstrate precautions recreationists can take to prevent wildfires.

Tips for Calling Media

- ***Be concise*** when contacting media. The nature of the news business leaves reporters and editors on very tight schedules. Explain your event in 30 seconds and offer to e-mail or fax a media advisory.
- ***Be mindful of deadlines*** and what times a station airs its newscasts or a newspaper goes to print. While specific times vary, it is generally best to contact media before 3 p.m.
- ***Don't become a nuisance***. Once you've spoken with a reporter/editor and are sure he/she has received your advisory, there is no need to call again unless you've made changes.

What to Say When Calling Media

- Introduce yourself and tell the reporter/editor that you are calling on behalf of your agency/initiative.
- Ask if he/she has a few moments for you to talk about an interesting story idea.
  - *If he/she does*, proceed by explaining the highlights of the event/activity. The information you share should answer the questions of "who," "what," "where," "when," and "why." Try to explain this in less than 30 seconds. Then offer to e-mail/fax the advisory as background information.

- *If he/she doesn't,* offer to call the reporter/editor back at a more convenient time. Ask when would be a better time to call back and/or offer to e-mail/fax the information.
- If you reach voice mail, leave a 15- to 30-second voice mail message. If he/she doesn't have voice mail, ask if there is someone else to speak with about a story idea. If not, offer to call back at a more convenient time.

Arranging an Interview

If a station/newspaper would like to arrange an interview, tell the reporter that you'd like to have as much information as possible to help you prepare. Ask the reporter the following questions:

- What's the name of the person who will likely be conducting the interview?
- Would you like to speak via phone, or in person?
- Would you rather I come to your studio/newspaper, or do the interview at a site related to fire management/prevention/mitigation activity?
- What date, time would you like me to arrive?
- How long will the interview last?
- What angle would you like to explore?
- What kinds of questions should I expect?
- *TV / RADIO ONLY*: Will the interview be live or taped?
- *TV / RADIO ONLY*: What time will you start taping/go on air?

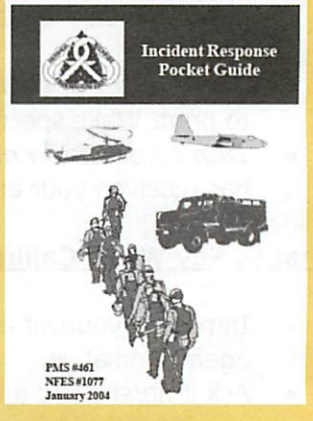
Before the Interview

- Know the reporter, publication/program, interview format, and audience.
- Know your goal for the interview. What do you want the interview to accomplish?
- Know what you want to say; prepare key message points.
- Imagine what questions the reporter will likely ask, and then write down the appropriate answers. Be sure to work in your message points.
- Prepare a range of potential questions you may be asked. Anticipate difficult questions.

Interview Tips

- Speak in "headlines." Offer a conclusion first, briefly and directly, and back it with facts or "proof points."
- Don't over answer. Short answers are better than long.
- Don't be confined by the question. Expand to a related point you want to make.
- Asked about a problem? Talk about a solution.
- Don't let false statements or figures offered by a reporter stand uncorrected.
- Don't repeat a reporter's negative statements or slurs. Frame your reply as a positive statement.
- Don't engage in hypothetical situations and "A or B" dilemmas. Only comment on actual situations.
- Speak clearly. Avoid jargon.
- Be engaging, likable.
- Don't know the answer? Don't fake it. If appropriate, assure the reporter you will find and provide the needed facts in a timely manner, or offer to assist the reporter in finding another source.
- Don't overlap the interviewer's question; begin your answer when the reporter is finished.
- Keep cool. Don't be provoked.
- Never lie to a reporter.

Refer to the *Incident Response Pocket Guide* for tips on media interviews. www.nwcg.gov/pms



For Telephone Interviews

- Establish an "interview atmosphere" and mindset.
- Use notes.
- Ask questions in order to gain feedback.
- For radio, speak visually; use words to paint pictures.

For Television Interviews

- Sit erect, but not ramrod-straight, slightly forward in the chair.
- Resist the urge to shout into the microphone. Speak and gesture naturally.
- Talk to the interviewer and look at him/her, not the camera.
- Keep a pleasant expression; smile when appropriate.
- Hold your "interview attitude" from the moment the reporter and videographer arrive until they leave.

What to do When a Media Representative Calls YOU

Before answering any questions, find out as much as you can about what the reporter is writing. Ask the following questions:

- What is the overall tone of the story?
- Is the reporter contacting other sources?
- What is the reporter's deadline?

If deadline allows, "buy some time" and ask the reporter if you can call back. Review the interview tips and message points regarding the topic.

Crisis Communication

Fire tragedies and extensive fires as seen in Florida, Mexico, and elsewhere in 1998 brought the issues to the forefront of national and international news. Likewise, escaped prescribed fires such as Cerro Grande in 2000 that could not be controlled made headlines. For any immediate fire crisis, it is most important to cover the ABCs of communicating the basic message:

A. Tell your audience we recognize (or better yet, are the first in alerting them about) the problem.
B. Tell them we care about the impacts on them.
C. Tell them what we are going to do to help mitigate these impacts.

All too often news reports are restricted to tight time slots and sound bites. However, each fire crisis is a window of opportunity for opening in-depth dialogues with our audiences about the need to reduce hazardous fuel accumulations and restore certain fire-dependent ecological processes. Audiences need to understand that an immediate need exists in many places around the world to reduce fuel load to prevent extreme fires and to both restore and maintain the health of fire dependent ecosystems.

Crisis Communication Pitfalls

- *Failing to react quickly enough.* The first 24 hours are the most critical. Of that, the first 2 are the most critical.
- *Inadvertently prolonging the crisis* by failing to confront it head on, and failing to instantly grasping the real issue which is often being framed by the media and/or by critics.

Elements of a Crisis

A crisis is an unplanned event which triggers a real, perceived, or possible threat to life, health and safety, the environment, financial status or the organization's credibility. Following are characteristics of a crisis.

- Crises happen with little or no warning; only in retrospect do little pieces of information start to add up.
- Little or no information is available, especially in initial stages.
- Any available information is contradictory, incomplete or will change completely.
- Communications tools will probably not function properly.
- There may be physical damage.
- There will be much confusion.

Crisis Communication Goals

1. **Control communications.**
   A. Employ the front door strategy. The simple premise that a successful organization adopts in dealing with the media is this: Come in the front door and you will get complete cooperation; that is, all you need to know as quickly as we know it. Otherwise, if an organization closes the front door to the media, they will try to get the information through the side windows or back door, probably damaging and potentially tainted. The organization which allows that to happen has lost credibility with the media and ultimately the public.
   B. Identify a single spokesperson to ensure consistency of message.

2. **Define the issue accurately.**
   Often, it is the media who define the issue at the outset of a crisis. The issue can shift quickly from, for example safety violation to history of cover-ups. It is vitally important to anticipate how the media will play a story so that you can be ready to immediately respond or to announce it before they do.

3. **Restore order as smoothly and quickly as possible.**
   Enlist a crisis communication management team to ensure accurate and consistent information, and to respond to media in a timely manner.

Media as a Communication Vehicle

During a crisis, news media can be of great assistance. Engage media as your partner in communicating your message. They can:

- Assist in pre-crisis education
- Warn audiences of a situation(s)
- Get your requests or information to the public
- Reassure the public
- Repudiate rumors
- Help the response
- Be a source of information for you
- Generate outside help

Common Questions in a Crisis

Following is a sampling of the questions that arise most often during a crisis. Be prepared to address these questions as well as anticipate and prepare for others specific to your situation.

- What happened?
- When and where?
- Who was involved?
- Why? What was the cause?
- How could you have allowed this to happen?
- What are you going to do about it?
- How much damage?
- Who is to blame?
- Do you accept responsibility? Liability?
- Has this ever happened before?
- What do you have to say to those who were injured? Inconvenienced?
- How does this affect your operations?

Youth Education Programs

The structured learning environment of the classroom is where much of our fundamental knowledge was gained and many of our basic views were shaped. Through schools and teachers, information reaches our society in one of the most accepted and positively reinforced venues. Teachers are a direct conduit to students. Working with teachers will enable you to access their expertise in child behavior and development as well as their knowledge of curriculum needs and requirements. With the aid of teachers, your message can be shaped into an age appropriate and contextually grounded part of the students' experience.

For the most part, teachers are seeking innovative ways in which to access information relevant to their curriculum guidelines. At the same time, educators around the country are under immense pressure to meet national and state education standards for curriculum development. Teachers are charged with meeting increasing requirements within the limited time frame of the academic year.

If you determine a school education program is right for your needs, reference the following sources for best practices to ensure your program fits the schools' needs and will be relevant by age group.

Education World: www.educationworld.com/standards
Education World is an online resource for national and state standards, among other information. Education World presents the objectives of the voluntary National Education Standards for the major subject areas:

- Fine Arts Standards
- Language Arts Standards
- Mathematics Standards
- Physical Education and Health Standards
- Science Standards
- Social Sciences Standards
- Technology Standards

USDA Forest Service Conservation Education (CE): www.na.fs.fed.us/spfo/ce/index.cfm
The Conservation Education (CE) program supports education of teachers, students, and adults of all ages. Through structured educational experiences and activities targeted to varying age groups and populations, Conservation Education enables people to realize how natural resources and ecosystems affect each other and how resources can be used wisely.

The Forest Service offers a workshop titled: ***Training Tools for Non-Formal Educators.*** This workshop is designed to help non-formal educators (people who conduct conservation education activities) to better understand the culture of formal education. The course will help non-formal educators to understand the needs, background, language, and priorities of classroom instructors.

"Tools" learned at the workshop will help make your environmental education activities and programs more attractive to formal teachers. Each module has been constructed to fully engage the learner in sound, innovative educational activities. Those who complete the workshop will be able to address many of the issues that classroom teachers face today, including Learning Standards, Assessment, Learning Styles, and Multiple Intelligences. Also, techniques for correlating North American Association for Environmental Education (NAAEE) Guidelines for Excellence to state curriculum standards will be discussed. "Training Tools" is a hands-on, fun workshop in which participants practice a variety of techniques and skills.

For more information, contact the USDA Forest Service National Conservation Education office in Washington, D.C.

North American Association for Environmental Education (NAAEE): http://naaee.org
The North American Association for Environmental Education (NAAEE) promotes environmental education and supports the work of environmental educators. NAAEE uniquely combines and integrates both of these perspectives, and takes a cooperative, non-confrontational, scientifically-balanced approach to promoting education about environmental issues.

National Science Teachers Association: www.nsta.org
The National Science Teachers Association (NSTA) is the largest organization in the world committed to promoting excellence and innovation in science teaching and learning for all. NSTA's current membership of more than 55,000 includes science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in and committed to science education.

Project Learning Tree® (PLT): www.plt.org
Project Learning Tree® (PLT) is an award winning, multi-disciplinary environmental education program for educators and students in PreK-grade 12. PLT, a program of the American Forest Foundation, is one of the most widely used environmental education programs in the United States and abroad. PLT continues to set the standard for environmental education excellence.

Project WILD: www.projectwild.org
Project WILD is an award winning, supplementary, interdisciplinary, and instructional program for educators of students in kindergarten through high school. Its mission is to provide wildlife-based conservation and environmental education that fosters responsible actions toward wildlife and related natural resources. Project WILD is administered by the Council for Environmental Education, whose mission is to support environmental education through the management and development of environmental education programs; to publish and disseminate environmental education materials; and to facilitate the development and maintenance of partnerships for environmental education.

Project WET: www.projectwet.org
Project WET workshops focus on wetlands, watersheds, conservation, ground water, water quality, and other specific topics.

Weekly Reader: www.weeklyreader.com
Weekly Reader is a publisher of materials for elementary and secondary schools, with over 90 percent of the school districts in the United States using their materials.

Scholastic: www.scholastic.com/
Scholastic, the global children's publishing, education and media company, has a corporate mission supported through all of its divisions of helping children around the world to read and learn. Recognizing that literacy is the cornerstone of a child's intellectual, personal and cultural growth, for over 85 years, Scholastic has created quality products and services that educate, entertain and motivate children, and are designed to help enlarge their understanding of the world around them.

Youth Organizations

Beyond the classroom, other organizations can be highly effective in reaching young people without the restrictions of the formal education system. Following are a sampling of national organizations with local chapters. You may also want to explore local groups in your area.

- **Student Conservation Association:** www.thesca.org
- **Future Farmers of America:** www.ffa.org
- **Boy Scouts of America:** www.scouting.org/
- **Girls Scouts of the USA:** www.girlscouts.org/

- **Boys and Girls Clubs of America:** www.bgca.org/
- **YMCA:** www.ymca.net/
- **4-H:** www.4husa.org/index.php

5. Communication Materials

5. Communication Materials
- A. Introduction
- B. Multimedia
  - i. Web Sites, Blogs
  - ii. E-Newsletters
  - iii. Interactive Compact Disks, DVDs
  - iv. Movies and Videos
- C. Print Materials
  - i. Fact sheets
  - ii. Brochures
  - iii. Brochure Inserts
  - iv. Newsletters/Magazines
  - v. Promotional Materials
- D. Exhibits and Signage
  - i. Exhibits
  - ii. Temporary Signage
  - iii. Outdoor Signs
- E. Public Service Announcements
- F. Advertising
  - i. Billboards

Communication Materials
Specific guidelines for various communication tools are outlined in this chapter. This chapter is written in a general sense, not tied to specific types of fire communication such as education, prevention, or mitigation. However, some materials may lend themselves to certain forms of outreach.

Introduction

Supporting materials are essential to most communications programs, providing a written source for your audiences to reference as they move to act on your message. There are a number of formats to consider based on your communication needs. Materials should be designed to appeal to a specific audience and should consider background, age, and interest of the users.

News releases and other media relations tools are covered in the Communication Planning and Strategy chapter.

Sample guidelines for materials are included in this section.

A Note on Style

As you prepare your written materials, you may want to consult a style manual to ensure consistency in your materials. Following are several options. Your agency's public information/public affairs officer may be able to tell you if your agency has a preferred style manual.

Printing Style

U.S. Government Printing Office Style Manual (Excerpt from Web site)

By act of Congress the Public Printer of the U.S. Government Printing Office is authorized to determine the form and style of Government printing. The Style Manual is the product of many years of public printing experience, and its rules are based on principles of good usage and custom in the printing trade. The Style Manual has served Federal printers since 1894, and with this 29th edition, the traditions of printing and graphic arts are carried forward into new technologies.
www.gpoaccess.gov/stylemanual/index.html

Writing Style

AP Stylebook

Perhaps the most universal style manual among news media and communication specialists, the *AP Stylebook* offers guidelines on spelling, usage, grammar, and punctuation.
www.apstylebook.com

The New York Times Manual of Style and Usage

Similar to the AP Stylebook, this manual offers guidelines on spelling, usage, grammar, and punctuation.
Available at bookstores.

Multimedia

Web Sites, Blogs

Perhaps the most universal means of sharing information and collaborating with the public is through your Web site – and your blog. Web sites and blogs offer the ability to create dialogue with your audiences, rather than speaking to them. It's not a one-way communication, but rather an open communication channel for both sides to gain insight, perspective, and ultimately collaboration.

Firewise.org introduced a blog in May 2006, and has begun using this form of communication to call attention to timely topics such as having a "Firewise Fourth" with fireworks safety and ongoing topics of interest such as insurance issues.

That said, online communications is not like traditional offline communications. The information has to be clear, concise, and layered, enabling the user to easily and quickly navigate to the information they are looking for. Content should move from broad and concise on entry pages, to narrow and detailed as the user drills deeper. An outside-in approach to nomenclature and tone is the best approach to keeping things in context for the user.

Additionally, one new blog is started roughly every minute, presenting the opportunity to engage your audiences (and prospective audiences) in active dialogue and showcase their expertise.

E-Newsletters

Electronic newsletters, or e-newsletter, can be a highly efficient method of communicating directly with your audiences, and encouraging interaction via the Web. An electronic newsletter is published online and often distributed to subscribers through e-mail. Following are a few tips:

- It is best to provide a landing site on a Web site for archives of e-newsletters to be placed by subject or date.
- A good newsletter pays attention to production values and provides well-designed graphics, an appropriate layout, and plenty of images or photos.
- A Web site URL should be present on every e-communication material delivered so that usage is trackable and there is a way to determine click through rates. Measure not only open rates and transactions, but also content popularity (what are they reading, how long are they spending reading it?).
- The best way to achieve results through an e-newsletter is to provide a cross-selling component. Provide links to the URL so people can sign up for the e-newsletter, but also provide links back to the URL in the actual newsletter.
- Subscribers should also be invited to "tell a friend" about the e-newsletter or be able to send articles to friends that contain the URL. Other technology to build on in an e-newsletter is to consider putting a podcast in your e-newsletter or offer e-newsletter content as an RSS feed, particularly if you have a techno-savvy audience.

Consult your agency's Interactive team, or work with a contractor that specializes in online communication.

Interactive Compact Disks, DVDs

CDs/DVDs are relatively inexpensive per user contact. As in other interpretive materials, the medium (technology) cannot overshadow the message. Ultimately it is the responsibility of the communicator to develop the thematic story based on clear, concise objectives. Without such guidance we run the risk of substituting novelty for substance. Colleagues who have experience with this medium's development should be contacted prior to initiating your first CD/DVD development project. DVDs are becoming more prevalent than CDs as the technology develops, but CDs are still a cost-effective, relevant option.

Several states including Florida and Kentucky have developed state-specific CD-ROMs on fire prevention.

Movies and Videos

In addition to videos, a number of television and theater releases are now educating the public about wildland fire. The showing of wildland fire movies or documentaries on television or in the theatre, or the printing of a special wildland fire section in a local newspaper provides an educational opportunity. Agency personnel can build on these events by arranging for:

- A companion display at the theater.
- A special program or display at the visitor center or community center.
- Special environmental education programs at local schools.

Some television stations, newspapers, and advertisements for upcoming theater presentations can include announcements of special companion programs presented by your resource management agency. The involvement of private sector programming in communicating natural resource management messages, such as wildland fire, greatly improves the interpreter's chance of message receptivity and understanding by visitors and community members.

The NOVA program *Fire Wars* is one example of a video.
www.pbs.org/wgbh/nova/fire

On *Fire Wars*, NOVA accompanies the men and women of the Arrowhead Hotshots during the summer of 2000, one of the most destructive wildfire seasons ever, in which more than six million acres burned.

Print Materials

Fact Sheets

A fact sheet is a simple, cost effective method for sharing information about a specific topic. Often one or two pages and printed on 8 ½ x 11 sheet of paper, a fact sheet can lay out the details of an issue or activity. Fact sheets also can be e-mailed in Word or PDF for immediate distribution. When developing fact sheets that may be shared electronically, convert them to PDF or use a Windows product such as Microsoft Word that most people are able to access.

Several example fact sheets are available in the Appendix of this guide.

Brochures

Before developing a brochure, be sure it is justified in terms of the context and expected use. For example, for homeowners in the WUI, include a local land map with the planned prescribed burns for the next three years. Specific information such as this is more likely to compel to your audience to keep these brochures, posting them on refrigerators and referring to them each burning season when they see smoke in the air.

Brochures range in all shapes and sizes based on agency guidelines, expertise available, and immediacy of the need to convey the message. With the advent of desktop publishing everyone can now produce a brochure. One of the more basic rules in brochure design is to use a grid system to help guide the layout. Also, avoid overkill with mixing font types, use relevant graphics, leave white space, and keep the message focused on a thematic message (less is more). Also, lack of attention to details can leave a visitor with a less than desirable experience.

Look into available design options in-house, such as graphic artists and support staff who have publishing software. These resources are available in all federal and most state agencies, and in some larger local fire departments.

Brochure Inserts

Where brochures exist and there is a need to infuse a wildland fire message, or where the message does not warrant the development of a full brochure, an insert may suffice. Inserts are printed on heavy paper, such as card stock, and are approximately the same width and length as the folded brochure. If standard width and stock can be cut in equal sizes (e.g., 8 1/2" x 11" in card stock cut into three 3 2/3" x 8 1/2" printed pieces) a significant cost savings can be had. Again, use both sides of the insert whenever possible.

Newsletters/Magazines

Consider producing newsletters, magazines, or other forms of regular communication. These formats enable you to share detailed information and useful tips for readers. They also enable you to maintain ongoing communication, reminding your audience of prevention/mitigation needs and keeping them up-to-date on new developments. There are a number of desktop publishing software programs to assist with design and development, or you may want to consult with a professional communications or advertising agency.

The national Firewise Communities program produces "How To" newsletters for its nationally recognized communities. These newsletters include tips for local cooperation, community mitigation ideas, and updates on program activity and resources.

Promotional Materials

Promotional materials are a marketing tool designed to emphasize a particular subject or event. Materials such as posters, trading cards, activity books, etc., serve as a reminder of the activity to the participant. If there is a high level of retention of these materials by the targeted audience, it can result in an increase in the residual effect of the fire prevention message. Tying your item to your message in a way that relates to your audience will be most effective. A sample list is included below.

