



**Enriching Students.  
Sustaining Forests.**

**The Wisconsin K-12 Forestry Education Program**

# **Wisconsin K-12 Wildland Fire Lesson Guide**

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LEAF is a partnership program between

**Wisconsin Department of Natural Resources - Division of Forestry**

and

**Wisconsin Center for Environmental Education**

College of Natural Resources  
University of Wisconsin-Stevens Point



## LEAF - Learning, Experiences, & Activities in Forestry

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**LEAF** was created to help promote forestry education in Wisconsin schools. In 2001, Wisconsin K-12 forestry education stakeholders evaluated the current status of and the needs for Wisconsin-based K-12 forestry education. A variety of programs existed, but voids were identified in delivery and dissemination of educational materials and services. To offer a more unified effort, stakeholders supported the development of a comprehensive program that would enhance existing efforts.

During the spring of 2001, legislation was written to establish the LEAF Program as a partnership between the Wisconsin Department of Natural Resources - Division of Forestry and the Wisconsin Center for Environmental Education at the College of Natural Resources, University of Wisconsin-Stevens Point. Funding for the program is provided through a surcharge on the sale of seedlings from Wisconsin Department of Natural Resources - Division of Forestry nurseries.

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# CONTENTS

ACKNOWLEDGEMENTS.....	2
A RATIONALE FOR WILDLAND FIRE EDUCATION IN WISCONSIN .....	4
INTRODUCTION TO THE GUIDE .....	5
OTHER LEAF MATERIALS.....	6
LESSON FORMAT.....	7
K-1ST GRADE LESSON - <b>MY FEELINGS ABOUT FIRE</b> .....	8
Students explore their emotions about fire using fire related pictures. As a class, they discuss safe and dangerous fire situations and identify adults they could go to in a dangerous fire situation.	
2ND-3RD GRADE LESSON - <b>SMOKEYTOONS: A LOOK AT FIRE AND HUMAN BEHAVIOR</b> .....	22
Students study ashes from paper to describe the changes fire can cause and study a burning candle to learn the elements of the fire triangle. After learning about safe and dangerous fire situations, students create a cartoon to convey a fire prevention message.	
4TH GRADE LESSON - <b>THE PESHTIGO THEATER COMPANY PRESENTS: THE LIFE OF FIRE</b> .....	34
Students examine fire's relationship to people and the environment. They explore the history of fire in Wisconsin by acting out scenes in a play about fire.	
5TH-6TH GRADE LESSON - <b>IN THE HOT SEAT: THE PROCESS AND SCIENCE OF DECISION-MAKING</b> .....	64
Students learn about wildland fire issues in Wisconsin and collaborate to find solutions to wildland fire dilemmas. As a class, students participate in a mock town meeting and vote on wildland fire legislation. Students create system diagrams to predict the consequences of the legislation. They develop effective ways to resolve wildland fire issues.	
7TH-8TH GRADE LESSON - <b>NATURAL PHENOMENA INVESTIGATORS (NPI)</b> .....	90
Students investigate the circumstances that led up to the Cottonville Fire using primary data sources such as maps, media reports, images, and scientific data. In teams, students predict why the fire burned as it did, study the suppression techniques used, and propose solutions to landowner dilemmas that resulted from the fire.	
9TH-12TH GRADE LESSON - <b>WILDLAND FIRE ISSUES AND EDUCATION</b> .....	134
Students conduct Internet research to learn about wildland fire issues in Wisconsin. After discussing the scientific method and public opinion surveys, students create, conduct, and analyze the results of a survey they design to determine the need for wildland fire education.	
WILDLAND FIRE BACKGROUND .....	152
APPENDIX.....	164
Glossary .....	165
Wisconsin Model Academic Standards .....	168
Wisconsin Model Academic Standards (Chart).....	173
Subject Areas .....	175
Multiple Intelligences.....	176
Lesson Connections to the <i>LEAF Wildland Fire Conceptual Guide</i> .....	177
<i>LEAF Wisconsin K-12 Forestry Education Lesson Guide</i> Overviews.....	178
Lesson Feedback Form .....	183
LEAF CONCEPTUAL GUIDE TO K-12 WILDLAND FIRE EDUCATION IN WISCONSIN .....	184