Any products for sale using the Smokey Bear image must be licensed. Most of those listed here are available at www.symbols.gov.

The Symbols Web site also includes fire education materials.

Action Figures
Activity Books
Badges
Balloons
Bats
Bookmarks
Buttons
Calendars
Color Books
Comic Books
Cups
Growth Charts
Hats
Key Tags
Lapel Pins
Note Pads
Pennants
Pens, Pencils
Erasers
Plush Toys
Postcards
Posters
Rally Rags
School Folders
Seat Cushions
Sport Gloves
Sports Balls
Stickers
Sun Visors
Sunglasses
Tattoos
Teacher Guides
Trading Cards
T-Shirts
Wallets
Water Bottles
Wrist Bands

Exhibits

Exhibits are an excellent visual tool in educating key audiences in certain settings, such as community fairs, trade shows, and other large-scale events. However, creating exhibits can be expensive, time consuming, and do not necessarily meet all education needs. Where in-house exhibit capabilities and experience are lacking, consultation with colleagues who have developed exhibits or professional exhibit design companies is warranted.

Simple exhibits, such as a mannequin dressed in fire gear, are effective and generate a lot of interest and questions. For the subject of wildland fire, simple color photo and video/DVD displays are also very effective in attracting interest, and don't have to be expensive or time-consuming. Collect good photos and video on a regular basis, to be used at opportune times like these displays.

The National Park Service has a design package for a mobile Discovery exhibit unit. Here the National Park Service has sought to develop a portable exhibit that is relatively inexpensive yet meets exhibit design standards. Furthermore, the subject matter can be changed; in the first exhibit module design, wildland fire was the topic. Contact Harpers Ferry Design through the Web site www.nps.gov for further information.

If you are going to be at a large event with high attendance and many other vendors, consider interactive or interpretive displays to help get attention, incorporating video, sound, user participation, etc.

Theme

Perhaps the most critical step is developing the theme. When walking by an exhibit, a person decides in a matter of seconds whether to view the exhibit or pass by. Flashing lights, bright colors, and clever slogans may catch the eye, but have little to do with a person viewing your exhibit. Most exhibits are viewed for about 30 seconds and the viewer moves on. They may stay for a few minutes if they have a question. The **theme and messaging** are what keep a visitor at the exhibit.

An exhibit should have one simple focus that carries throughout the display. Visual themes, echoed in the graphic and structural elements of the exhibit, can quickly identify the exhibitor's offerings and can provide the "hook" to unify the display. A theme can be simple and relate directly to the products and messages on display. Colors and shapes fit well with graphics and product packaging.

Museum and other educational displays often make good use of themes and may be a good source of inspiration for exhibit designers.

Design and Other Considerations

Once the theme is determined, other criteria, such as the nature of the audience, key messages, the size, and budgets should be discussed. Following are other considerations for development of exhibits.

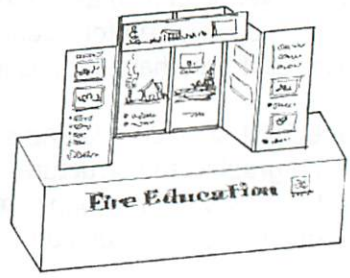
- Design exhibits so visitors can view and comprehend them quickly; minimize text and use attractive graphics. Interactivity by means of computers and other digital media tends to hold visitor attention longer than more static exhibits.
- Caution must be expressed for home-made exhibits. An exhibit reflects the professionalism of the agency. Simply using Velcro to attach photos onto a background may not be desirable.
- Look for alternatives to permanent exhibits unless visitor flow is moderate to heavy and there is a limited number of return visitors. Flexibility is the key to being able to adjust the messages and media to changing issues and audiences.

- For most local community events (county fairs, children's fair, etc.) and convention centers the common booth sizes are 10' x 10' or longer in increments of 10', but usually 10' deep. Other scenarios include a standard table instead of a booth.
- Some of the major negative aspects of exhibits have been the costs of permanent ones or the size and complexity of temporary exhibits and the costs to ship them, as well as the ability to transport them (size, shape).
- If the exhibit is being used at a community affair, convention center, etc., there should be a contract.
- Consider the handouts that visitors will be able to take away from the exhibit. See other sections of this guide for brochures, fact sheets, and other materials.
- There may be opportunities to utilize interactive activities at the exhibit site, such as:
  - CD ROM interactive computer games
  - Computer generated activities
  - Interactive slide presentations
  - Games for client participation
  - Quiz/tests/on-site demonstrations
  - Firefighter/equipment demonstrations

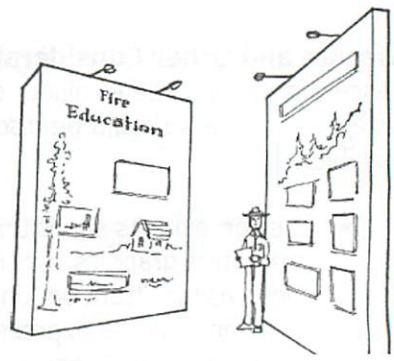
Types of Exhibits

- Table Throws, or table cloths with printed emblems, messages, or graphics can be an inexpensive option for a portable exhibit. For example, the Northeast Region of the U.S. Fish and Wildlife Service designed a table throw with flames along the bottom with the message "Is your home safe from wildfire?" The throw was an eye-catching attractant to the table where educators used a model of home to relay fire prevention messages.

- Small Exhibits - Small exhibits are usually contained in less than 400 square feet. Most small exhibits should be based on a single, dynamic theme. Unfortunately, many small exhibitors try to create awareness by crowding the small space with products, personnel, literature, and blow-ups of the agency logo. As a result, the design elements compete for attention, instead of contributing to a central theme. Exhibit designers must carefully select materials that are essential to the design and message.

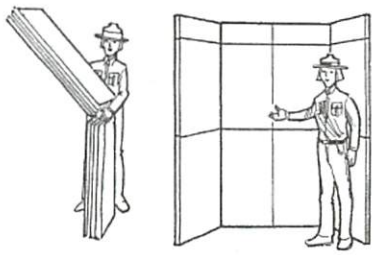


- Medium/Large Exhibits – Exhibits ranging in size from 401 to 1,600 square feet offer the exhibit designer more space to create a striking visual impression. However, a larger area in which to include product displays, demonstration areas, conference rooms, audiovisual presentations, and enlarged graphics puts a greater emphasis on traffic flow and on integrating each design element into a unified marketing concept. Many feature modular units that can be rearranged for other booth configurations, or used separately in smaller exhibit spaces.



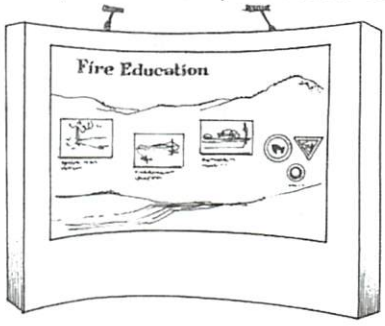
- Modular Exhibits – Made up of several display components that may be used together or separately. Modules may be freestanding or connect in more than one configuration. Perhaps more attractive to the cost-conscious exhibit designer is that modular units can be customized to a particular audience through the use of interchangeable graphic panels, headers and signs.

Pop-Up Exhibit



Folding Exhibit

- Commercial Exhibits – There are numerous commercial exhibits available. The exhibits range from very simple tabletop types to large convention exhibit designs. This service requires long lead times, so proper planning is essential. Various agencies have professional exhibit design and construction capabilities, or you may consider a professional production vendor.

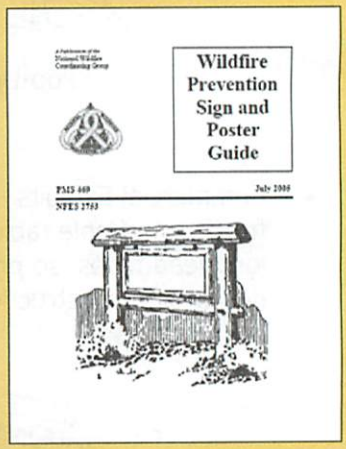


Virginia Department of Forestry

Temporary Signage

Temporary signs may be in the form of posters and are often seasonal notices. They are normally constructed of short-lived material such as cardboard — many are plastic. They range in size from 11″ x 9″ items for use on camping or recreation area bulletin boards to large 54″ to 44″ highway posters. The NWCG Wildfire Prevention Sign and Poster Guide offers specific guidelines and requirements. Be sure to consult this guide for details.

Consult the NWCG Wildfire Prevention Sign and Poster Guide for specific requirements and guidelines for posters and outdoor signs.
www.nwcg.gov/pms/pubs/nfes2753/nfes2753.pdf



Posters are ideal ways of getting important messages to the target audience quickly. In most cases they are mounted on pre-existing poster or bulletin boards. Little more is needed than the poster and a staple gun. It is important that outdated posters be promptly removed.

- Use the largest posters (54″ x 44″) only on high-speed highways (55 mph) and in situations where the scale of the country dwarfs their effect. Use these posters sparingly and place them far enough apart so that they do not appear to be repetitious.
- Use medium-sized posters (42″ x 34″) on roads with speeds of 40-50 mph. Limit the use of these posters to essential locations. The other medium-sized poster (44″ x 16″) is to be used on most low-speed, low-volume roads. To extend the use of fire poster mounts for sizes 42″ x 34″ and 44″ x 16″ through the off-fire season, other poster messages are available.
- The smaller posters, such as 14″ x 12″ and 11″ x 9″, are designed for pedestrian traffic and for trails, campgrounds, trail heads, bulletin boards, roadside rests, and so on. The largest of these generally has adequate visibility and small message content and is suitable for low-speed, low-volume roads where such messages are needed; for example, "No Campfires."

Posters and other signs must be seasonally appropriate. Be sure to remove them after their relevance expires.

Outdoor Signs

The options of graphic design and layout expand with each new generation of computers and programs. Likewise the technology for production, visual clarity, and durability of outdoor signage are making rapid advances.

Each land management organization has its methods, policies, and means for planning and producing signage for interpretation or education. The NWCG Wildfire Prevention Sign and Poster Guide offers specific guidelines and requirements. Be sure to consult this guide for details.

Most encourage adhering to the following guidelines:

- Meet a communication objective
- Use concise wording
- Make it highly visual
- Make it high quality
- Make it durable
- Ensure it has limited intrusion on the landscape, physically and visually

The National Association for Interpretation (www.interpnet.com) publishes a partial list of companies available to assist with signage. Also, local sign and graphic design firms may be able to assist. Regardless of who actually produces the sign, the ultimate responsibility for crafting the message text and selecting visuals rests with the agency.

General Requirements

Fire communication signs and posters must be designed, installed and maintained to achieve the important goals of effectively conveying a specific message while portraying a positive agency image. To be effective, signs and posters should:

- Convey the proper message(s) for the location. Make sure signs are up-to-date and appropriate.
- Convey a clear, positive, friendly, and simple message(s).
- Avoid areas full of "No" and "Do Not" messages and areas where there are too many signs/posters with conflicting messages, etc.
- Command attention and generate respect for the agency and the environment. Never post signs on trees, fence posts, etc.
- Display signs and posters on proper and well-maintained mounts. Keep sign and poster mountings in good condition and clear of vegetation and clutter. Promptly replace signs and posters that are worn or damaged.
- In order to achieve optimum readability, sign and poster sizes will vary depending on the speed, if any, the viewer is expected to be traveling as he or she moves past the sign and the distance between the sign and the viewer. Adjusting the size of the lettering is the most common method of achieving readability.
- Signs should be maintained to ensure they can be easily read in both day and night hours. Replace or repair signs that have been defaced or when the lettering has been marred. Remove or cover signs when they are no longer needed or when the message is no longer applicable and timely. For instance, wildfire prevention signs left out during winter portray a disorganized agency and careless image. The effect of these messages is lost. In addition to maintaining the sign itself, remove weeds, brush, and other obstacles that obstruct the visibility of the sign or detract from the message and a positive agency image.

Public Service Announcements (PSAs)

Public Service Announcements (PSAs) are a relatively inexpensive alternative to paid advertising. Developed in the style of an advertisement, media run them free of charge. Because airwaves are public, radio and television stations are required to ensure their programming airs in the public interest. Running PSAs helps them fulfill this need. Typical radio or television PSAs run in lengths of 15-, 30- or 60-second spots. Many newspapers and magazines also run print PSAs, and some outdoor advertisers may be willing to provide free or discounted billboards.

The Ad Council provides Smokey Bear PSAs through the Cooperative Forest Fire Protection program. Individual states do not incur additional cost for these PSAs. In addition, several states have produced regional and local PSAs, such as Florida Division of Forestry and the Alabama Forestry Commission.

There are many reasons to write a PSA for your wildland fire message, including prevention strategies, current fire warnings, and notification of upcoming events in the community regarding wildland fire education and mitigation. Your communication plan should include the types of messages your agency wishes to convey, and plan accordingly, taking unexpected events into consideration. Following are some helpful tips to aid in this process, many of which can be applied to television, radio, print, and outdoor.

- Different radio stations have different requirements for PSA writing and submittal. Therefore, calling the station in advance for such requirements is an appropriate first step. When you call, ask who oversees PSAs and try to speak with that person directly.
- One basic rule for writing PSAs for radio is "tell them what you are going to tell them . . . tell them . . . tell them you told them."
- When submitting the copy of your PSA to a radio station, your job is to make it as clear and easy to read as possible, as on-air talent will usually be the ones to deliver your message. To aid in this process, type your copy, either double or triple-spaced, on one side of the paper, leaving generous margins.
- In writing your PSA for radio, keep the text brief and accurate, while capturing listeners' attention and motivating the audience. (Fazio and Gilbert, 1982).
- You may use nontraditional punctuation in your radio or television PSA copy, making it easier for on-air talent to read aloud. For example, using dashes (—) and dots (. . .) can indicate to the reader when pauses should be inserted into the dialogue. (Fazio and Gilbert, 1982).
- Sound effects, if used appropriately, can enhance the PSA and capture listener attention, after all, "radio is sound" (Fazio and Gilbert, 1982). For example, the sounds of forests burning have been used in the Smokey Bear campaign (Fazio and Gilbert, 1982).
- A criterion used to select PSAs is relevance to the local community (Fazio and Gilbert, 1982); therefore, if your fire message is relevant to your local area, this might increase the chances of selection.

Television PSAs

Television PSAs can range from silent, on-screen community calendar announcements to color slides with voice-overs, to pre-produced videotapes.

- Television stations can develop on-screen calendar announcements for your special events if you give them a fact sheet that provides basic information (who, what, when, where, why, and how). You can also send camera-ready artwork of a logo and slogan for their use.
- Color slides are another option that can make the television station's job easier. A single slide may contain basic information and a graphic of a logo and slogan. Send the slide with a 10-second script.

- You may also provide a produced videotape PSA. Contact your agency Public Affairs or Public Information Office to see whether they have the capability to help you produce one.
- If you do submit a produced videotape, send a written transcript of the PSA to help the station staff who will preview it.

Advertising

Paid advertising is the only way to ensure the time and date your message is carried through the media, as well as the content of the message itself. News media (earned media) will write their own stories and may change the content of your message. And PSAs may be aired at any given time of day, often in the late night hours. However, paid advertising may require significant financial commitment. Weigh the advantages and disadvantages of this marketing tool carefully.

Be sure to consult your agency's policy on paid advertising. Paid advertising may be inappropriate for some tax-funded agencies. If you would still like to explore this vehicle, consider partnering with a relevant private organization to fund the project.

	Advantages	***Disadvantages***
Newspapers	▪ Flexible and timely ▪ Intense coverage of local markets ▪ Broad acceptance and use ▪ High believability of printed word	▪ Short life ▪ Read hastily ▪ Small "pass-along" audience ▪ Declining readership
Television	▪ Combination of sight, sound, and motion ▪ Appeals to senses ▪ Mass audience coverage	▪ Non-selectivity of audience ▪ Fleeting impressions ▪ Short life ▪ Expensive
Radio	▪ Mass use (over 25 million radios sold annually) ▪ Audience selectivity via station format ▪ Low cost (per unit of time) ▪ Geographic flexibility	▪ Audio presentation only ▪ Less attention than television ▪ Short life
Magazines	▪ High geographic and demographic selectivity ▪ Quality of reproduction	▪ Long closing periods (6 to 8 weeks prior to publication) ▪ No guarantee of position (unless premium is paid)
Outdoor (e.g. billboards)	▪ Flexible ▪ Relative absence of competing advertisements ▪ Repeat exposure ▪ Relatively inexpensive	▪ Creative limitations ▪ Many distractions for viewer ▪ Public attack (ecological implications) ▪ No selectivity of audience
Direct Mail	▪ Audience selectivity ▪ Flexible ▪ No competition from other advertisements ▪ Personalized	▪ Relatively high cost ▪ Consumers often pay little attention and throw it away

Billboards

Billboards have long been used as part of the Smokey Bear campaign, as well as other prevention and education efforts. Many of the guidelines follow the Sign Guide mentioned earlier in this section.

According to the Outdoor Advertising Association of America (www.oaaa.org):

Outdoor advertising is an important communications medium in an increasingly mobile society. Businesses communicate with customers. Candidates reach voters. Police track criminals. Charities advance the greater public good.

Since the early days of the traveling circus, outdoor advertising has promoted commerce and helped guide travelers to their destinations. Outdoor advertising is a growing industry with a bright future because:

- Consumers spend increasingly more time away from home.
- Technology continues to improve the outdoor advertising medium.
- Other media (print and broadcast) have declining audiences due to media fragmentation.

6. Cooperative Programs

6. Cooperative Programs
- A. Introduction
- B. Wildfire Protection Cooperatives
- C. Corporate or Foundation Partnerships for Communicating Fire Messages

Collaboration
Collaboration is a central component of most communication programs. This chapter addresses considerations for establishing and managing partnerships with other agencies and organizations.

Consult the APPENDIX for this chapter for a number of related resources.

Introduction

Cooperation is difficult to define because it can mean different things to each entity involved. The act of cooperating also takes on unique qualities in each situation. This section describes a process that may be adopted for use by many agencies for a common purpose, in this case, wildland fire management. Some alliances may be short in duration and scope, others more long-term. Regardless of the duration, most will require planning, nurturing, and formal documenting.

Fire agencies have a history of cooperation, most often occurring on a voluntary basis to overcome a lack of fire resources. Fire education, prevention, and mitigation programs often find themselves involved in collaborative partnerships as well. Diminishing budgets and increased expectations of public services require continued efforts to build new and diverse cooperative approaches.

"Like motherhood and apple pie, cooperation is a long-standing shared American value that is at least as strong a component in American history as competition. Concepts of cooperation evoke images of democratic government including concepts of federalism, pluralism and representation. But the simple fact that cooperation is invoked prescriptively so often in sites ranging from a school yard to the U.S. Congress suggests that achieving effective cooperation between individuals and institutions is not so simple ... cooperation and collaboration at appropriate geographic scales becomes critical. Just what cooperation is and how it is achieved are not obvious."
~ Regional Cooperation by Steven L. Yaffe
School of Natural Resources and Environment, University of Michigan

Benefits of Cooperation

Rapid urban expansion and the ensuing use of resources challenge land and resource managers, urban planners, governing entities, and emergency service agencies. It also has the potential to greatly affect the quality of life for people who use and choose to live in the wildland/urban interface (WUI).

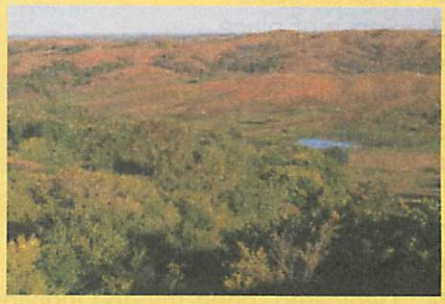
For example, fires in the WUI challenge both structural and wildland firefighters, who are trained and equipped differently. Wildland firefighting agencies are now faced with an increased number of homes built in the path of wildfires, and their municipal counterparts are grappling with multiple ignitions from fast-burning vegetative fires. Everyone agrees that no single agency is adequately prepared to handle both types of firefighting. Suppression of these fires is directed by a unified command, involving structural fire departments protecting structures and wildland fire suppression agencies suppressing the wildfire.

The problem is compounded by the fact that wildfires do not acknowledge boundaries of community, land management agencies, or fire districts. Therefore, agencies responding to fires in WUI areas must develop combined, coordinated efforts to be effective.

Wildland fire management influences many aspects of the WUI, such as healthy forests and sustainable wildlife habitat, clean water, recreational access needs, insect and disease encroachment, hydrologic impacts, scenic views, wildlife, and needs for environmental education. All stakeholders involved also need to understand these "quality of life" issues as valued by the people living in local areas. This understanding will help provide opportunities for cooperation between citizens and those organizations mandated to protect their properties and adjacent resources from wildfire. Governmental agencies must understand and clearly illustrate their specific roles in managing wildland fire and ensure that the public shares the responsibility for the resolution of these problems.

Managing a wildland fire problem requires a community and interagency understanding of all resource management challenges associated with urban growth and increased use. This is best accomplished at the local level where problems are the most obvious and immediate.

Loess Hills



The Loess Hills is a 650,000-acre landscape where historically, more than 90 percent was native prairie with fires occurring every three to seven years. Land conversion and suppression have resulted in significant reductions in fire frequency.

The fire-dependent prairies and woodlands of the Loess Hills are tucked into an agricultural landscape that is almost exclusively privately owned (94 percent). Many private landowners want to see their treasured natural resources thrive, but have limited resources to conduct fire management themselves. Education, training, equipment and technical assistance are the cornerstones of this collaborative fire management effort.

- Partners involved have recently completed a regional Fire Management Plan that will comprehensively address multi-partner objectives (including private landowners), and provide the framework to enable restoration of fire-adapted ecosystems in the Loess Hills. Facilitated in large part due to participation in the U.S. Fire Learning Network (www.tncfire.org/training_usfln.htm), a collaborative project between The Nature Conservancy (TNC), DOI, and USFS.
- The Fire Learning Network strives to create a social infrastructure that catalyzes on-the-ground action through a facilitated process that moves collaborative groups to implementation including appropriate use of fire.
- Increased training from TNC and agency partners, creation of a Mobile Prescribed Fire Crew, and public-private funding for on the ground treatments made significant impacts on the scale of fire restoration efforts on public and private lands.
- The program communicates Firewise principles and the benefit of prescribed fire through the media and public education programs.

An example of wildland fire cooperation on a national level is the National Wildfire Coordinating Group (NWCG). The purpose of the NWCG is to design and coordinate programs of the participating agencies to avoid wasteful duplication and to provide a means of constructively working together.

Numerous coordinating groups of smaller scope (regional, state, and local) can be found across the country. Other examples of cooperation can be found in the efforts of private associations, citizen groups, and governmental organizations. Examples of cooperators include The Nature Conservancy, State Wildlife Agencies, State Natural Heritage Programs, as well as state forestry agencies, tribal governments and federal land management agencies.

According to the NWCG, fire prevention and education includes all of "the actions taken to limit the adverse environmental, societal, political, and economical effects of wildland fire." Community groups and non-fire organizations are now being integrated better into wildland fire management and may also be signatory to new cooperative agreements. If not signatory, their views, interests and participation must be incorporated into your education, prevention and mitigation efforts. Building cooperation can be challenging. Preparation for cooperation includes identifying the factors that facilitate cooperation and recognizing the obstacles that detract.

Factors that facilitate cooperation

1. Shared problems; sense of threat or crisis
2. Shared goals
3. Sense of place
4. Prior relationships between individuals
5. Public pressure or interest
6. Use of a collaborative, proactive process
7. Effective process management
8. Interpersonal skills
9. Dedicated, open-minded individuals
10. Opportunities for interaction; a sense of control
11. Resources, capabilities and support
12. Technology, especially telecommunications

Obstacles to effective cooperation

1. Limited resources, time and energy
2. Limited skills of staff members in outreach, human relations
3. Government policies or budgeting
4. Attitudinal factors
5. Intergroup attitudes, as between social groups, organizations
6. Organizational norms and turf
7. Lack of agency support for interagency efforts
8. Public opposition
9. Inadequate opportunities for interaction
10. Conflicting or ineffective incentives to cooperation
11. Ineffective process management
12. Local parochial concerns
13. Inappropriate political influence

Wildfire Protection Cooperatives

Utilizing the six-step process outlined below will help establish partnerships in a cooperative approach to wildfire prevention. These general collaboration techniques can be applied directly to the establishment of various partnerships within fire management including cooperative fire education or mitigation programs.

In the six-step process you will:

1. Identify Partners and Get Commitment
2. Define the Current Situation
3. Define Roles and Responsibilities
4. Set Goals and Objectives
5. Document and Implement the Plan
6. Evaluate and Revise the Plan

1. Identify Partners and Get Commitment

It's important to realize that cooperation takes place between people, not organizations. So the first step is to identify partners. A partnership is not itself a goal but rather a means of achieving a goal. Partnerships are voluntary, mutually beneficial, desired arrangements between groups. They are established to accomplish mutual objectives that are consistent with the mission of each group.

Work with fellow agencies in your area to determine who should take the lead role in cooperating with rural and urban fire departments for wildland fire protection. In some cases it may be state forestry agencies due to their existing relationships with other state agencies and their responsibility to protect rural lands. In other cases it may be federal agencies due to federal fire assistance programs.

It is important that the interests of each agency, organization, or group be carefully acknowledged in the process. A partnership should include:

- Appropriate legal authority
- Consistency with agency plans, policies, and priorities
- Evident public benefit
- Mutual interest in and benefits from a common objective
- Realistic time frames
- Voluntary participation
- Written agreement(s) between parties

Consider enlisting interagency fire prevention and education teams to share resources and funding. Information on the National Fire Prevention Education Teams is available online through the NWCG Wildland Fire Education Working Team page. www.nwcg.gov/teams/wfewt/wfewt.htm, or create your own local team with neighboring agencies.

Establish a dialogue among the agencies and organizations that can increase the level of fire protection. Concentrate on those agencies you know that may be asking the same questions, and seeking similar solutions.

Fire prevention should be a shared responsibility among those who live and work in the same area. Identifying many potential partners and seeking their ideas and suggestions will increase the level of cooperation as they, at least, agree to agree. The responsibility for fire management centers on fire agencies, but the overall responsibility for fire prevention resides in a network of private and public organizations, businesses, and, of course, the residents themselves.

2. **Define the Current Situation**
Gather information, research and analyze the current fire prevention situation in the targeted areas. Define the fire management situation in more detailed terms of hazards, current and potential risks, and values to be protected. Fire protection mapping, for example, identifies the values at greatest risk and the location of available interagency resources needed to protect those values in the event of wildfire. These maps can also identify areas where fuel treatment projects can reduce potential fire intensity and spread, and lower property and resource loss in the event of a wildfire. Once the fire management situation can be described in these terms, partners can identify specific areas of improvement that can be gained through cooperation.

3. **Define Roles and Responsibilities**
Missions and practices vary between fire protection agencies and organizations. It is important to distinguish between them in this process. Highlight strengths and weaknesses of current programs and focus on areas where interagency efforts can be most beneficial.

The interests of each agency, organization, or group must be carefully acknowledged in this process. No one group's mission is more important than another. Each partner must operate within legal boundaries, and this step will identify barriers, conflicting regulations, and laws that may need alteration for overall public benefit.

Organizational ethics, accountability, and credibility are an integral part of roles and responsibilities and must be upheld by each partner. The appearance or actual establishment of "conflict of interest" must be avoided. Endorsement of commercial products, services, or entities should be avoided unless authorized. Legal requirements relating to procurement, personnel, labor, printing, and publishing must be honored.

Western Kern Fire

In the summer of 2003, the NPS and USFS initiated on-the-ground operational cooperation for cross-boundary fire use projects. The lightning-caused West Kern Fire began in Sequoia National Park near the park boundary. In the past, boundary fires were routinely suppressed to prevent spread onto neighboring U.S. Forest Service lands. But this year, with the institution of a fire use program, the Sequoia and Inyo National Forests were pleased to manage this natural fire cooperatively with the parks.

As a result, the West Kern Fire burned across a line on a map that had previously been a huge barrier. This positive partnership prevented a costly fire suppression effort and improved the health of local forests. The West Kern Fire totaled 7,968 acres (3,510 acres were in the park). This photo shows the West Kern Fire. All three units (Sequoia National Park, Sequoia National Forest, and Inyo National Forest) are in the photo.

4. Set Goals and Objectives

Establish goals and objectives for cooperative opportunities. Likely, they will be designed to solve the most pressing problems first — the ones that cannot be ignored. Among the types of cooperative opportunities to consider are awareness and education, training, prevention, communications and dispatch, weather services and equipment, and suppression resources (e.g., equipment, stations, and personnel).

Often goals and objectives involve formal protection assistance agreements. There are generally four types of protection assistance methods that can be employed between fire agencies. Agencies may choose to use one or all four or a combination. These four methods enable protection assistance between signing agencies and organizations. Each agency may also have additional legal requirements that need to be considered.

- Reciprocal – Establishes the exchange of fire protection services on a non-reimbursable basis, when one of the organizations is in a position to furnish resources to another. This exchange is roughly an equal exchange of resources and usually limited to a 24-hour time period. Reciprocal exchange is probably the most often used type of fire protection assistance.
- Offset – Arranged by an equal exchange of services, typically determined by workload and not acres. There is generally no exchange of funds in offset protection assistance. Experience has shown that local offset arrangements work best because partners are in the position to define what is equitable and make alterations when needed. Once instituted, offset exchanges may be difficult to modify at a later date. This should be considered before entering into offset protection services.
- Reimbursable – Provides payment for personnel and equipment at an agreed rate by the requesting agency. It is called reimbursable protection assistance. Generally, the reimbursement rates are agreed upon and documented annually.
- Fee basis or contracted – Provides protection on fee basis. That is, the fire protection for one agency is assumed by another, and payment is provided for the contracted services.

Partners often agree to more than one form of protection assistance. Moreover, assistance can be employed back-to-back, such as reciprocal assistance followed by reimbursable assistance. Depending on the particular needs of a community or agency, the various protection assistance methods offer a variety of approaches to securing needed resources and providing coordinated responses. Besides direct protection and suppression, there are many other ways that fire agencies and organizations can cooperate. Regardless of type, developing cooperative fire agreements requires a systematic approach to planning. Coordinated efforts will result in improved fire protection capability and reduced losses.

5. Document and Implement the Plan

Document and implement a formal agreement each partner signs. Most agencies have specific guidelines and processes for signing and developing cooperative relationships, sometimes including a formal legal review. Staff specialists can assist in writing and reviewing the documents. Generally, draft versions are shared with partners prior to the final edition.

Written cooperative fire prevention agreements exist between most federal agencies and most federal and state forestry organizations. They can be found in Mobilization Guides and in individual agency manual directives. Higher level written cooperative agreements are the enabling documents for lower level agreements for the same participating agencies. Written agreements may also document plans, requirements, and/or decisions for specific projects or purposes (e.g., interagency prescribed burn projects, arson task forces, use of state National Guard resources in wildfire emergencies).

It is important to ensure that each cooperator understands the role and responsibility before them. Individual agency missions and capabilities must be honored and incorporated in the documentation. Whether your agency and the other partners have planned for reciprocal, offset, reimbursable, or a fee-based protection service, each should be fully prepared to follow through with agreed upon methods.

There are two sub-agreements that are connected to so-called "master" cooperative fire protection agreements. They are annual operating plans and supplemental cost-share agreements. They add both time- and situation-sensitive details to cooperative fire protection agreements which tend to be multi-year documents.

Interrelated types of fire protection agreements include:

A. Cooperative Fire Protection Agreement
B. Annual Operating Plan
C. Supplemental or Cost-Share Agreements
D. Compact Agreements

Annual Operating Plans

Many protection agreements require the development of annual operating plans. These are important because they provide procedural details to implement the agreement in time of need.

Annual operating plans outline specific procedures between parties at each local geographic area implementing a master cooperative fire protection agreement. They often include how information will be transferred and processed, specific billing procedures, dispatch coordination, reciprocal and/or offset exchange zones (if used), fire resource directories, and other important logistical information.

6. Evaluate and Revise the Plan

Cooperative fire protection agreements and operating plans should be reviewed annually. The purpose of the review is to evaluate the currency of the document and the level of commitment in terms of resources and procedures that were agreed upon. Annual reviews and subsequent revisions help to ensure that the plan will meet your needs in the next fire season. Amendments may be made at any time during the life of an agreement. Once an agreement has expired, a new agreement must be executed.

Every annual operating plan will need some adjustment, particularly in its early stages. Often, joint training sessions and exercises help to test the plan before fire season. In this way, procedural problems can be worked out prior to an emergency.

When fire season arrives, efforts will be realized. The meetings, the discussions, the training — all will result in more effective and efficient operations, working together rather than separately. Following each project in the plan that was activated, hold debriefings with the other partners to make adjustments before the next activity.

Like other tools, working cooperatively with others can also improve the effectiveness and efficiency of interagency fire prevention.

Corporate or Foundation Partnerships For Communicating Fire Messages

Businesses and others in the private sector can be an excellent partner for your fire communication program. It's important to be aware of how the potential partner's needs fit into your program. All agencies have guidelines for working with partners. Before formalizing an agreement, be certain to ask the following questions:

- **Budget –** What, if any, will be the necessary expenditures from the agency? What event, activity, or materials can the partner offer to underwrite?
- **Legal Guidelines –** How will the partnership stay within the guidelines of the agency's directives about partners? How do we keep both the partner and the agency on a sound footing?
- **Audience –** Who will receive the educational program? Where do they live? How old are they? Does this program target a priority fire prevention focus in our area?
- **Influence –** What are we trying to influence our audience to do?
- **Appeal –** How can our prevention program appeal to our audience to convince them to take the steps suggested to prevent damaging fires and promote healthy landscapes?
- **Benefit –** Does the partnership benefit both the agency and the partner?
- **Sustainability –** Is the program sustainable? Can we follow through with our plans in a timely way? Are we promising things we can't deliver? Are we being as helpful to our partner as possible? Can we solve the problems that may occur?
- **Evaluation –** How can we best monitor and evaluate our partnership? If some aspect isn't working, how can we redesign our plans?
- **Recognition –** How can we best acknowledge our partners contributions?

The process of forming a corporate partnership is similar to a cooperative fire protection agreement, with some modification.

1. **Identify your objectives**.
   Objectives can include the messages to communicate, the audiences to reach, and the end results to achieve. Having identified clear and specific objectives, it will be much easier to determine which companies to approach and what activities to implement. Measurable objectives can help evaluate the success of a cooperative program at the end of the year.

2. **Identify target companies**.
   Develop a list of 10 to 20 companies in the area to contact. These companies may include local supermarkets, real estate offices, accounting firms, utility companies, banks — virtually anyone, because wildfires can have an impact on the employees or customers of all companies. Some of the companies that are contacted may be a division or branch of a larger national company. This should not be a barrier because most branches have monies set aside for local public service. Do use some caution when choosing partner companies. Any company that promotes the message will — in the eyes of the homeowners — be a reflection of the agency. In other words, make sure that the company has the right image for the agency. And remember, it's important to make sure there is a "fit" between the message communicated and the company chosen. For instance, if the objective is to reach vacationers with fire safe tips, contact camping supply stores for their support.

   If there is difficulty in identifying a list of companies, the local chamber of commerce may have insight into the most active and concerned corporate citizens. Please be sure to contact them. They are an excellent resource to have.

3. **Identify specific program ideas for each company.**
Once the list of companies has been selected, develop an accompanying list of program ideas for each. Try to be as specific as possible to help the company visualize what is needed. It may also help to make a drawing of the proposed artwork or design to help bring the idea to life; a company will never commit funds to a cause without knowing exactly how the monies will be used. Keep in mind that most companies work with a six-month to one-year lead time. If seeking financial assistance, it is imperative that contact is made with companies early (at least six to eighth months in advance of your anticipated start date) before monies are committed elsewhere. It is important to develop ideas that are appropriate to a given company.

For example:
- A supermarket may be willing to tell its grocery bag manufacturer to print a supply of bags with fire prevention, education, and mitigation messages.
- A real estate office might be interested in distributing a WUI homeowner tip sheet to all new home buyers.
- Utility companies may be able to create educational inserts for billing statements.
- Fast food restaurants could develop fire education placemats.
- Camping stores could distribute campfire safety information to all customers.

Other general program ideas include:
- Sponsoring fire prevention billboards.
- Producing radio/television commercials and PSAs.
- Education/prevention/mitigation messages on products (such as milk cartons).
- Underwriting the cost of brochures to be delivered to every doorstep in the community.
- Local shopping mall exhibit.
- Newspaper advertisements.
- In-store fire prevention and education displays (commonly called "point-of-purchase" displays) that can include: shelf containers for brochures; banners that can be hung from ceilings to call attention to the availability of fire materials in the store, bank, etc.; large cardboard displays that can accommodate a company's product (e.g., soft drink cans) and brochures.
- Elementary school programs meeting state standards for learning.
- Placing articles in company newsletters/newspapers/Web sites.
- Civic meetings and town halls.

4. **Identify approximate costs for each program.**
Before pitching a specific idea to a company, try to get an accurate estimate of the cost for such an endeavor. Some programs can be quite expensive (such as in store displays), while others can cost almost nothing (such an article on the employee Web site). Always check to see if printing or other production discounts are available to a not-for-profit organization.

When working with outside vendors (such as designers or advertisers) to get price estimates, make sure the vendors provide the total price of completing a project. Often, items such as tax, shipping, and overrun costs (for printed materials) are not included in budget estimates. These "hidden" costs can amount to hundreds or thousands of dollars and result in a project running over budget. It is always a good practice to increase budget estimates to take into account any such hidden costs or price increases (paper costs, for example, increase several times annually) that might arise. If a company agrees to pay $5,000, and the program ends up at $5,500, the agency may have to make up the difference. On the other hand, if under budget, money can be returned, to the delight of the sponsor.

5. **Determine the appropriate contact at each company**.
Call the company, briefly explain the idea and who the appropriate contact is. Although one's first inclination is to send the letter to the president of the company, in all likelihood, the president will pass the letter on to the director of marketing, public affairs, or another department. If the letter is sent to the wrong person, there is always the chance that it will be thrown out or lost. Also, if a personal contact at the company is a supporter of the agency, it may be more effective to start your outreach with him or her. Often a personal contact can "go to bat" for you. A person from within a company who can accurately represent agency interests will definitely help the cause.

6. **Submit a proposal**.
The proposal is the first opportunity to present the cause, the idea, and the agency. As such, it is very important to make a strong first impression. Effective letters begin with an emotional appeal and include impactful information about the fire hazard and what can be done about it. Remember to keep the letter brief—one page, if possible; no more than one and one-half pages. Try to include the following information:
   - Emotional appeal, referencing recent activity if relevant
     E.g., "We are emerging from one of the worst fire seasons in history. During the past five months, more than 12,000 wildfires burned out of control, destroying more than 114 homes. The danger is not over, but with help from organizations like yours, we can do something about it.
   - Reference success stories.
   - Demonstrate that the company can help make an impact by informing the community about crucial fire safety and mitigation information.
   - Explain what needs to be done, and how that company can help. Include a cost estimate if appropriate.
   - Reference the number of consumers expected to be reached by such a program and how beneficial it will be for the company to be seen as a dedicated and caring corporate citizen. Indicate the publicity avenues available to them, and let the company know that the agency will work to get them as much visibility as possible for their efforts.
   - Be prepared to work with them to develop a co-op program that will meet their needs.
   - If appropriate, tell the company that the program is being offered exclusively to them. Many times, a company will be looking for a cause it can "call its own."
   - Include with the proposal letter any useful background information about the agency, the campaign, local areas, and fire statistics for the area. This type of information can help "sell" the department to the potential co-op sponsor.

7. **Schedule a meeting/presentation**.
In some instances, the agency may be asked to make a presentation to the company before a decision can be made. This presentation will be the chance to show the company who you are, what the agency role is, how severe the wildfire problem is, what can be done about this problem, and how the company can help. It's always helpful to accompany remarks with visual aids.

Flexibility is a key when talking to a company. Some of the proposal will result in an interest in the campaign, but not necessarily in the suggested program. Be willing to work with the company to tailor a program especially for them. Make sure the company understands that *any* assistance they can offer will help to make the area fire safe. Remember, too, that rarely will the agency get something for nothing in a co-op effort. The sponsor may want to redesign artwork, have its logo prominently displayed, etc. Again, be flexible — the most important thing is that the message gets out. Also, don't assume that just because a company is unable to help out this year, it will not be able to help out the next. Business

environments, budgets, and personnel are always changing. It may just be a matter of time before a company has the budget, or inclination to help you.

8. **Work with the company throughout the program.**
Be easily accessible to a cooperative sponsor and provide any assistance they may need. If the company needs camera-ready artwork to print a poster or a news release to print an internal newsletter, provide it to them promptly. The more precise in executing responsibilities, the more likely it will be that the sponsor will do the same.

   Be sure to review any copy or artwork before it goes to print. Changes may have been made to your originals that result in faulty, incomplete, or misleading information being communicated. While complete control over the artwork that is selected may not be available, control over the message that is conveyed must be maintained. Make sure that it says what needs to be said.

9. **Express your appreciation.**
The final step is to say "Thank You." Any time a company (or individual) donates time, money, or resources, be sure to express appreciation. None of these companies is obligated to support the agency, but without their assistance, it would be impossible to communicate fire safe messages to all of the residents and vacationers in the area.

   Consider recognizing cooperative sponsors with a special award that expresses appreciation for their involvement. Engraved plaques or framed certificates are thoughtful gifts that will tell the sponsor how significant and appreciated their support is. Depending on the depth of a sponsor's commitment (money, time, service, etc.), host a news conference, or at least distribute a local news release, to unveil the cooperative program to the media. Public recognition such as this can go a long way toward encouraging repeat participation in the cooperative effort. The more aware sponsors are of gratitude and need for them, the more likely they will be to renew their pledge to help in the future.

   In the event that the company cannot sponsor the project at this time, sending a thank you letter to acknowledge their time is also appropriate and may result in the company sponsoring a future project.

7. Fire Education

Fire Education
This chapter presents the core NWCG wildland fire messages as well as communication techniques that are specific to this important topic. Also included are concepts of risk communication. Overall communication planning processes, tactics, and materials development are included in other chapters.

Consult the APPENDIX for this chapter for a number of related resources.

Wildland Fire - A Tool for Stewardship

Wildland fire communicators are charged with helping a variety of audiences understand the role of wildland fire. With a society that has been taught that all fire is bad and that suppression is our only option, the communicator's task is not an easy one.

Your message must range from basic resource management to very detailed fire ecology concepts. Message complexity must match the objective(s) of the intended message, the audience, and the setting, both physical and institutional.

The message begins with both unplanned wildland fire and prescribed fire as background. *Wildland fire* is either suppressed or permitted to burn under a predetermined management plan. *Prescribed fire* is the deliberate ignition of wildland fire to achieve established resource management objectives. Prescribed fire and the use of natural occurring fire as tools of management (i.e., stewardship) are the more complex messages. Helping your audience understand the concept of prescription (planned) fire is central to sound management.

Fire Management

These prescriptions are objective oriented — the establishment/maintenance of healthy forests and grasslands (e.g. fuel load reduction, regeneration of select plant species that are fire dependent) or the enhancement of certain wildlife habitat. Most often though, returning fire to a fire dependent natural community accomplishes multiple objectives. Collectively the outcomes are overall natural community health and maintenance of natural fuel loading — both key themes or storylines for your messages.

Prescribed fire is a well-established practice on public and private lands throughout the world, and is based on years of scientific research. Resource managers are diligent, and must be portrayed as such, in the planning of prescribed fire. Each plan is targeted for specific outcomes with the utmost care taken to protect human life and property, manage impacts of smoke, protect historical and archeological resources, and protect the ecological integrity of the physical and biological resources.

By carefully calculating meteorological factors, fuels, slope of land, and other relevant conditions, resource managers can control and direct their fires. Their charge is to ignite, hold, monitor, and extinguish their prescribed fires. The extensive bodies of knowledge of wildland fire science and wildland fire ecology provide excellent standards of practice for those charged with this stewardship. The science behind the flames also underpins your message. Because the American public highly values and supports science, the crafting of wildland fire in the context of science increases the chances of message acceptance and impact.

Fire tragedies and extensive fires as seen in Florida, Mexico, and elsewhere in 1998 brought the issues to the forefront of national and international news. Likewise, prescribed fires that have escaped control lines and turned into a destructive wildfire have made headlines. All too often the news reports are restricted to tight time slots and sound bites. However, there are windows of opportunity for opening in-depth dialogues with your audiences about the need to reduce hazardous fuel accumulations and restore certain fire-dependent ecological processes. Audiences need to understand that an immediate need exists in many places around the world to reduce fuel load to prevent extreme fires and to both restore and maintain the health of fire dependent ecosystems. The reduction or treatments include manual, mechanical, biological, and chemical methods in

addition to fire. While most prescribed burns are relatively small, the plan for periodic burning must be made and presented to the public as strategic landscape-scale plans to restore health and vigor to vast regions. Often this is the primary reason for prescribed fire.

To do this requires addressing the following:

- Excess of naturally occurring fuels and fuel accumulation as a result of land use/land settlement patterns
- Historical fire suppression
- Fire-dependent ecological processes

Messages must convey that wildland fire is very much a societal problem, and that both human interventions and human acceptance of naturally occurring fire are often the best solution, but they are not universal solutions.

Public support is not only required for the concept of wildland fire management but also for institutional support. While this is not a dominant message, audiences need to understand that stewardship of the land, including wildland fire management, requires resources. In situations where organizations are downsized, budgets are reduced, and caps are placed on numbers of seasonal employees, these organizations are stressed to meet the competing demands for immediate suppression, long-term needs for fuel load reductions, and other fire-related stewardship activities. Education can create an awareness of agency needs.

Wildland fire management effectiveness is dependent on institutional support and cooperation as well as public understanding and support. Sound fire management science and an extensive understanding of fire ecology exist. Thus your role includes inter- and intra-agency communication and leadership. If support from within is not evident, public opinion, and in turn public support, may wane.

Overshadowing all of this is the risk factor — the risk that a prescribed fire will escape. While land management agencies find the issues of an unplanned fire moving from public lands to private lands controversial enough, an escaped prescribed fire is a public relations challenge as well as a real potential threat to life and property.

Unfortunately the impacts and public perception of escaped prescribed fire either from poor planning or from uncontrolled events are the same. Thus internal communications and training must prepare managers for the risk associated with prescribed fire.

The same can be said for wildland fire use. More and more fire organizations are allowing wildland fire use and other modified suppression techniques to be used. Explaining the why and how and when of these actions is an important step in the public and management acceptance process. Sometimes not putting the fire out immediately is the appropriate thing to do.

Fire Education Messages

Wildland fire management agencies and organizations share common goals: to enhance personal safety and reduce loss of life while preserving and enhancing the health of forests, rangelands, prairies, and wetlands. Though communication of fire issues is extensive throughout the wildland fire community, our messages have not been consistent. For the public to truly understand the role of wildland fire, we must communicate clearly and consistently across all agencies.

To that end, the NWCG has approved the following *key messages* to communicate the following important elements of our efforts:

- The role of wildland fire in ecosystems.
- The actions that land management agencies are taking to reduce risks and realize benefits of wildland fire.
- The need for partnerships among agencies, tribes, residents, and communities to understand and prepare for wildland fire.

This section is designed as a guide for all those involved in wildland fire management. We hope it will help you communicate with key audiences about wildland fire. *This is not a script.* Users are encouraged to incorporate these concepts into their communication in their own words, making the information relevant to their specific situations.

Key Messages

1. Wildland fire is an essential, natural process.

2. Society's influence has altered historic fire cycles, leading to a dangerous and difficult build-up of vegetation in our wildlands.

3. Land management agencies are committed to a balanced fire program that will reduce risks and realize benefits of fire.

4. Improving the health of the land and reducing risks to communities requires partnerships among federal and state agencies, tribal governments, fire departments, communities, and landowners.

5. Public education is necessary to the success of fire management programs.

Key Messages with Supporting Points

1. **Wildland fire is an essential, natural process.**

   A. Fire has helped shape our wildlands for thousands of years, and is important for the survival of many plants and animals.
      i. Fire reduces accumulation of vegetation that can inhibit plant growth.
      ii. Some plants and animals depend on fire for survival. Periodic fire stimulates growth, reproduction of plants, and provides wildlife habitat.

   Use local or regional examples

The rare Karner blue butterfly larvae feed exclusively on wild lupine, a plant dependent on fire for its survival.

B. Fire behaves differently throughout the country.

i. In addition to fuels (vegetation), fire behavior is affected by weather and terrain.

ii. Virtually all vegetation types in the United States can experience wildland fire.

Use local or regional examples

2. Society's influence has altered historic fire cycles, leading to a dangerous and difficult build-up of vegetation in our wildlands.

A. Social and cultural approaches to wildland fire over the past century have focused on preventing and suppressing all wildland fire. We continue to learn and now have a more complete understanding of the essential role fire plays in our environment.

B. When paired with the right terrain and weather conditions, dense build-up of vegetation leads to fires that burn hotter, last longer, and spread faster. As a result, these fires become difficult to manage and can threaten areas of residential development.

i. In addition, excess vegetation and lack of fire in some areas is threatening plant and animal life.

Use local or regional examples

3. Land management agencies are committed to a balanced fire program that will reduce risks and realize benefits of fire.

A. ***Safety*** **of firefighters and the public is the No. 1 priority** of land management agencies.

B. Land management agencies' **fire management programs** are customized for specific wildland areas to restore the land to more natural conditions, maintain already healthy ecosystems, and protect neighboring communities.

i. Fire management programs are designed based on a **balance of needs** including **fire suppression, prevention, and fire use**. There will always be a need for prevention and suppression to protect people and communities.

C. Fire is a management tool used to accomplish specific objectives in a plan such as removal of excess vegetation or stimulating plant growth and regeneration.

i. Naturally occurring fires (lightning, etc.) are either suppressed or allowed to burn in a closely monitored and confined area, based on the fire plan for the area.

ii. Sometimes it may be necessary and/or beneficial for land managers to start fires in a closely monitored and confined area. These fires are referred to as **"prescribed fires."**

iii. A fire program also may include **non-fire treatments** to prepare the land before natural or prescribed fire can be applied safely and effectively.

Use local or regional examples

D. Fire use is a managed process with comprehensive guidelines that prioritize safety and direct the planning and operations of the activity.

4. **Improving health of the land and reducing risks to communities requires partnerships among federal and state agencies, tribal governments, fire departments, communities, and landowners.**

   A. Fire burns where conditions are right. Fire does not acknowledge jurisdictional boundaries of federal, state, and local agencies; tribes; or private landowners.

   B. Agencies, tribes, and communities are working together to understand and accept what it means to live in a fire-prone area and to realize the benefits of managing fire in the wildlands.
      - **i.** Agencies and tribes are managing public and tribal lands through overarching fire management plans and programs.
      - **ii.** Agencies and tribes also are working to educate local governments and property owners of ways to make their land and property more defensible against wildfire.

   Use local or regional examples

   C. People who live and recreate in fire-prone lands assume a certain level of risk and responsibility due to the condition of the surrounding environment.
      - **i.** People **can** live compatibly with fire, if actions are taken to be aware of – and prepared for – local fire conditions.
         1. Contact your local, state, or federal agencies, or tribal fire management organization to determine your community's fire conditions and discover tips to reduce your community's fire vulnerability – before a fire starts.
         2. The more populated and closer a community is to fire prone areas, the greater the need for proactive fire management.
      - **ii.** Smoke from prescribed fire is a sign that steps are being taken to reduce risks and realize benefits of fire. The more land management agencies can plan and manage fire the more they can reduce smoke impacts.

5. **Public education is necessary to the success of fire management programs.**

   A. Fire is an important issue for the public, and public understanding is key to our ability to effectively manage wildland fire.
      - **i.** For many years, people have learned to fear and avoid fires of all kinds in wildland areas – whether they are natural or started by people.
      - **ii.** Individuals act based on their *perceptions*. Understanding the role of fire will help landowners and land users appreciate and support the efforts of federal, state, local, and tribal fire management organizations.
         1. Every year, millions of people visit and use wildland areas across this country. People are fascinated with fire, and we have the opportunity to introduce them to its benefits/role.

      Demonstration areas provide an opportunity to showcase the role of wildland fire.

      - **iii.** We need to motivate landowners and land users to mitigate fire hazards on private property, use recreational fire safely, and support fire management efforts so land management agencies, tribes, and firefighters can focus on public lands. This will ultimately reduce loss of life, property, and natural resources.

We need to communicate with our neighbors about the role of wildland fire in a consistent, simple, and memorable way.

iv. We need to demonstrate the importance of fire management to the public, agencies, and tribes by continually showing support for these practices.

1. We must educate within our own agencies to ensure that staff understand and support fire management and public education efforts.

v. We need to be clear in our communications about both the benefits and risks of wildland fire.

Use local or regional examples, such as acknowledging that there is risk of a health impact with smoke, but the benefits of fire management are greater than the risks. These examples should recognize that smoke always poses a risk to people with severe respiratory problems.

vi. Often people's perception of fire is shaped by the media's representation of fire. We need to be sure the media understand the role of fire and assist them by providing more comprehensive information about fire and the management issues facing federal, state, tribal, and local fire management organizations

Risk and Conflict Communication

Interpreting wildland fire ecology begins with a solid understanding of science and how it works, but it often intersects with public policy, economics, environmental aesthetics, and human values. Encouraging public understanding of wildland fire ecology concepts and implications in both environmental and social domains is no easy task. Balancing science, policy, and human values fairly and accurately, as a communicator requires solid understanding of not only the content but the manner of presentation.

Issues that pertain to environmental and health concerns can be controversial in the eyes of the public, particularly when sensitive values are at stake. The science and policies of wildland fire ecology often pose many difficulties when communicators must inform the public about fire, its effects, and its uses. Techniques for effectively handling sensitive environmental and health issues have emerged as the special communication genre known as risk communication. The concept of risk communication not only addresses quantifiable risk, but also the public's perception of that risk, which may or may not be in sync with the "real" risk (Sandman, 1993; West et al., 1995). For ecological communicators, risk communication is often a matter of interpreting complex scientific issues, and communicating to the public about their potential impacts. The real difficulty in science and risk communication tends to be a lack of common understanding among the lay-public of how science and technology function (Sandman, 1993; West et al., 1995).

Uncertainty in scientific research is intrinsic and generally understood by professional scientists in terms of statistical probabilities, measurement limitations, computer modeling simplifications, etc. Debate over facts, figures, and predictions within the scientific community is not only common but a critical part of the knowledge construction process (Bazerman, 1988; Gross, 1990; Myers, 1990). However, this aspect of the scientific process is not well-known nor understood by the lay-public. Scientists are often expected to quickly and accurately produce definitive answers and solutions. To accept that differences of opinion and uncertainty are inherent within the scientific community is not very palatable, especially when a person may trust his or her health, wealth, and environmental appreciation to the "expert" advice of scientists. Thus, if information appears incomplete or uncertain, the public tends to mistrust it, as well as its source.

As an ecological communicator, you must bridge this gap between the scientific and nonscientific communities and provide a common ground for understanding and trust. The goal of the communicator is to make meaning as clear as possible to foster a more accurate understanding of a risk, and thus more appropriate behaviors regarding that risk.

Ideally, you would like to convince an audience that the information being presented is the most accurate representation of the "truth available." The structure of the language itself can dramatically affect the way the message is received.

Recognizing and dispelling audience-held misconceptions about an issue requires the communicator to know the characteristics of your audience well, to construct the message appropriately for your audience, and to project a proper tone. This is not an easy task, to which many communicators would attest. The misconception should be presented clearly and respectfully, followed by the "new" concept, and why it is more accurate. Explaining why the misconception should be replaced by new information helps reinforce the point and persuade the audience to adopt the new perspective. Fields such as wildland fire ecology often must deal with clashes between science and public perception. Knowing how and why these clashes occur, and how to address them will prove useful in influencing public awareness and decision making.

When you are communicating wildland fire messages and are engaged in sustainable community planning, you are in great part using risk communications. Central to public understanding is conveying risk management options. While prescribed fire is one of the higher risk land management activities, negative impacts have been minimal on a national scale. At the heart of risk management and communications are effective planning, highly trained professionals, and effective policies to reduce risk. These are the tenets found within wildland fire management guidelines.

In the face of these risks, the American public appears to be showing a shift in attitude towards the use of fire as a tool of stewardship. While we have only begun to impact ecosystem health by returning fire to fire-dependent ecosystems, so have we only begun to impact public opinion. A concerted effort is needed on both fronts.

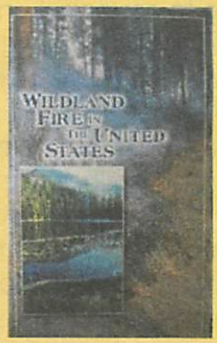
Considerations for Wildland Fire Communication and Education

For many people, fire remains a fearsome, destructive force that can and should be controlled at all costs. A comprehensive message is needed that clearly conveys the desired balance of avoiding fires with adverse affects while simultaneously increasing ecologically beneficial fire.

The ecological and societal risks of using and excluding fire have not been adequately clarified and quantified to allow open and thorough discussions among managers and the public. Few understand that integrating fire into land management is not a one time, immediate fix but a continual, long-term process. It is not an end in itself but a means to a healthier end. Full agency commitment to internal and external information and education regarding fire and other ecological processes is needed. Adaptive and innovative fire and land management is severely limited when agency employees and the public misunderstand or remain skeptical about the role of fire.

The task before us — appropriate fire management — is both urgent and enormous. Conditions on millions of acres of wildlands increase the probability of large, intense fires beyond any scale yet witnessed. These severe fires will in turn increase the risk to humans, to property, and to the land upon which our social and economic well-being is so intimately intertwined.

The NWCG brochure *Wildland Fire in the United States* is a good tool for illustrating the risks and benefits of wildland fire, and includes a map of the major ecosystems in the U.S. Available at www.symbols.gov.



Communication and education programs integrated into wildland fire management are critical tools to aid in building a nation of ecologically literate people, including leadership at all levels that understands and supports wildland fire management practices. While few users of this Guide will have responsibility for national campaigns, most of us can influence wildland fire communication and education at the local or regional landscape level. Out of these programs comes impetus for more national efforts.

Wildland Fire Education Considerations

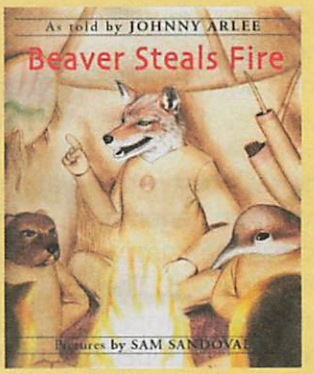
Wildland fire communication has multiple dimensions that must be considered in the early stages of planning. Most notably are:

- Wildland fire is a complex topic. It covers the breadth of subject matter — chemistry, physics, geology, meteorology, ecology, management, economics, ethics, education, law, etc. Simply reducing it to a fixed argument of the "science of" will not serve the communicator well.

- Wildland fire has numerous technical dimensions. Not only are we faced with communicating the science of wildland fire, we must also convey the idea that fire is not totally predictable or controllable. Each fire burns differently and as meteorological factors change, the nature of the fire changes. Thus, trying to help audiences understand wildland fire from a "static model" perspective should be avoided.
- Wildland fire, as it moves, involves a changing situation. Fire itself changes its own environment, e.g., winds. In essence, in managing a fire the professionals are mixing a recipe in which the ingredients are known but the quantities going in and out of the recipe are constantly changing as is the heat. Such analogies may help your audience better understand why wildland fire management is a demanding art and a science.
- Fire impacts people personally. It can be frightening; fire can destroy life and property. People personally experience fire after seeing in mass media their familiar landscapes burn. Even when we know that the land will rejuvenate, the change is disruptive to our psyche. Whether impacts are real or perceived, we are personally impacted by the fire event.
- More and more fire organizations are relying on fire plans that allow for an appropriate management response of wildland fire use and other modified suppression techniques. Explaining the why and how and when of these actions is an important step in the public and management acceptance process. Sometimes not putting the fire out immediately is the appropriate thing to do.
- Wildland fire management contains risks. Central to public understanding is conveying risk management options. Wildland fire communicators are risk communicators and therefore must frame their messages as risk communications.

Fire Education at Work

The Confederated Salish and Kootenai Tribes manage their land according to ecological principles and restoration goals developed in their ecosystem management based Forest Management Plan. The Tribes rely on the reintroduction of fire as to restore cultural landscapes that occurred prior to European settlement. The tribes fire management program has ultimate responsibility to plan and implement prescribed fire and other hazardous fuels reduction treatments. However, through the plan, these other disciplines have share responsibility to plan and coordinate these efforts so other program goals (wildlife diversity, threatened and endangered species, invasive species, cultural enhancement and restoration, wildland recreation) are achieved as well.



This story book (Beaver Steals Fire) is one example of several educational products that the Confederated Salish and Kootenai Tribes have developed as part of their effort to restore cultural landscapes through the use of fire. The Tribes Natural Resource Information and Education Office is outreaching to tribal members of all ages, communicating about the importance of wildland fire practiced traditionally and as part of today's wildland fire management program.

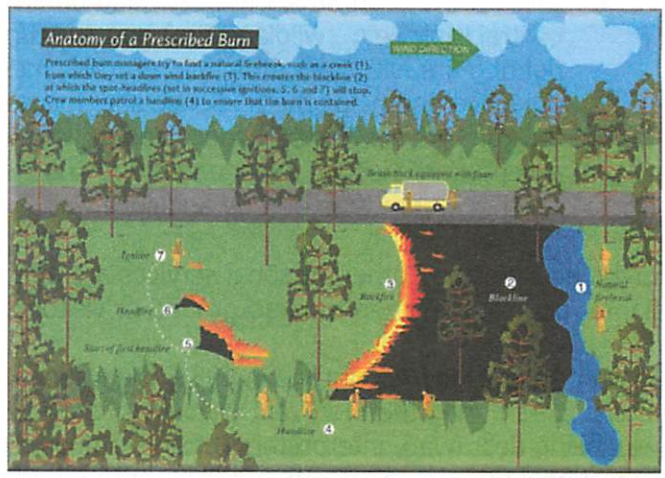
Prescribed Fire Presentations

Detailed information about developing a presentation is included in Chapter 4 of this guide. Listed below are considerations that apply specifically to prescribed fires.

An effective presentation will be enhanced with good visual aids: slide show narrated by the presenter, maps showing the prospective burn site; and, with good personal illustrations or stories of pre- and post-prescribed burn scenarios.

The following are points to be considered by the presenter in preparing a presentation about a prescribed fire:

- Who is the presenter (their credentials) and who is the audience (their vested interests)? Establish credibility of presenter and determine specific audience needs, concerns, or fears that must be addressed.
- Why was this area selected for a prescribed burn? Establish the specific needs for the designated area, and emphasize the consequences of non-action or alternate actions.
- What is a "prescribed burn," and why is it important for the area? If needed, explain and illustrate the most basic aspects of how a prescribed burn is conducted, and what are the conditions that allow it to occur. Strong and repeated emphasis should be placed on the goals of the prescribed burn, rather than the methods.
- What should the audience be aware of, alerted to, sensitive to (smoke, aesthetics, safety)? Issues dealing with smoke, fire control, aesthetics, safety, and the fact that the prescribed burn may not occur, or will only occur under ideal conditions must be addressed. Allow questions, but attempt to re-focus potentially hostile questions to recognition of the critical importance and the goals of the program.
- What can they do? The presentation should conclude with concrete and helpful things the audience can do to help the local program of prescribed burns. Examples can include: discussing the issues with their families, completing a feedback form on the presentation and/or the prescribed burn, posting at home a refrigerator note on urban interface safety tips, or local agency phone numbers, and local fire departments.
- Questions and Answers – Be sure to allow time for discussion, and encourage your audience to ask questions.



Graphic can be found at
www.fl-dof.com/wildfire/rx_anatomy.html#leftnav

Interpretive Programs

Interpretation is an "education activity which aims to reveal meaning and relationships through the use of original objects; by firsthand experience and by illustrative media, rather than simply to communicate factual information" (Tilden, 1957). Tilden continues by providing principles encouraging all interpretation to relate to the participant and reveal new and interesting information which provokes a physical or mental response. Tilden, who spoke from the perspective of the theater, saw great natural and cultural resource-based stories to be told.

One of those stories is wildland fire. This story, like almost no other, captivates the audience in that it impacts every sector (natural history, social, cultural, economic, etc.) of the ecosystem in which it burns. Wildland fire flames paint images in visitors' minds and provide vast opportunity for interpretation.

Fire ecology and wildland fire management are complex topics that provide a vast array of interpretable topics. In the wildlands and wildland/urban interface zones, almost every ecosystem function impacts or is impacted by fire. Fire stories are in essence ecosystem stories, especially when interpreting fire-dependent communities. The following sections are offered to assist projects with wildland fire interpretive programs and to help instruct new employees in their program preparation.

Some basic tenets of interpretation are:

- Interpreters are storytellers; people like stories and people learn from stories.
- Interpreters function in a leisure setting, and visitors wish to maintain that leisure mode.
- Interpretation is still rooted in the philosophy that Tilden presented in 1957.
- Interpretation should be mostly educational, with substantive science, philosophy, and management messages. These must be translated, not "watered down" for the visitor.
- Interpretive programs, literature, and other media should be thematic in nature having a central topic (e.g., wildland fire) and a recurring message throughout the program (e.g., fighting fire with fire). It is this recurring message that drives home the interpreter's objective and helps the audience stay focused on the bigger story being told.
- Interpreters are hosts, guides, leaders, spokespersons, and covert educators. They are accepting of visitors' experiences and knowledge or the lack thereof; they are not expecting anything more than a good audience.

Guide activities and other personal services are effective in responding to immediate questions when flames and smoke are in the background or visitors are experiencing a burned patchwork landscape.

During the fires in Yellowstone in 1988, the National Park Service made extensive use of roadside interpreters during the fire event. While visitors heard the mass media present how the ecosystem was being destroyed, interpreters (often staffing roadblocks) explained to visitors in a less sensational manner the depth and truth of the message. So great was the misinformation that Yellowstone National Park formed a Fire Interpretation Resource Education (FIRE) outreach team that traveled to local communities in the region to explain the impact of the fire.

Guided tours into fire impacted sites are conducted by nongovernmental organizations, such as The Nature Conservancy, and by federal, state, and private resource management organizations. Such personal services are extremely important in educating the public that fire in wildlands is often viewed only as a destructive force. With such misconceptions, many people focus only on the

destruction. It is here that the interpreter, on-site or carrying the message off-site, conveys the message of the natural role of fire in managing ecosystems and the story of ecological rebirth.

So great is the fear of fire, and so great is the attraction to fire, that substantial resources are warranted to support personal services related to wildland fire management. Likewise, the potential for public relations problems is so great that interpreters, public affairs/information education officers, and senior leadership personnel should be available to personally interpret fire events.

Keep in mind that often the personal on-site interpretation can be a briefing for media which is then transmitted to users of mass media. Thus, it becomes necessary for us as interpreters to brief news sources in such a way that they relate to the messages and are provoked to reveal the substance of the story. Thus, personal contact with media sources is critical. Supplement this contact with a comprehensive media package containing background information (fire ecology, agency policy, fire management plans, etc.), fire history/fire regime of the region, stock photos and file footage if available, and a list of contacts with names, addresses, telephone numbers, and e-mail addresses. Think of all the errors you have seen in news reporting relating to wildland fire (long-term effects, "good fire" vs. "bad fire") and equip your media contacts with the data they need to potentially prevent those mistakes. Most important, though, is interpreting fire events in such a manner that reporters will not need to fill in the gaps of information with sensationalism and their conventional wisdom to make a good story. Wildland fire is a good story on its own, without embellishment.

Resources relating to the process can be found in Chapter 10. It is by no means an exhaustive list. Numerous federal and state agencies have videotapes, printed and similar materials available for their employees. Likewise, a number of professional associations, such as the National Association for Interpretation and the North American Association for Environmental Education, provide for interpretive conferences and training opportunities.

8. Fire Prevention

8. Fire Prevention
- A. Introduction
- B. Fire Prevention Messages
- C. Wildfire Prevention Education
  - i. Internal Communication
  - ii. The Public Information Officer and Wildfire Prevention
  - iii. Public Awareness and Education
    1. Community Awareness
    2. Mass Media – Television
    3. Mass Media – Print/Radio
    4. Signing
    5. Fire Prevention High Visibility Public Contact
    6. Agency Printed Material
    7. Public Education – General
  - iv. Wildland Fire Prevention Education Teams
    1. Purpose
    2. Organization and Ordering
  - v. Smokey Bear
    1. CFFP
    2. Program Components

Fire Prevention
This chapter includes specific concepts for communicating prevention messages. This chapter also includes information about the national Fire Prevention Education Teams. Overall communication planning processes, tactics, and materials development are included in other chapters.

Much of this section has been consolidated from the Fire Prevention Guides, some of which are being discontinued and replaced with this *Communicator's Guide.*

Consult the APPENDIX for this chapter for a number of related resources.

Introduction

In recent years, the focus of fire prevention has changed. While the end goal of preventing catastrophic loss of life, property, and natural resources has remained the same, the strategies and tactics involved have been modified. Increasing fuel loads have made today's wildland fires harder to control, expensive to suppress, and a threat to the lives of firefighters and civilians. Potential negative wildland fire consequences now involve more than blackened acres and property loss. When today's wildland fires spread they often burn with intense heat and erratic fire behavior, severely impacting and even altering ecosystems and communities and challenging their ability to recover – and sometimes claiming human lives.

It is important to embrace the fact that, while past suppression tactics have been effective, fire prevention tactics and strategies have changed. No longer can we afford to invest all our resources in fire suppression forces, equipment, and strategies. "Reactive" fire suppression programs must evolve into "proactive" fire management programs that effectively apply fire prevention and hazardous fuels reduction techniques to not only reduce unwanted fire ignitions, but also minimize damages and personnel exposure from wildfires.

As communicators prepare to embark on a fire prevention program, it's critical to keep this in mind: wildland fire is an essential, natural process. **The goal of a fire prevention program is to prevent *unwanted human caused fires*.** While this requires raising awareness of the risks associated with wildland fire, the message must be balanced with the natural role of fire to support the overall mission of land management agencies – which sometimes includes using fire as a tool. If we go too far in "scaring" the public, they will not be inclined to support other fire management initiatives. A holistic approach to wildland fire communication is key.

New techniques and strategies for fire prevention education can be used in specific situations to more effectively reduce the damages and risks from unwanted wildfires.Producing an effective wildfire prevention plan may mean doing old things differently, doing new things, aiming at different targets or getting "out of the rut" and working outside the comfort zone for a while. It will be important to develop efficient prevention programs and deciding when they should be carried out. This may mean doing more adult education. It may mean doing more high visibility patrolling with fire suppression personnel. It may mean giving prevention training to non-fire personnel. It will mean better results for most prevention programs.

The information in this chapter will help to design and implement an effective, proactive program to reduce unwanted human caused fires and mitigate suppression costs and losses from unwanted wildland fires. There also are a number of resources in the Appendix for this chapter.

The Three E's of the Fire Prevention Triangle

The overall strategy of every wildfire prevention plan should focus on the "three E's" of the fire prevention triangle: Engineering, Education and Enforcement. Each of these three activities is an important piece when reaching out to the public and ensuring that there is a strong understanding of the message that is being conveyed. Within each of the three categories there are several guiding principles to follow. While the general message is that all prevention programs need to use a variety of methods to capture the public interest and therefore understanding, it is important to understand how each of the three activities are crucial to wildfire prevention.

This *Communication Guide* will focus primarily on the **Education** side of the fire prevention triangle. For detailed information on the engineering and enforcement sides, consult the NWCG Prevention courses. A catalog of courses is available at www.nwcg.gov/pms/pubs/pubs.htm.

Fire Prevention Messages

Creating and maintaining key messages is important when developing a wildfire prevention plan. It will ensure that all members of the fire community are on the same page, and will provide a consistent message for the public to follow.

Consider taking NWCG fire prevention courses, which explore prevention techniques. View the catalog online. www.nwcg.gov/pms/pubs/pubs

Following is a list of considerations as you prepare key messages for your fire prevention education needs. More information regarding the development of key messages is included in *Chapter 4: Communications Planning and Tactics* of this guide.

- **Closures and Restrictions**
  - Strive for consistency among agencies and simplicity of message.
  - Strive for positive messaging. If appropriate, include information about lands that are open. In the case of prescribed burns, reference the positive benefits of the burn.
  - Promote meetings between adjoining agencies, civic government, and landowners.
  - Review delegation of authority where applicable.
  - Review any existing agreements, plans, or policies that already exist that give direction to restrictions and closure.
  - Review available resources to ensure they are adequate to meet your needs; this includes state and local government, plus any private or volunteer groups.
  - Identify local jurisdictional laws, regulations, codes, and ordinances.
  - Determine the collateral losses associated with closures and restricted use, such as damage to tourism based economy, loss of recreation values, etc.

- **Campfires**
  - Closures and restrictions.
  - Clear 10 feet around the campfire.
  - Dead out (cool to the touch).

- **Smoking**
  - Restrictions, such as only allowed in buildings or vehicles.
  - Use lighters instead of matches.
  - No smoking while traveling through wooded areas.

- **Fireworks**
  - Laws and regulations on types of fireworks that may be allowed.
  - Law and regulations that prohibit use of fireworks.
  - Closures and restrictions.

- **Trash/Ditch Burning/Debris Burning**
  - Closures and restrictions.
  - Extreme fire danger messages.
  - Alternatives to burning.

- **Vehicles**
  - Examples of possible origins, such as not allowing contact between the exhaust system and dry grass.
  - Information on how to prevent vehicle fires.

- **Arson**
  - Report suspicious activity to local law enforcement authorities. Engage neighbors with Community Watches.
  - Arson fires are a waste of people's tax dollars, such as added suppression costs and law enforcement authorities focused on fire instead of other crimes.
  - Avoid loss of property and lives due to intentional fires.
- **Weather**
  - Be aware of how the weather relates to fire danger; include in evening weather forecast.
  - Conduct tours/show-me trips for meteorologists, especially if you have a prescribed or wildland fire. This really helps them get familiar with the relationship of fire and weather.
  - Have meteorologists tie in with safety messages around holidays (fireworks, jack-o-lanterns, bon fires, burning of the greens, advent wreaths, candles, and greenery, etc.)
- **Wildland/Urban Interface – See Chapter 9: Fire Mitigation for more information and messages on this topic.**

Wildfire Prevention Education

Wildfires have the potential to cause extensive loss of life, property, and resources. As fire conditions approach or worsen, fire prevention, and education is often overlooked, fire prevention education teams can be mobilized in advance of fire starts, when fire danger conditions worsen.

The purpose of this section is to provide wildland fire managers with a variety of possible strategies or treatments in designing an effective wildland fire prevention program.

This section lists fire prevention activities that have proven to be successful in reducing ignitions and losses from wildland fires, when applied effectively and in the appropriate situations. Keep in mind that this list is not all inclusive and that prevention activities not on this list may also prove to be effective.

National Fire Prevention Education Teams are available to support any geographic area preceding and during periods of high fire danger or fire activity. The requesting unit may use severity dollars in support of a Fire Prevention Education Team. A brief introduction is included in this chapter. Additional information can be found online through the NWCG Wildland Fire Education Working Team page.

Internal Communications

Internal newsletters, information board posting, staff meetings, dispatch morning reports, on-site training programs, and tailgate sessions all provide excellent opportunities to communicate fire prevention messages. Fire prevention information can also be presented at on-site workshops, seminars, and other educational programs.

The Public Information Officer and Wildfire Prevention

The primary responsibility of a Public Information Officer assigned to a wildfire is to keep the public and other incident personnel updated about suppression efforts. However, having the attention of the public and the news media focused on a wildfire presents a unique opportunity to deliver fire prevention messages as well. Public Information Officers are encouraged to deliver fire prevention messages when they are talking to the public and the news media about wildfire suppression. Sometimes, in the heat of the moment, it is easy to lose sight of this opportunity. Always contact the Incident Public Information Officer(s) assigned to a wildfire in your area and work with them to deliver unified messages to your shared audiences.

For example:

- The 5,000-acre Elkin Fire, burned out of control 10 miles east of Reno, was started by a carelessly discarded cigarette. People who use or visit forest lands this time of year should smoke only in cleared areas or in vehicles and dispose of cigarette butts properly.
- The Sandpiper Fire has slowed significantly along its western flank near Bear Haven. In part because much of the old, dense chaparral in that area was eliminated last spring during a BLM prescribed burn.
- The Warm Lake Fire is currently threatening hundreds of cabins in the area. To help protect their structures from wildfire, homeowners should store firewood away from their houses and clear the brush away or from around their structures.

Smokey Bear is among the most successful public awareness and education campaigns. Smokey gives a recognizable face to the prevention cause, and is a priceless tool for wildland fire agencies. His image must be used properly to protect its integrity. Check with your fire prevention coordinator for the proper use of Smokey Bear.

Public Awareness and Education

Education of the public on the natural role of fire and the prevention of unwanted wildland fires is becoming increasingly important as communities encroach on wildland areas. Nationally, arson and debris burning are the leading causes of wildfires in the wildland/urban interface. Education and enforcement is key to prevention of these types of fires. It is also key to a better public understanding of the benefits of prescribed and natural fire. Printed materials, including general information handouts, site bulletins, and brochures, should include a fire prevention message. The use of the Smokey Bear icon should be encouraged in order to emphasize the prevention message. Smokey draws immediate attention and enhances any fire prevention message. Media campaigns can be initiated which include show-me tours, photo opportunities, and demonstrations, and solicit support for public assistance in fire prevention programs. Appropriately located signs and posters with carefully worded prevention messages are effective.

Wildfire prevention education includes those activities that are aimed at changing people's behavior by increasing their awareness and understanding of the issues. Following are sample tactics for consideration when developing a prevention education plan.

- **Community Awareness**

  - Provide fire safety videos, CDs, and DVDs to other agencies and organizations.
  - Provide homeowner fire safety material.
  - Conduct fire safety programs with homeowner's associations.
  - Conduct or participate in local town meetings.
  - Conduct fire prevention education programs with local service clubs.
  - Provide information with local county planning commissions.
  - Provide public education training for local fire departments.
  - Coordinate community activities, such as "Fire Awareness Time" annual campaign (spring clean-up, weed abatement program).
  - Develop guidelines for field use for working with local organizations, governments, and communities.
  - Help to implement programs such as Neighborhood Watch, Junior Forest Ranger, and Firewise programs.
  - Public Meetings – Participate with city councils and county commissioners to proclaim "Fire Prevention Week."
  - Develop a system to incorporate roadside signing in selected areas, such as those with a high occurrence of human caused fires.
  - Develop a fire prevention page on the Internet.

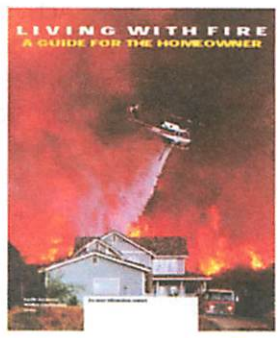
- **Mass Media - Television**
  - Prepare seasonal public service announcements and interviews for local use.
  - Coordinate efforts with fire prevention cooperators to develop television public service announcements.
  - Monitor and facilitate the national Advertising Council activities with local stations.
  - During local fire incidents, stress the importance of increased fire prevention efforts.
  - Participate in morning or afternoon local television talk shows.
  - Continue presenting rotating fire prevention messages on cable television.
  - Work with meteorologists to provide fire danger and prevention messages in their forecast

- **Mass Media - Print/Radio**
  - Provide local radio public service announcements to appropriate stations.
  - Provide local written media with timely news releases.
  - Develop a schedule of local fire prevention activities and prepare news releases to be used on a scheduled basis.
  - Provide local print media with timely news releases.
  - Assist local print media to obtain Advertising Council materials.

- **Signing**
  - Develop and implement a fire prevention sign plan, and be sure to update annually. The plan should describe:
    - Sign locations (highway, roadside, etc.).
    - Sign standards (size, configuration).
    - Types of messages (seasonally).
    - Maintenance responsibility.
    - Procurement procedures.
  - Install fire prevention signing at points of significant interest.
  - Implement a highway rest stop fire prevention signing program.
  - Implement a highway rest area or visitor information center fire prevention display program.
  - Repair and maintain existing signs.
  - Design and produce cause specific signing.

- **Fire Prevention High Visibility Public Contact**
  - Establish engine patrol routes and implement on a needed basis, i.e., holidays, high use periods and weekends.
  - Develop a hunter assistance patrol program which includes fire prevention messages.
  - Implement high visibility fire prevention efforts in the following areas:
    - Fire prevention patrol.
    - Visitor center fire prevention.
    - Organizational militia approach to fire prevention.
    - Establish "trap lines" including contacts with key community leaders and forest users at key locations

- **Agency Printed Material**
    - Evaluate all printed material (brochures, flyers, etc.) to determine if adequate fire prevention considerations are being displayed.



  - Incorporate fire prevention messages into existing agency publications. Coordinate with the appropriate program staff to find out what brochures and maps are being developed or revised for future publication.
    - Recreation maps and brochures could include a reminder to make sure campfires are dead out before leaving.
    - Fish and wildlife brochures could include a message about the damage that human-caused wildfires do to habitat.
    - Forestry brochures could include information about how long it takes for forests to recover from human-caused wildfires.
  - Develop a newspaper insert about fire awareness, or leverage an existing newspaper insert. For example, Living With Fire is used in many states.
  - Review existing publications (evaluate, update, and re-publish) as needed.
  - Plan, and evaluate future publication needs and develop a timeline for completion.

- Follow publication standards and guidelines, and control procedures for future publications or revised publications.
  - Pre-school (3-5 years): Develop the fire prevention message in coloring and story books.
  - K-6 (5-12 years): Implement new and innovative printed material such as comic books, posters, stickers, etc. Consider using the same themes as electronic media.
  - 7-12 (12-17 years): Same as K-6 but expand into teen-type magazines, stickers, posters, etc.
  - Adult (18+ years): Focus on newspapers, magazines, posters, etc. Consider same themes as electronic media. In areas with various cultural backgrounds, consider the addition of bilingual materials.

Education Standards
Be sure all school related programs meet established standards for learning. See the Youth and Education section of Chapter 4 for resources.

- Use fire prevention messages and materials, such as:
  - Defensible space .
  - Demonstration areas using property of a key community leader.
  - Home fire protection guide.
  - Fire awareness guide for homeowners.
  - Fire risk rating for homeowners in the WUI.
  - "Living with Fire" newspaper insert.

- **Public Education – General**
  - Develop an organized effort, and provide "co-op" coordination for fire education activities associated with fire prevention characters.
  - Conduct prevention activities with local schools.
  - Conduct outdoor fire safety programs, such as campfire safety.
  - Facilitate the use of school fire safety curriculums in local schools.
  - Develop wildfire information programs for high school and junior high school students, such as school trading cards.
  - Continue the use of Smokey Bear as a prevention tool.
  - Participate in interagency education programs, such as parades, fairs, and displays to maintain high visibility of the fire prevention effort.
  - Actively participate in local Fire Prevention Week promotions.
  - Conduct hunter safety sessions and stress fire prevention.
  - Utilize local area celebrities to promote wildfire prevention efforts.
  - Consider other fire prevention activities, such as:
    - A mall display during Fire Prevention Week.
    - Train campground hosts in fire prevention.
    - Provide group tours of a fire facility.
    - Increase public contact by recreation technicians.
    - Provide fire prevention information at public rooms.
    - Conventions of conservation groups.
    - Children's festival.
    - Hunter safety booth.
  - Conduct outdoor Fire Safety programs, such as:
    - Campground talks.
    - Hunter stations.
    - Visitor centers.
    - Check stations.
    - Reception areas.
  - Partner with Resource Conservation and Development councils.

Wildland Fire Prevention Education Teams

Fire Prevention Education Teams are available to support any geographic area preceding and during periods of high fire danger or fire activity. A federal unit may use severity dollars in support of a national Fire Prevention Education Team. States and other agencies will have appropriate funding systems. Federal and state agencies should be encouraged to form local interagency fire prevention education teams. This can be an effective way to coordinate with neighboring agencies and other partners.

Purpose

The purpose of prevention education teams is to assist a local unit in the prevention of human-caused wildfire. This involves working together to:

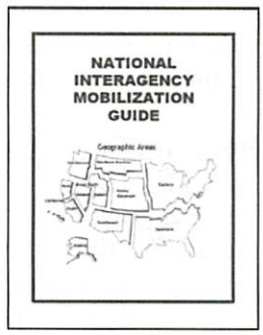
- Complete fire risk assessments.
- Determine the severity of the situation.
- Facilitate community awareness and education in fire prevention, which may include prescribed burning if requested by host agency.
- Coordinate announcement of interagency restrictions and closures.
- Coordinate fire prevention efforts with the public, special target groups, state and local agencies, and elected officials.
- Promote public and personal responsibility regarding fire prevention in the wildland/urban interface.
- Develop fire prevention plans.
- Develop a communications plan.

Consider mobilization of a team when an unusual event or circumstance warrants or is predicted. Examples are:

- Severe burning conditions.
- Unusually high fire occurrence.
- Majority of firefighting resources committed.
- Preparedness levels above normal.
- A large number of people will be coming into a local community for a special event.

Fire prevention education teams can help reduce loss of life, property, and resources. They also can reduce suppression costs and improve interagency relations.

Organization and Ordering of Fire Prevention Education Teams



A team usually consists of a team leader, a public affairs or information officer, and a prevention specialist. Other team members such as a graphics specialist or a computer specialist may be added as needed. Interagency personnel can be mobilized through normal dispatch channels to assist in fire prevention education at any level of an organization. The individuals ordered for prevention education teams must have the skills required to fill the position for which they have been ordered. A team leader trainee is strongly encouraged to further expand the pool of qualified team leaders. Refer to the National Mobilization Guide, Chapter 20, 22.5.10, Cooperative Fire Prevention Education Teams, for ordering information. www.nifc.gov/news/2001nmg.pdf

Smokey Bear

When developing a fire prevention education plan, one of the best sources to reference and utilize for messaging is Smokey Bear. The guardian of our forest has been a part of the American scene for more than 60 years. Dressed in a ranger's hat, belted blue jeans and carrying a shovel, he has been the recognized wildfire prevention symbol since 1944. Today, Smokey Bear is one of the most highly recognized advertising symbols of all time and is protected by Federal law. He even has his own private zip code: 20052.

The revitalized Junior Forest Ranger Activity Book (for ages 7-12) features an activity that discusses Smokey Bear as well as an activity about "good" fire and "bad" fire. This resource can be found at www.symbols.gov/jfr.

Smokey's core message to the public continues to be that we all should help prevent accidental or unwanted wildfires. Today the fire message is more complex than ever. We must continue to effectively utilize fire prevention education – and Smokey's message is as relevant as ever. On the other hand, Smokey's message must be understood in context with other, more comprehensive messages that focus on the ecologically and socially acceptable role of fire in the ecosystem. Note that Smokey's message should not be *altered*, but rather it should be *explained in the broader context* when appropriate.

More information can be found online at www.smokeybear.com.

The Cooperative Forest Fire Program (CFFP)

CFFP is a joint effort of the Advertising Council, the National Association of State Foresters and the USDA Forest Service. The objective of the CFFP is to create and maintain a public awareness about wildfire prevention. The CFFP manages Smokey Bear and related programs.

The official Forest Service program policy and guidelines can be found in FSM Chapter 3110, Cooperative Forest Fire Prevention (CFFP) www.fs.fed.us/im/directives/fsm/3100/3110.txt, and FSH 5109.18, Chapter 20, Cooperative Forest Fire Prevention Program (CFFP). www.fs.fed.us/im/directives/fsh/5109.18/5109.18_20.txt

The CFFP provides a framework, which can be expanded upon by regional, state, and local efforts. State and local programs will identify specific problem areas and planned solutions. Using Smokey Bear as the vehicle for wildfire prevention messages, using a variety of techniques, can stimulate active support and cooperation with other public agencies, educators, businesses, industry, and people interested in working to prevent unwanted human-caused wildfires.

Program Components

There are five major components to the CFFP Program:

1. **Public Service Advertising** using the media, through educational and community involvement activities, corporate sponsorships, special prevention promotions and with collateral materials.
2. **Campaign and Educational Activities** including classroom programs, national cache materials, and the Junior Forest Ranger program.
3. **Commercial Licensing** of Smokey Bear's likeness for use in materials for sale.
4. **Image and Appearance** including standards and quality control for trademark protection, presentation, artwork and costume use .
5. **Awards and Recognition** such as the bronze, silver, and gold Smokey Bear awards are given at state, regional, and national levels for excellence in Fire Prevention.

9. Fire Mitigation

- A. Wildland/Urban Interface Overview
  - i. WUI Fire Concerns
  - ii. Who's Responsible for Addressing the Problem?
- B. WUI Messages
  - i. Community Considerations
- C. National Firewise Communities Program
  - i. Firewise Defined
  - ii. Resources for State Forestry Agencies
  - iii. Firewise Communities/USA
  - iv. Firewise Community Projects
- D. Community Wildfire Protection Plans
  - i. Communities and the Wildland/Urban Interface
  - ii. Role of Community Wildfire Protection Plans
  - iii. Benefits to Communities
- E. Fire Safe Councils, Firewise Councils and Boards
  - i. State Level Fire Safe Council
- F. Conducting a Local/Regional Firewise Workshop
  - i. Organizing a Firewise Workshop
  - ii. Firewise Communities Workshop Logistics
- G. Home Ignition Zone –Resident Communication
  - i. How Homes Ignite
  - ii. Landscape
  - iii. The Home Ignition Zone
  - iv. Construction

Living in the WUI
Mitigation is essential to reducing the loss of homes and resources in the wildland/urban interface. This chapter presents sample strategies for fostering community collaboration to reduce wildfire vulnerability. Overall communication planning processes, tactics, and materials development are included in other chapters.

Consult the APPENDIX for this chapter for a number of related resources.

Wildland/Urban Interface Overview

Over the past century, America's population has nearly tripled, with much of the growth flowing into traditionally natural areas. This trend has created an extremely complex landscape that has come to be known as the wildland/urban interface (WUI): a situation under which a wildfire reaches beyond trees, brush, and other natural fuels to ignite homes and their immediate surroundings.

WUI Defined
The wildland/urban interface refers to a set of conditions under which a wildland fire reaches beyond natural fuels (such as trees and brush) to homes and their immediate surroundings. A substantial human presence coexists uneasily with areas of fire-prone forest, brush, and grassland vegetation.

Consequently, in many areas of the country, the WUI can provide conditions favorable for the spread of wildfires and ongoing threats to homes and people. Many individuals move into these picturesque landscapes with urban expectations. They may not recognize wildfire hazards or might assume that the fire department will be able to save their home if a wildfire threatens.

However, when a wildfire spreads, it can simultaneously expose dozens — sometimes hundreds — of homes to potential ignition. In situations such as this, firefighters often do not have the resources to defend every home. Homeowners who take proactive steps to reduce their homes' vulnerability have a far greater chance of having their homes withstand a wildfire.

A critical element of any WUI outreach project is to help the public understand wildland fire and the challenges it presents in the WUI. While individuals who live in the WUI may realize that wildland fire is part of their ecosystem, it is not universally understood that residents and communities must take proactive steps on their own to reduce their vulnerability. In addition, many who are aware of mitigation efforts lack the motivation to take action and often do not see the value of making such changes.

Motivating individual residents and communities to mitigate their risk is a significant task. There are a number of resources available, including the national Firewise Communities program, Community Wildfire Protection Plans (CWPP), and regional and local programs such as Fire Safe Councils or Firewise Councils.

The interface is made up of three types of configurations.

- The **"classic" interface** is a result of urban sprawl. Homes and structures are placed in direct contact with wildland, and the inhabitants often have come directly from urban areas.
- The **"intermix" interface** occurs when single or clustered homes and other structures are scattered throughout a wildland area, e.g., summer homes, suburban homes on large tracts of land, and isolated recreation areas, such as cabins, mobile homes, and camping facilities. Many individual structures are often surrounded by woodland vegetation, and are served only by narrow roads, making it very difficult to reach these areas if fires occur.
- The **"occluded" interface** consists of islands of wildland within an urban area, such as a city park, or land considered unsuitable (e.g., too steep) for a structure. The threat of fire in these areas is low, but when fires break out here, there can be a substantial risk to surrounding structures and to those who use the natural areas.

WUI Fire Concerns

There are a number of concerns we face in the WUI. WUI fires tend to be more damaging than urban structural fires, are often more difficult to control, and behave differently than structural fires. Other concerns include:

- Interface areas are likely to be increasingly flammable because of intensive suppression of fires in the past.
- Fires ignite indirectly in structures, and directly from accidental causes related to recreational and commercial use of the wildland. When these fires occur, people and structures must take priority, often at a devastating expense to natural resources. People who live in these areas often come directly from urban areas, and may bring with them careless habits and little understanding about wildland fire cycles and dangers.
- Homes and other structures are built and maintained in a manner which leaves them and their occupants vulnerable. Thus, wildland fires become a significant threat to both humans and natural resources.
- Structural firefighters are trained and equipped differently than wildland firefighters. Urban firefighters rely on the water systems provided in urban settings, and count on catching the fire in its early stages. Often, neither of these situations exists in the WUI. Wildland firefighters have no ready water supply except what they transport to the site. They also anticipate larger fires, and are thus trained to fight the fire from its perimeter, clearing fuel to prevent spread.

Who's Responsible for Addressing the Problem?

There is considerable debate about who should take responsibility for this unique problem, and what can be done about it. Some believe that homeowners should take the most responsibility. In other words, some argue the risk-takers should pay for their decision to live in a potentially dangerous interface area, by paying more taxes and by taking precautions around their property. Realtors have the responsibility to disclose the fire hazard possibilities. Designers and developers also need to take more responsibility. However, critics argue that making the necessary economic investments would be impossible for some residents, and others are unwilling to modify their home and surroundings for fear of compromising the rustic look.

Wildland fires are a natural process. Making homes compatible with nature can help save homes and, ultimately, entire communities during a wildfire.

Others assert that the whole community should take responsibility for the hazards. Property owners should be encouraged to make their own land fire resistant and defensible, and community governments should create, promote, and enforce fire-safety laws and adequate zoning codes. Community planners also need to understand and foresee how population growth, use patterns, and changing demographics will influence and contribute to the interface problem. Insurance companies should provide incentives and disincentives that encourage homeowners to take risk-reducing measures. Fire protection agencies should be more aggressive in effectively communicating the problem, consequences, and solutions of interface fires. However, critics fear that the community approach ignores the natural environment and its protection, and only concentrates on people and structures. There is also skepticism about getting all of the involved parties to work together.

Land management agencies have also been called upon to take a more active role in helping to control the problem by reducing fuel around interface areas regularly, so that fires are easier to manage and control. They may also rely on a prescribed fire regimen, but these carry some elements of risk. The concepts of "not in my backyard" and smoke impacts restrict options. In

reality, residents must understand that fire and resulting smoke will occur on the site; the question is will it occur under a controlled, prescribed burn or as a conflagration. However, a regimen that involves both land management agencies and private landowners cooperating to maintain reduced fuel around structures could be much less destructive, more cost-efficient than suppressing fires, and much safer.

Though a comprehensive solution to the wildland/urban interface problem may not be immediately forthcoming, there are several simple and relatively inexpensive precautions the private homeowner can take to reduce the risk.

The National Firewise Communities program offers extensive information and resources for living in the WUI. Visit www.firewise.org for details.

Of particular note regarding responsibility is the publication *Firewise: Community Solutions to a National Problem*, available free at www.firewise.org.

WUI Messages

When talking about wildfire mitigation, it is important to acknowledge that fire is a natural process, and it will occur. However, those who choose to live in the WUI can take action to reduce wildfire vulnerability to their citizens, homes, and essential infrastructure and resources.

The following key messages have been developed by the NWCG Wildland/Urban Interface Working Team. For the most updated information, visit: www.firewise.org.

The Firewise Communities Newsroom (www.firewise.org/newsroom) includes a number of resources for reporters and fire communicators, including current news from the program and a link to the Firewise Communities Communications Guide with sample materials.

- Through community planning and preparedness, wildfires can occur without catastrophic loss.
  - Wildfire is an essential, natural process. Under the right conditions, wildfires can occur in almost any area of the country. But homes don't have to burn.
- Wildfires are going to occur. It is not a matter of *if* – it is a matter of *when*.
  - Wildfires can occur anywhere that conditions such as fire-prone vegetation and patterns of dry and windy weather exist.
  - These conditions can be found nearly anywhere in the U.S. at some point during a typical year.
  - Wildfires may even make it impossible for firefighters to get to your property when fire is approaching.
- There are no guarantees that a home/community will be fire*proof*. But if you take action to be fire*wise*, you can greatly increase the chances that your home/community will withstand a wildfire.
  - The most successful approach incorporates efforts of homeowners, communities, and businesses, along with federal and state agencies, tribes, and fire departments.
  - A comprehensive approach to wildfire preparedness involves sound land use planning, creative mitigation measures, supportive infrastructure, collaborative decision making, and effective emergency response.

Community Considerations

Know the community and be sensitive to its needs.

Be sure to draw the distinction that Firewise does not *prevent* fires – it helps to make homeowners and communities more prepared when a wildfire does occur.

- Reassure them that the state/federal government is not going to come in and remove vegetation on their property.
- Reassure them that "Firewise" does not mean "ugly."
- Encourage the community that they can still have privacy, woods, views, etc.
- Use specific examples.
  - Identify local wildland fire risks and address hazards.
- Use plain language and avoid jargon.
  - If technical terms are necessary, explain them.
    - Mitigate = Reduce risk, hazard, or vulnerability
    - Canopy/crowns = Tops of trees or other tallest vegetation
    - Firebrands = Burning embers

Engage home-related industry professionals, such as architects, landscapers, landscape architects, community planners, home construction and remodeling, home improvement retailers, insurance industry representatives, Red Cross, emergency management services.

- Initiate regular communication:

- Firewise presentations during meetings
- Include relevant Firewise information in their client mailings
- Spokespersons for local media, byline articles for trade publications, letters to local officials, letters to the editor, op-eds, etc.

National Firewise Communities Program

The fire season of 1985 motivated wildfire agencies and organizations to focus on local solutions to wildfire risks in WUI areas by forming what is now the Firewise Communities program, directed by the National Wildfire Coordinating Group's Wildland/Urban Interface Working Team (WUIWT), a consortium of representatives from federal and state wildland fire agencies and organizations.

The Firewise Communities program is designed to reach beyond the fire service to involve homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from wildfire – *before the fire starts*. This approach emphasizes community responsibility for the design and maintenance of a safe community, including sound land use planning, creative mitigation measures, supportive infrastructure, collaborative decision making, and effective emergency response.

The Firewise Communities program serves as a resource for agencies, tribes, organizations, fire departments, and communities across the U.S. who are working toward a common goal: reduce loss of lives, property, and resources to wildfire by building and maintaining communities in a way that is compatible with our natural surroundings.

National Firewise Communities Program
www.firewise.org

The National Firewise Communities Program provides wildland/urban interface resources for firefighter safety, community planning, landscaping, construction, and maintenance to help protect people, property, and natural resources from wildland fire.

Web site visitors can view streaming video; download checklists, school education materials, and other information; browse an extensive list of helpful links; and use a searchable library of national, state, and local documents on a wide range of wildfire safety issues. Communities can also contact Firewise staff for assistance in hazard planning and mitigation.

Firewise Defined

Originally coined in 1992 by a botanist, the term "firewise" describes the state of being knowledgeable and prepared for wildfire in residential or urban settings. While the national program carries the title "Firewise Communities," there are thousands of local and regional efforts that are committed to this concept. The Firewise Communities program is designed to support and complement these efforts – it does not conflict or compete with them.

Resources for State Forestry Agencies

The Firewise Communities program offers a number of resources to state forestry agencies, including support for local workshops, an interactive website (www.firewise.org), educational tools, and support for fire organizations and community groups.

Of particular interest to state forestry agencies is the Firewise Communities/USA program, which recognizes residential developments that take action to mitigate their wildfire risk. Communities that meet the program's criteria are encouraged to apply for national recognition through their state forestry agency. Large organized efforts, such as county-wide Fire Safe Councils, can help foster the creation of Firewise Communities/USA sites within their neighborhoods, subdivisions, and other residential developments.

Firewise Communities/USA

The Firewise Communities/USA program can be an incentive for communities working on a CWPP. Firewise Communities/USA is a nationwide program to recognize communities that maintain an appropriate level of fire readiness. State forestry organizations help administer the program at the state and local level.

Communities can earn Firewise Communities/USA status by meeting the following criteria:

- Have a WUI specialist complete a community assessment, and create a plan that identifies achievable solutions to be implemented by the community.
- Sponsor a local Firewise committee, council or board that maintains the Firewise Communities/USA program and tracks its progress.
- Observe a Firewise Communities/USA Day annually that is dedicated to a local Firewise project.
- Invest a minimum of $2 per capita annually in Firewise projects. Work by municipal employees or volunteers using municipal and other equipment can be included, as can state and federal grants dedicated to that purpose.
- Submit an annual report to Firewise Communities/USA that documents continuing compliance with the program.

This program is of special interest to small communities and neighborhood associations that are willing to mitigate against wildfire by adopting and implementing programs tailored to their needs. The communities create these programs themselves with cooperative assistance from state forestry agencies and local fire officials. Contact your state forestry office or visit the Firewise Communities/USA Web site *(www.firewise.org/usa)* to find out more about how to begin the assessment process.

As of March 2006, more than 150 communities across the U.S. have earned Firewise Communities/USA recognition. For a complete list of recognized communities, visit www.firewise.org/usa.

Firewise Communities/USA: Windcliff, Colorado

Windcliff is a development of 155 properties, situated on 240 acres in Estes Park, Colorado approximately two hours north of Denver. It is bordered on two sides by Rocky Mountain National Park and on a third by the Roosevelt National Forest. The subdivision contains 50 acres of common community "green space" and the proximity of the national park and national forest along with its large population of trees constantly reminds residents of their common responsibility to protect this precious resource.

The community began formulating and carrying out a strong fire mitigation plan in 1997. It has partnered with the Town of Estes Park, Larimer County, the State of Colorado Forestry Service, Rocky Mountain National Park and the YMCA of the Rockies to undertake a proactive stance toward fire mitigation.

In order to encourage and educate property owners of the importance of being Firewise, a demonstration area of approximately five acres was limbed and thinned according to the Colorado State Forester's prescription. Property owners used this area as a benchmark for improving their property. Encouraged by the results, the Windcliff Board of Directors now budget approximately $10,000 annually for fire mitigation work and are committed to the program's continuance.

The community of Windcliff holds two cleanup days a year. Residents are encouraged to volunteer to help trim, thin and limb to reduce fuel within the "green space" area. Response to these days has been excellent and is seen as a way to not only reduce fuels within the community, but also as an opportunity to socialize and meet neighbors.

A dumpster is made available to all residents, during the summer, to dispose of all slash related items.

The Larimer County Wildfire Safety Specialist conducted a wildfire hazard risk assessment of homes and lots. To date he has inspected approximately 75 percent of the homes and lots, and has made suggestions for improving their chances should a wildfire occur. Every property that was inspected acted on the suggestions.

Members of Larimer County and the State of Colorado. These representatives have helped Windcliff secure County and State grants to defray many costs involved with cleanup efforts.

The Windcliff plan includes:

- Continuous monitoring of all properties and working closely with an Architectural Control Committee to maintain a fire safe area around new construction.
- Budget $50,000 for a large fuel reduction project on the mountain.
- A 4th of July picnic that encourages owners to become Firewise.
- Distribute annual mailings with Firewise tips and advice.
- Continue to work with all agencies and encourage neighboring communities to be more proactive toward fire mitigation.

Firewise Community Projects

Firewise community projects can be as varied as the residents' imaginations. Following are just a few examples of what neighborhoods can do to protect their communities from wildfire.

- Host a "Chipping Day" for residents to remove excess vegetation from their property, as well as community property.
- Hold a pine needle or debris removal day in cooperation with the local fire department.
- Hold a Firewise education day that provides information about proper landscaping and construction choices, introduces local staff, and distributes pertinent Firewise information to the community.
- Create a fuel removal project that uses local volunteers.
- Place articles in the local paper about fire season and the need for your community to be prepared for it. Showcase your accomplishments.
- Conduct Firewise landscaping and construction information sessions at a local home improvement store.
- Modify homeowner association covenants to include Firewise concepts.
- Utilize local fire officials to conduct a wildfire hazard overview at a community meeting.
- Distribute Firewise information at community festivals.
- Include homeowner tips in community newsletters.
- Conduct Firewise information sessions at neighborhood association meetings.
- Conduct homeowner Firewise assessments in cooperation with the local fire department.

Most states have a designated Firewise state liaison who has access to additional Firewise resources, such as the ability to order bulk quantities from the online Firewise catalog. Contact your state liaison to see what Firewise materials may be designed specifically for your state and to see what activities might be happening near you. For a state liaison listing, visit www.firewise.org/usa.

Community Wildfire Protection Plans

The idea for community-based forest planning and prioritization is neither novel nor new. However, the incentive for communities to engage in comprehensive wildfire planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003.

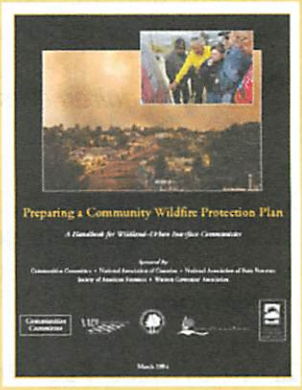
This landmark legislation includes the first meaningful statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as the agencies develop and implement forest management and hazardous fuel reduction projects.

In order for a community to take full advantage of this new opportunity, it must first prepare a Community Wildfire Protection Plan (CWPP). Local CWPP's can take a variety of forms, based on the needs of the people involved in their development. CWPP's may be designed to address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection—or all of these.

The process of developing a CWPP can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the WUI. It also can lead community members through valuable discussions regarding management options and implications for the surrounding forested lands.

The National Association of State Foresters and its members have agreed to take the lead in preparing these plans. For a briefing, visit www.stateforesters.org/reports.html

A guide is available online at http://www.safnet.org/policyandpress/cwpphandbook.pdf



The language of HFRA provides maximum flexibility for communities to determine the substance and detail of their plans and the procedures they will use to develop them. Because the legislation is general in nature, some communities may benefit from assistance on how to prepare such a plan.

This section is intended to provide communities with a concise, step-by-step guide to use in developing a CWPP. It addresses, in a straightforward manner, issues such as who to involve in developing a plan, how to convene other interested parties, what elements to consider in assessing community risks and priorities, and how to develop a mitigation or protection plan to address those risks.

This guide is not a legal document, although the recommendations contained here carefully conform to both the spirit and the letter of the HFRA. It offers one of several possible approaches to planning. It should prove useful in helping communities establish recommendations and priorities that protect their citizens, homes, and essential infrastructure and resources from wildfire.

Communities and the WUI

The WUI has been described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This zone poses risks to life, property, and infrastructure and is one of the most dangerous and complicated situations firefighters face.

Both the National Fire Plan and the *Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment* place a priority on working collaboratively within WUI communities to reduce their risk from wildfire.

The HFRA builds on existing efforts to restore healthy forest conditions near communities and essential community infrastructure by authorizing expedited environmental assessment, administrative appeals, and legal review for hazardous fuels projects on federal land.

The Act emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects, and it places priority on treatment areas identified by communities themselves in their CWPP.

Role of Community Wildfire Protection Plans

The HFRA provides communities with a tremendous opportunity to influence where and how federal agencies implement fuel reduction projects on federal lands and how additional federal funds may be distributed for projects on nonfederal lands. A CWPP is the most effective way to take advantage of this opportunity. CWPP's can take a variety of forms, based on the needs of those involved. They can be as simple or complex as a community desires.

The *minimum requirements* for a CWPP, as described in the HFRA are:

1. **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.

2. **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more communities and its essential infrastructure from wildfires.

3. **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

   The HFRA requires that three entities must mutually agree to the final contents of a CWPP:
   - The applicable local government (i.e., counties or cities)
   - The local fire department(s)
   - The state entity responsible for forest management

In addition, these entities are directed to consult with and involve local representatives of the USFS and BLM and other interested parties or persons in the development of the plan. The process is intended to be open and collaborative, involving local and state officials, federal land managers, and the broad range of interested stakeholders. If a community already has a plan that meets these requirements, the community need not develop an additional plan for the purposes of the HFRA.

Walker Run Community Fire Plan- Reardon, Florida: The Walker Run Community Fire Plan was developed to set clear priorities for the implementation of wildfire mitigation in the Walker Run community. The plan includes prioritized recommendations for the appropriate types and methods of fuel reduction and structure ignitability reduction that will protect this community and its essential infrastructure. It also includes a plan for wildfire suppression. Specifically, the plan includes community-centered actions that: educate citizens on wildfire, its risks, and ways to protect lives and properties, support fire rescue and suppression entities, focus on collaborative decision-making and citizen participation, develop and implement effective mitigation strategies, and develop and implement effective community covenants and codes. http://www.wildfirelab.com/images/cwppwalkerrun.doc

Benefits to Communities

In the context of the HFRA, a CWPP offers a variety of benefits to communities at risk from wildland fire. Among those benefits is the opportunity to establish a localized definition and boundary of their WUI.

In the absence of a CWPP, the HFRA limits the WUI's boundary to within 1/2 mile of a community's boundary or within 1 1/2 miles when mitigating circumstances exist, such as sustained steep slopes or geographic features aiding in creating a fire break. Fuel treatments can occur along evacuation routes regardless of their distance from the community. At least 50 percent of all funds appropriated for projects under the HFRA must be used within the WUI.

In addition to giving communities the flexibility to define their own WUI, the HFRA also gives priority to projects and treatment areas identified in a CWPP, by directing federal agencies to give specific consideration to fuel reduction projects that implement those plans. If a federal agency proposes a fuel treatment project in an area addressed by a CWPP but identifies a different treatment method, the agency must also evaluate the community's recommendation as part of the project's environmental assessment process.

A guide with step-by-step recommendations for preparing a CWPP is available online at http://www.safnet.org/policyandpress/cwpphandbook.pdf. These recommendations are intended to help communities develop a CWPP that addresses the core elements of community protection. Items required under the HFRA are addressed, as are some additional issues that often are incorporated into wildfire protection planning. Actions beyond those listed in the legislation are not required for the purposes of the HFRA.

Fire Safe Councils, Firewise Councils and Boards

An example of regional cooperative approach to fire safety is the Fire Safe Council program in California. Much like Firewise Communities which have Firewise Boards or Firewise Councils, a Fire Safe Council is a coalition of public and private sector organizations working to help local communities mobilize residents to reduce the wildfire vulnerability of their homes and neighborhoods.

Fire Safe Councils, Firewise Councils or Boards may be formed with the specific task of addressing the fire safety issue in their area, but must be committed to carrying out the tasks they identify. Another option is to leverage established groups such as homeowners associations, chambers of commerce, or rotary clubs to serve the Fire Safe Council, Firewise Council or Board role.

State Level Fire Safe Council

The California Fire Safe Council's mission is to preserve and enhance California's resources by providing leadership and support that mobilizes all Californians to protect their homes, communities and environment from wildfires.

Since its formation in April 1993, the Council has united diverse membership to speak with one voice about fire safety. The Council has distributed fire prevention education materials to industry leaders and their constituents, evaluated legislation pertaining to fire safety and empowered grassroots organizations to spearhead fire safety programs.

At the statewide level, the Fire Safe Council is made up of numerous members who have a vested interest in decreasing losses from fire, and preserving natural and man-made resources. Possible activities include the following.

- The statewide chapter can help form local fire safe councils.
- The statewide Fire Safe Council can provide contacts in the community who will participate in organizing efforts.
- If an existing organization is used to address the fire problem, the Fire Safe Council can help by providing information about possible funding sources for fire safe projects.
- The Fire Safe Council can identify programs presently underway.

Conducting a Local/Regional Firewise Workshop

The national Firewise Communities program supports regional and local organizations interested in hosting a one-day Firewise Communities workshop using materials supplied by the national program. These dynamic workshops prepare participants to recognize WUI fire hazards, make homes and landscapes more resistant to wildfire, deliver fire education to residents, and incorporate Firewise planning into existing and developing areas of communities.

Local Firewise Communities workshops can feature interactive discussions, mapping, and simulations. The workshops are most successful when they are attended by a variety of community representatives, such as elected leaders, planners, business leaders, homeowner association members, and emergency service professionals.

Visit www.firewise.org to order the 4-CD set that contains the Firewise Communities workshop materials and the GIS-based community scenario.

Criteria for conducting a local Firewise workshop:
Workshops meeting the following criteria are eligible to have participants receive certificates from the national Firewise Communities program office.

Local workshop coordinator must have attended a national workshop or have been trained as a coordinator or facilitator at a state-run Firewise workshop.

- Local workshop coordinator must use the 4-CD set that contains the Firewise Communities workshop materials and the GIS-based community scenario.
- The workshop must include the following sessions:
  - Presentation of Firewise concepts.
  - Introduction of simulation exercise.
  - Completion of several specified tasks.
  - A closing and summary Q&A session.
  - Total workshop minimum time, 300 min.

The ideal size for a breakout session is 12 to 16 participants.

Alternately, a "Living on the Edge" community leaders workshop provided by your state forestry agency qualifies as an equivalent workshop program. The workshop content and materials used for these workshops is distributed by the Firewise Communities program. Visit http://www.itm-info.com/lote/ to learn more about the Living on the Edge workshops, including whether your state is offering workshops and how to register.

Organizing a Firewise Workshop

Workshop Steering Committee

The Firewise Communities program's strength lies in its approach. The program encourages residents to work together as a community, along with local fire officials, builders, community planners, and developers, and others. Establishing a Workshop Steering Committee composed of representatives from the target participant list is a good way to begin outreach to these professions or segments of the community. Outreach to organizations and companies that have an interest in the wildland/urban interface is critical.

Inviting Participants

Develop an invitation list that includes a variety of professions, such as homeowner associations, builders associations, city planners, landscape architects, engineers, architects, developers, fire suppression and mitigation professionals, lawyers, Red Cross, local city officials, utility companies, etc. Consider reaching out to professional organizations and encourage participation by their members. *Remember, invite more than capacity. Some will not be able to attend.* See the sample invitation letter below.

Invite homeowner associations and professional organizations to announce the workshop in their newsletters and/or make an announcement at an upcoming meeting.

Registration mailings and calls should start as soon as the workshop coordinator is identified and the date is confirmed. Invitation packets should be mailed at least four to six weeks prior to the workshop. Don't rely on mail alone. Follow up with personal phone calls to encourage participation.

Invitation packets should include:

- Cover letter that summarizes the workshop and invites the recipient to attend.
- Registration form with space for participant's name, organization, address, e-mail, and phone number. Also include specific directions for returning the registration form, including your phone number, address, e-mail, and fax number.
- Length of workshop and, if possible, an agenda.
- Dress code and list of items a participant should bring.
- Map to the workshop location.

Location and Logistics

The location for the workshop should have a general session room and breakout rooms for a working group (a good rule of thumb for the size of a working group is between 12 and 16 people). The available space at your workshop location, as well as the number of facilitators you have available for the breakout sessions, will dictate the maximum number of people who can participate. Providing lunch is a good way to facilitate networking among the groups. Workshop coordinators should review the logistics checklist (below) for more considerations about workshop location and organization.

Publicity

Workshop coordinators are encouraged to work with local media to share the Firewise message. Consider making someone available to speak with the media, should they request it.

Do not rely on news media alone to announce your workshop. Placing direct phone calls to area professional organizations and other invitees is the most effective approach in recruiting participants.

Speakers and Facilitators

Plan on scheduling one local speaker who can address the local wildfire situation, plan to have two facilitators for each breakout session.

A workshop participant database is available on the Firewise Communities Web site (www.firewise.org/communities). The database contains potential instructors or speakers who have participated in national workshops. In addition, you may contact the Firewise Communities program staff for ideas for speakers.

Materials
Workshop materials are available free of charge from the Firewise Communities program office (there is a small shipping fee, however). Please allow at least one month for delivery of materials. Materials include: participant workbooks, CDs, copies of informational brochures. In addition, you may order videotapes and DVDs on the Firewise Web site (www.firewise.org/catalog). Give-away items such as lapel pins and magnets are also available at cost and can be ordered on this site under Firewise Outfitters.

Exhibits
The Firewise Communities program has provided a number of Firewise exhibit displays to workshop coordinators around the country. They measure approximately 8 feet wide by 4 feet tall and are to be used as a tabletop display. These are available on request to be loaned for local workshops or other outreach activities. Check with Firewise program staff for a list of the locations and contacts for the Firewise exhibit displays.

Certificates
If the workshop is conducted according to specific guidelines outlined by the national Firewise Communities program, the workshop coordinator can submit a list of participants to the national Firewise Communities program office and certificates documenting continuing education units will be awarded to participants. More information is available at www.firewise.org/fw_youcanuse/workshop.htm.

Firewise Communities Workshop Logistics

Workshop Checklist

Workshop site:

- ❑ Large room for general sessions
- ❑ Small rooms for breakout sessions

Registration:

- ❑ Name tags and holders
- ❑ Registration table
- ❑ Registration packets, including:
  - Writing tablets and pencils for participants
  - Firewise Communities Workshop Participant Workbook
  - Firewise lapel pins (can be ordered at cost at www.firewise.org)
  - Firewise Around Your Home brochure
  - Firewise CD set #1 and #2
  - List of workshop participants, including facilitators and speakers
  - Evaluation sheet

General session:

- ❑ Adequate number of chairs
- ❑ TV/VCR/videos/remote
- ❑ Overhead projector
- ❑ Laptop computer
- ❑ Power strip and extension cord
- ❑ Flip chart/magic markers

Breakout sessions: (you will need as many of the items below as the total number of sessions/rooms ____)

- ❑ Tables and chairs for 12-16 in each room
- ❑ Projector and screen
- ❑ Flip chart/magic markers
- ❑ Laptop
- ❑ Power strip and extension cord
- ❑ Trash can
- ❑ Available restroom directions

Lunch:

- ❑ Provided by_____
- ❑ Paper products and drinks
- ❑ Delivery of lunch to workshop location

General Needs:

- ❑ Tables for refreshments, such as coffee and tea
- ❑ Road signs to direct participants to workshop and/or parking
- ❑ Room signs to direct participants to breakout sessions

Home Ignition Zone – Resident Communication

When communicating with residents about the home ignition zone, it is helpful to give a brief overview of how homes ignited as a result of a wildfire – without going into too much technical detail that will lose their interest. Following is sample text for including in communication materials for residents regarding the home ignition zone.

How Homes Ignite

Wildfires are much less likely to ignite a home if the home has been prepared with simple landscaping, construction, and maintenance methods such as those recommended by the national Firewise Communities program.

The information outlines steps you, your family, and your community can take to prepare for potential wildfires. The first step is to look at the climate, vegetation, and terrain of your community to determine the hazards facing your property. The following categories are general descriptions of hazards that will help guide you when deciding how to best protect your home. Not all characteristics must be present. The category that most closely resembles the characteristics of your area determines your hazard level. For information about hazard assessment of your area, contact your local fire department or state forestry office.

Landscape: Lean, Clean, and Green Landscape

Landscaping is among the first elements of a home that others notice. The balance of colorful plants, trees, shrubs, rocks, mulch, and other landscaping materials helps establish a home's personality, and it can enhance the beauty and value of any property. If managed effectively, landscaping can also serve as a fuel break, protecting a home in the event of a wildfire. The primary goal for Firewise landscaping is fuel reduction — limiting the level of flammable vegetation and materials surrounding the home and increasing the moisture content of remaining vegetation. Firewise landscaping also allows plants and gardens to reveal their natural beauty by leaving space between individual and groups of plants and trees.

Home Ignition Zone vs. Defensible Space

The NWCG WUI Working Team and Firewise Communities program have begun emphasizing the Home Ignition Zone (HIZ) – the home and its immediate surroundings within 100 to 200 feet) – and placing less emphasis on "defensible space." The HIZ enables broader discussion about home construction as opposed to strict focus on the landscape, as well as the land beyond the defensible space guidelines – typically 30 to 100 feet – that may also need consideration based on the hazard area and other conditions.

In addition, the historical use of the term defensible space referred to space for firefighters to defend the home during a fire. While this space is indeed used for that reason when feasible, the Firewise Communities program's primary focus is on **mitigation** *before a fire ever starts*.

The use of the term defensible space could refer to *the home's ability to defend itself*. However, confusion over the term may remain, giving residents a sense that firefighters will always defend their home during a wildfire, which often is not possible.

The Home Ignition Zone

Whether conducting regular maintenance on existing landscaping or designing a new setting, the following tips can help homeowners prepare the area surrounding the home for an intense wildfire. Consider the entire "home ignition zone," ***which includes the home*** and its immediate surroundings within 100 to 200 feet depending on your hazard area. Firewise Communities divides this area into three zones, depending on the hazard level for your area. Assess your landscaping several times a year to ensure that it is lean, clean, and green.

Consult local guidelines for space needed in each zone.

ZONE 1: (All Hazard Areas)

For all hazard levels, this area should be well-irrigated and free from fuels that may ignite your home, such as dry vegetation, clutter, and debris. Flammable attachments to the home, such as wooden decks, fences, and boardwalks, are considered part of the house. The perimeter should extend beyond these attachments.

Lean

- Plants in this area should be limited to carefully spaced plantings that are low-growing and free of resins, oils, and waxes that burn easily. For a list of low-flammability vegetation for your area, contact your state forestry agency, or local landscape specialist.
- Mow the lawn regularly. Prune all trees so the lowest limbs are at least six to 10 feet from the ground.
- Leave space between the tops of trees to reduce the risk of crown fire. Remember, trees that hang over the house will deposit leaves and branches on the house and immediate area.
- Within five feet of the home, use nonflammable landscaping materials, such as rock, pavers, annuals, and high-moisture-content perennials. Be sure to remove dead leaves and stems immediately.

Clean

- Remove dead vegetation, such as leaves and pine needles from gutters, under your deck, and within 10 feet of your home. Be sure to keep the area clean of flammable debris.
- This is generally where patio furniture, swing sets, and other accessories are located. If you live in a moderate to high hazard area, consider fire-resistant material for these accessories, and be sure to keep the area around them clear of debris. Keep patio cushions inside the house when not in use during periods of high fire potential.
- Firewood stacks and propane tanks should not be located in this area. Keep them at least 30 feet from the home.

Green

- Water plants and trees regularly to ensure that they are healthy and green, especially during the fire season. Mulch should also be kept watered, as it can become flammable when dry.
- Consider xeriscaping, especially in areas with low water supply or water-use restrictions. Xeriscaping is a popular method for conserving water through creative use of landscaping features that are fire-resistant, yet require limited irrigation. Contact your local nursery or landscape architect for more information.

ZONE 2: (Moderate and High Hazard Areas)

Plants in this zone should be low-growing, well-irrigated, and less flammable.

- Encourage a mixture of deciduous and coniferous trees. Most deciduous trees do not support high-intensity fires.
- Give yourself added protection with "fuel breaks," such as driveways, gravel walkways, and lawns.
- Prune trees so branches and leaves are at least six to 10 feet above the ground. Remove heavy accumulations of woody debris.

ZONE 3: (High Hazard Areas)

In high hazard conditions, this area should be thinned out as well, though less space is required than in Zone 2. Remove heavy accumulation of woody debris, such as piles of stem wood or branches. Thin trees to remove smaller conifers that are growing between taller trees. Reduce the density of tall trees so canopies are not touching to reduce the ability for high-intensity crown fire to reach your home.

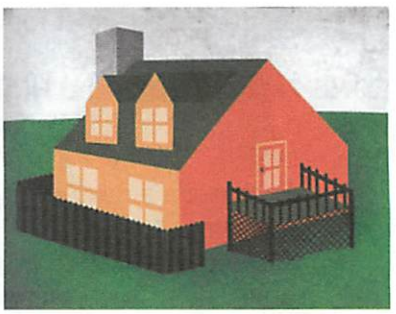
<u>Construction</u>

Firewise Home Construction

Even if a landscape is designed in perfect compliance with Firewise recommendations, fire may still reach your home. For example, heavy winds can carry firebrands over the tops of trees to land on a roof. If that were to happen to your home, your home's exterior must play an important role in preventing ignitions that could lead to total home destruction. Keep in mind that the home ignition zone includes the home, in relation to its immediate surroundings within 100 to 200 feet.

- **Use Rated Roofing Material**: The roof can be the part of your home most vulnerable during wildfires. If firebrands fall on a roof with untreated, non-rated roofing, the entire roof can ignite, destroying the home. In contrast, roofing material with a Class A, B, or C rating, such as composition shingle, metal, and clay or cement tile, is fire-resistant and will help keep the flame from spreading.

- **Use Fire-Resistant Building Materials on Exterior Walls**: Wall materials that resist heat and flames include cement, plaster, stucco and masonry, such as concrete, stone, brick or block. Though some materials, such as vinyl, are difficult to ignite, exposure to extreme heat causes a loss of integrity. These materials may fall away or melt, providing the firebrands with a direct path into the home. If your home has vinyl siding, use metal screening over openings that will become exposed if the siding falls away.
- **Use Double-Paned or Tempered Glass**: Exposure to the heat of a wildfire can cause glass on exterior windows to fracture and collapse, allowing firebrands to enter the home. Double paned glass can help reduce this risk by providing an added layer of protection. Tempered glass is the most effective option, as it has a higher heat tolerance and is less likely to break. For skylights, glass is less penetrable than plastic or fiberglass, and plastic and fiberglass can melt at lower temperatures than glass.
- **Enclose Eaves, Fascias, Soffits, and Vents**: Eaves, fascias, soffits, and vents should be "boxed" or enclosed with metal screens to reduce the size of the openings, to inhibit the passage of embers or firebrands into difficult to reach and closed spaces. Ridge and soffit vent openings should be screened to help prevent firebrands or other objects larger than 1/8" from entering your home.
- **Protect Overhangs and Other Attachments**: Overhangs and other attachments, such as room additions, bay windows, decks, porches, carports and fences, are often very vulnerable to flames or firebrands. Remove all fuels from around these areas. Consider boxing in the undersides of the overhangs, decks, and balconies with noncombustible or fire-resistant materials to reduce the possibility of ignition. Make sure fences constructed of flammable materials, such as wood, don't attach directly to your home. Remember: if it is attached to house, it's part of your house.



National Wildfire Coordinating Group
Communicator's Guide for Wildland Fire Management:
Fire Education, Prevention, and Mitigation Practices

10. Resources

Contents

Webliography

General Interest

- National Interagency Fire Center Web site – www.nifc.gov.
- National Wildfire Coordinating Group Web site – www.nwcg.gov
- USFS North Central Research Station Web site – www.ncrs.fs.fed.us/4803/focus/fire/fuels_mgt/
- Federal Emergency Management Agency | www.fema.gov
- International Association of Fire Chiefs | www.iafc.org
- National Association of State Fire Marshals | www.firemarshals.org
- National Association of State Foresters | www.stateforesters.org
- National Emergency Management Association | www.nemaweb.org
- National Fire Protection Association | www.nfpa.org
- USDA Forest Service | www.fs.fed.us
- U.S. Department of the Interior | www.doi.gov
  - *Bureau of Land Management* | www.fire.blm.gov/index.htm
  - *Bureau of Indian Affairs* |http://www.doi.gov/bureau-indian-affairs.html
  - *National Park Service* | www.nps.gov/fire
  - *U.S. Fish and Wildlife Service* | www.fws.gov/fire
- U.S. Fire Administration | www.usfa.fema.gov
- National Fire Plan: www.fireplan.gov
- The Nature Conservancy | www.tncfire.org

Wildland Fire Background

- Nearctica: The Natural History of North America | www.nearctica.com
- US Geological Survey http://edc2.usgs.gov/publicationspdfs/ID559.2003.pdf\
- Fire Regime Condition Class | www.frcc.gov/
- Community Wildfire Protection Plans | jfsp.fortlewis.edu/

Communication Planning, Tactics, and Materials

- NWCG Publications Management System www.nwcg.gov/pms/pubs/pubs.htm
- NWCG Public Information Officer Taskbook - http://www.nwcg.gov/pms/taskbook/command/piof.pdf
- Symbols – www.symbols.gov.
- National Association of Interpretation – www.interpnet.com
- Outdoor Advertising Association of America – http://www.oaaa.org/faq

Youth Programs

- 4-H – http://www.4husa.org/index.php
- Boy Scouts of America – http://www.scouting.org/
- Boys and Girls Clubs of America – http://www.bgca.org/
- Education World: http://www.educationworld.com/standards
- Future Farmers of America – http://www.ffa.org
- Girls Scouts of the USA – http://www.girlscouts.org/
- National Science Teachers Foundation – http://www.nsta.org
- North American Association for Environmental Education (NAAEE) – http://naaee.org
- Wildland Fire Education Working Team - http://www.nwcg.gov/teams/wfewt/wfewt.htm
- Project Learning Tree® (PLT) – http://www.plt.org
- Project Wild – http://www.projectwild.org
- Scholastic – http://www.scholastic.com/

- Student Conservation Association – http://www.thesca.org
- Virginia Department of Forestry Web site – http://www.dof.virginia.gov/fire/resources/media-guide.pdf
- USDA Forest Service Conservation Education (CE): http://www.na.fs.fed.us/spfo/ce/index.cfm
- Weekly Reader – http://www.weeklyreader.com
- YMCA – http://www.ymca.net/

Fire Prevention and Education

- Wildfire Prevention Education Teams – www.nwcg.gov/teams/wfewt/wfewt.htm
- Cooperative Forest Fire Prevention – www.fs.fed.us/im/directives/fsm/3100/3110.txt

Mitigation

- Firewise Communities www.firewise.org
- Fire Safe Councils: www.firesafecouncil.org
- Collaboration: www.redlodgeclearinghouse.org
- Ecosystem Management Initiative: www.snre.umich.edu/emi/lessons/index.htm
- Interface South: www.interfacesouth.org
- Community Wildfire Protection Plans: jfsp.fortlewis.edu/

Community Resources

- Communities Committee of the Seventh American Forest Congress: www.communitiescommittee.org
- National Association of Counties: www.naco.org
- RC&D Councils
- National Volunteer Fire Council: http://www.nvfc.org/
- Society of American Foresters: www.safnet.org
- National Governors Association: http://www.nga.org/portal/site/nga
- Western Governors Association: http://www.westgov.org/
- Southern Governors Association: http://www.southerngovernors.org/
- Midwestern Governors Association: http://www.midwestgovernors.org/
- The White House: http://www.whitehouse.gov/WH/welcome.htm/

Resources and Materials

General Interest

- Forest History Society Web site – www.lib.duke.edu/forest/
- Federal Agency Implementation Guidance for the Healthy Forest Initiative and the Healthy Forest Restoration Act: www.fs.fed.us/projects/hfi/field-guide/
- Field Guidance for Identifying and Prioritizing Communities at Risk: www.stateforesters.org/reports/COMMUNITIESATRISKFG.pdf
- NWCG Fireline Handbook: http://www.nwcg.gov/pms/pubs/410-1/410-1.pdf

Communication Planning, Tactics, and Materials

- Best Practices: Communication Planning, released July – August 2005
- Fire Wars Video – www.pbs.org/wgbh/nova/fire/
- Symbols – www.symbols.gov

- NWCG Wildfire Prevention Sign and Poster Guide: www.nwcg.gov/pms/pubs/nfes2753/nfes2753.pdf
- U.S. Government Printing Office Style Manual – http://www.gpoaccess.gov/stylemanual/index.html
- Firewise Communities catalog: www.firewise.org/catalog
- Communicate With Power- Encountering the Media- Pocket Tips - http://www.ceo.tv/
- Gebbie Press All-In-One Media Directory- http://www.gebbieinc.com/
- Associated Press Stylebook and Libel Manual- http://www.apstylebook.com/

Fire Education and Fire Prevention

- Brochure "Wildland Fire in the United States"
- Electronic Bibliography of Fire Resources
- Fire Messaging Materials, released April 2005
- Links to Wildland Fire Education Products
- Public Service Announcements (English and Spanish versions)
- NWCG Training Classes
  - Field Manager's Course Guide
  - Incident Response Pocket Guide

Mitigation

- National Association of State Foresters CWPP Handbook – www.stateforesters.org/reports.html, www.safnet.org/policyandpress/cwpphandbook.pdf
- Firewise Communities Workshops: http://www.firewise.org/fw_youcanuse/workshop.htm
- Firewise Communities Newsroom: www.firewise.org/newsroom
- Firewise Communities Communications Guide: www.firewise.org/newsroom/communications_guide.htm
- Living on the Edge Workshops: http://www.itm-info.com/lote/

Recommended Reading:

- Archibold, O.W. 1995. Ecology of World Vegetation. London; New York: Chapman & Hall.
- Bazerman, C. 1988. *Shaping Written Knowledge: The Genre and Activity of Experimental Article in Science*. Madison, WI: University of Wisconsin Press.
- Beck, Larry and Ted Cable. 1998. *Interpretation for the 21st Century: Fifteen Guiding Principles for Interpreting Nature and Culture*. Champaign, IL: Sagamore Publishing.
- Brown, G. and G. Yule. 1983. *Discourse Analysis*. Cambridge, MA: Cambridge University Press.
- Chase, R. 1993. "Protecting People and Resources from Wildfire: Conflict in the Interface." Culture, Conflict, and Communication in Wildland/Urban Interface. Ewert, A. et al. (eds.).
- Clute, K.P. 2000. A Study of Wildland Fire Communications. M.S. Thesis, School of Natural Resources, The Ohio State University.
- De Golia, J. 1993. *Fire: A Force of Nature*. Las Vegas, NV: KC Publications.
- De Golia, J. 1993. *Fire: A Force of Nature*. Las Vegas, NV: KC Publications. Eisenhauer, B., R. Krannich, and D. Blahna. 2000. Attachments to special places on public lands: An analysis of activities, reason for attachments, and community connections. *Society and Natural Resources*. 13:421–441.
- Ewert, A., D. Chavez, and A. Magill (eds.). 1993. *Culture, Conflict, and Communication in the –Urban/Interface*. Westview Press. pp.281–298.
- Ewert, A.W., J. Chavez, and A.W. Magill (eds.). 1993. *Culture, Conflict and Communications in the Wildland/Urban Interface*. Boulder, CO: Westview Press.
- Fazio, J.R. and D.L Gilbert. 1982. *Public Relations and Communications for Natural Resource Managers*. Dubuque, IA: Kendall/Hunt Publishing Co. Fuller, M. 1991. Forest Fires. New York: John Wiley & Sons.
- Ginder, Alison L. and E. Sue McCoy. 1985. *The Good Guide: A Sourcebook for Interpreters, Docents and Tour Guides*. Ironwood Publishing, Box 8464, Scottsdale, AZ 87252.
- Gross, A.G. 1990. *The Rhetoric of Science*. Cambridge, MA: Harvard University Press.
- Ham, S.H. 1992. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*. Golden, CO: North American Press.
- Ham, Sam H. 1992. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*. Golden, CO: North American Press. (Also available in Spanish.)
- Knudson, Douglas M., Ted T. Cable, and Larry Beck. 1995. *Interpretation of Cultural and Natural Resources*. College Station, PA: Venture Publishing, Inc.
- Lentz, S.C., J.K. Gaunt, and A.J. Willmer. 1996. Fire Effects on Archeological Resources Phase I, The Henry Fire, Holiday Mesa, Jemez Mountains, New Mexico. U.S. Dept of Agriculture, Fort Collins, CO.
- Machlis, Gary E. (ed.). 1986. *Interpretive Views*. National Park and Conservation Association, 1701 18th Street N.W., Washington, DC. 2009. (Out of print but found in most interpretation offices in federal resource management agencies.)
- Maclean, N. 1992. *Young Men and Fire*. Chicago, IL: University of Chicago Press.
- Michael Gross (ed.). Various Dates. *Interpreter Handbook Series*. College of Natural Resources, University of Wisconsin, Stevens Point, WI.
- Mullins, G.W. 1999. *Wildfire: Feel the Heat*. Bethesda, MD: Discovery Channel Pictures Inc. (IMAX Film).
- Mullins, G.W. 1999. Wildfire—Feel the Heat Study Guide. Bethesda, MD: Discovery Pictures, Inc.
- Myers, G. 1990. *Writing Biology: Texts in the Social Construction of Scientific Know*ledge. Madison, WI: University of Wisconsin Press.
- National Wildfire Coordinating Group. 1992. *Strategic Communications for Wildland Fire Management: Discussion Guide*.

- National Wildfire Coordinating Group. 1992. *Strategic Communications for Wildland Fire Management: Facilitator Guide*.
- National Wildfire Coordinating Group. 1994. "Introduction to Wildland Fire" Behavior S-190, Student Workbook NFES 1860. Boise, ID: National Interagency Fire Center.
- National Wildfire Coordinating Group. 1994. *Fire Effects Guide*.
- Pyne, S.J. 1995. *World Fire: The Culture of Fire on Earth*. Seattle, WA: University of Washington Press.
- Pyne, S.J. 1997. *America's Fires*. A Forest Society Publication.
- Pyne, S.J. 1997. *America's Fires: Management of Wildlands and Forests*. Durham, NC: Forest History Society.
- Pyne, S.J. 1997–1998. *Cycle of Fire*. Weyerhaeuser Environmental Book Series, W. Cronon, (ed.). Seattle, WA: University of Washington Press.
- Pyne, S.J. 1998. World Fire: The Culture of Fire on Earth. Seattle, WA: University of Washington Press.
- Pyne, S.J., P.L. Andrews, and R.D. Laven. 1996. *Introduction to Wildland Fire*, 2nd Edition. New York: John Wiley & Sons, Inc.
- Pyne, S.J., P.L. Andrews, and R.D. Laven. 1996. *Introduction to Wildland Fire.* New York: Wiley.
- Sandman, P.M. 1993. *Responding to Community Outrage: Strategies for Effective Risk Communication*. Fairfax, VA: American Industrial Hygiene Association.
- Tilden, F. 1957. *Interpreting Our Heritage*. Chapel Hill, NC: University of North Carolina Press.
- Trapp, S. et al. 1994. *Designing Signs, Trails and Wayside Exhibits*. Stevens Point, WI: University of Wisconsin-Stevens Point Foundation Press Inc.
- U.S. Fish and Wildlife Service, Office of Public Affairs. (no date). *Public AffairsTips for More Effective Communication with the Public: Getting the Message Across with Radio*. Washington, DC: U.S. Dept. of the Interior.
- U.S. Fish and Wildlife Service, Office of Public Affairs. (no date). *Public Affairs Tips for More Effective Communication with the Public: Getting the Message Across with Radio*. Washington, DC: U.S. Dept. of the Interior.
- U.S. Fish and Wildlife Service, Office of Public Affairs. (no date). *Public Affairs Tips for More Effective Communication with the Public: How to Write a News Release*. Washington, DC: U.S. Dept. of the Interior.
- USDA and National Association of State Foresters. "Mark Trail Tells How Prescribed Fire Can Be Helpful in Southern Ecosystem" (coloring book).
- West, B., P.M. Sandman, and M.R. Greenberg. 1995. *The Reporter's Environmental Handbook*. New Brunswick, NJ: Rutgers University Press.
- Wuether, G. 1988. *Yellowstone and the Fires of Change*. Salt Lake City, UT: Haggis House Publications, Inc.
- Zehr, J., M. Gross and R. Zimmerman. 1990. *Creating Environmental Publications*. Stevens Point, WI: University of Wisconsin—Stevens Point Foundation Press, Inc.

Acronym Guide

- BGCA – Boys and Girls Clubs of America
- BIA – Bureau of Indian Affairs
- BLM – Bureau of Land Management
- CAA – Clean Air Act
- CE – Conservation Education
- CEUs – Continuing Education Units
- CFFP – Cooperative Forest Fire Program
- CWPP – Community Wildfire Protection Plan
- DEQ – Department of Environmental Quality
- DOE – Department of Energy
- DOF – Division of Forestry
- DOI – Department of the Interior

- EPA – Environmental Protection Agency
- FEMA – Federal Emergency Management Agency
- FFA – Future Farmers of America
- FIRE – Fire Interpretation Resource Education
- FSH – Fire Safety Health
- FUWT – Fire Use Working Team
- FWS – Fish and Wildlife Service
- GACC – Geographic Area Coordination Center
- GIS – Geographic Information Systems
- GPO – Government Printing Office
- HFRA – Healthy Forests Restoration Act
- HOA – Homeowner Association
- IACET – International Association for Continuing Education and Training
- IAFC – International Association of Fire Chiefs
- JCIFP – Josephine County Integrated Fire Plan
- MAC – Multi-Agency Coordination group
- NAAEE – North American Association for Environmental Education
- NASF – National Association of State Foresters
- NASFM – National Association of State Fire Marshals
- NCRS – North Central Research Station
- NEMA – National Emergency Management Association
- NFES – National Fire Equipment System
- NFPA – National Fire Protection Agency
- NICC – National Interagency Coordination Center
- NIFC – National Interagency Fire Center
- NPS – National Park Service
- NPS – National Park Service
- NSTA – National Science Teachers Association
- NWCG – National Wildfire Coordinating Group
- NWS – National Weather Service
- OAS – Office of Aircraft Services
- PLT – Project Learning Tree
- PSA – Public Service Announcement
- RC&D – Resource Conservation and Development
- TNC – The Nature Conservancy
- USDA – United States Department of Agriculture
- USFA – United Stated Fire Administration
- USFS – United States Forest Service
- WFEWT – Wildland Fire Education Working Team
- WUI – Wildland/Urban Interface
- WUIWT – Wildland/Urban Interface Working Team

Glossary

NWCG Glossary: http://www.nwcg.gov/pms/pubs/glossary/index.htm
This glossary provides the wildland fire and fire use communities a single source for wildland fire, prescribed fire, fire use and incident management terminology commonly used by the National Wildfire Coordinating Group (NWCG) and its Working Teams. The NWCG has directed that all NWCG document glossaries will be based upon the Glossary of Wildland Fire Terminology for the purpose of maintaining definition consistency and clarity among documents. A PDF of this Glossary is included in the Appendix.

GLOSSARY OF NEWS MEDIA TERMS

- **Appropriate Management Response -** Specific actions taken in response to a wildland fire to implement protection and fire use objectives.
- **Assignment Editor** - in television news, the person who decides what stories will be covered and assigns stories to reporters.
- **B-roll** – video package made up of shots directly and/or indirectly relating to the subject at hand that can be used as supplemental cutaway material for an edited/live broadcast of that subject. Often provided to broadcast news organizations for use in news coverage. Examples may include footage of fires or prevention, education, and mitigation activities.
- **Beat** - a reporter's regular assignment, such as the police beat or fire beat.
- **Breaking News** - unplanned, spontaneous news events, such as wildfires, as opposed to scheduled events like City Council meetings.
- **Deadline** - the time at which a story must be ready or after which material will no longer be accepted for publication or broadcast.
- **Editor** - the person responsible for determining what stories will appear in a newspaper. A Managing Editor is responsible for overall operations while a City Editor determines local coverage and gives reporters assignments. Feature Editors, Photo Editors, and Sports Editors determine the stories that will appear in their sections.
- **Feature** - a story providing an in-depth look at news other than hard or breaking news, or a lighter look at the news.
- **Five W's and H** - who, what, where, when, why and how---the major questions answered in a news story.
- **Follow-up** - a story that adds information to a story previously broadcast or published.
- **Hard News** - the serious and immediate news of the day as opposed to feature stories and stories that can wait.
- **Handout** - a written statement, a set of statistics, or graphics prepared for distribution to the news media.
- **News Director** - the manager in charge of a radio or television news department.
- **Off-The-Record** - information provided to a reporter that is meant for background and not for publication. It is a good policy to never assume anything is off the record. If you say it, expect to hear it on the air or see it in print.
- **Producer** - in television news, the person who puts together the newscast and decides where a story will be placed.
- **Sidebar** - a story on the same topic that runs the same day and right next to the main story. The sidebar may have a narrower focus or more detail on a single aspect of the main story.
- **Soundbite** - the broadcast version of a quote. Usually consists of a very short statement or message.
- **Standup** - a reporter telling a small part of the story on camera in the field as a part of a package.

- **Talking Head** - a videotape recording of a close-up shot of someone talking.
- **Voice-over** - a television story where the news anchor in the studio reads a script over videotape.
- **Wire Story** - a news story that appears on a wire service.
- **Wraparound** - a radio story where the reporter's voice is recorded on audiotape around a soundbite. Similar to a television news "package."