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## A RATIONALE FOR WILDLAND FIRE EDUCATION IN WISCONSIN

Wildland fire is a major issue that federal, state, and local agencies have to deal with. Nationally, large forested areas of the West and South have burned as a result of drought, hot weather, fuel load, and human carelessness. Here in the Great Lakes Region, our fire regimes, population density, and culture differ from those of the Western and Southern United States. Although historically Wisconsin has experienced major catastrophic fire events, conditions in recent years have limited large-scale fire. Even so, Wisconsin Department of Natural Resources fire crews annually respond to 1,500 fires that burn more than 5,000 acres. Catastrophic fires, such as the Cottonville Fire in Adams County in 2005, still threaten lives, property, and resources.

The wildland/urban interface is increasing in Wisconsin as each year 3,000 new parcels are carved out of existing forestland holdings (based on 2000 to 2005 average). On many of these parcels, homes and cabins are being built. More and more people are moving into forested areas, and estimates predict that housing density in Wisconsin's forested regions will continue to rise. If Wisconsin experiences a large catastrophic fire event, the cost in property alone would be extremely large.

How do most of these fires start? Ninety percent of all wildland fires in Wisconsin are started by humans. As more individuals move into the wildland/urban interface, the number of fires and the possibility for catastrophic fires increase. Burning debris, sparks from equipment such as chain saws and all-terrain vehicles, and campfire/ash disposal are the most common ways that humans cause fire. Each of these modes of fire generation is preventable. Education is necessary to develop an informed and caring citizenry who will take action to prevent useless fires and who support the use of prescribed burning as a management tool.

The LEAF wildland fire materials were created to assist Wisconsin teachers in developing safe and responsible citizens who inhabit or visit wildland areas. The topic of wildland fire has great potential to captivate and interest students. Wildland fires are front-page news events. They are visually and physically powerful natural phenomena with a complex history and a complex role in today's society. Students of all ages tend to be engaged by the awesome nature of wildland fire.

The topic of wildland fire has great potential for integration into many subject areas. The exploration of fire involves hard science disciplines as well as the social sciences. Wildland fire issues are complex, and their resolution requires an understanding of the environment, economics, social policy, and human behavior. The study of wildland fire can help students understand issues in both a landscape and historical context.

When discussing wildland fire, it is very important that both the positive and negative aspects of wildland fire be presented. An understanding of ecological fire (prescribed fire) requires students to use reason and look beyond the danger of fire. This becomes important because the acceptance and use of prescribed fire is necessary to sustain ecosystems and reduce the risk of future catastrophic wildfires.

## INTRODUCTION TO THE GUIDE

The **LEAF Wisconsin K-12 Wildland Fire Lesson Guide** provides educators with lessons designed to teach students basic wildland fire principles. There is one wildland fire lesson for each unit of the **LEAF Wisconsin K-12 Forestry Education Lesson Guide** (K-1, 2-3, 4, 5-6, 7-8, 9-12). Subject areas addressed in the lessons may include English Language Arts, Geography, Health, Mathematics, Science, Social Studies, and Visual Arts. The *Wisconsin Model Academic Standards* were referenced and helped guide the development of the material. The standards, subject areas, and multiple intelligences that each lesson encompasses are listed in the appendix.

The **LEAF Wildland Fire Lesson Guide** is based on principles outlined in the **LEAF Conceptual Guide to K-12 Wildland Fire Education in Wisconsin**. The Conceptual Guide has two main parts – a conceptual framework and a scope and sequence. Together they outline wildland fire education concepts appropriate for Wisconsin's K-12 students and the grade level at which they should be taught. All the information in the Conceptual Guide is organized under four themes – “What Is Wildland Fire?,” “Why Is Wildland Fire Important?,” “How Do We Manage Wildland Fire?,” and “What Is the Future?” (see pages iv to ix).

### BACKGROUND SECTION

At the beginning of each lesson in this guide, you will find useful background information for teaching the activities in that lesson. In addition to the lesson-specific background information, this guide contains in-depth wildland fire information on pages 152 to 163. Users of this guide will find the information helpful in expanding personal knowledge of wildland fire science, history, and management.

### WEBSITE CONNECTION

Supporting materials for teaching about wildland fire are available on the LEAF website. Resources include full color digital maps and images, in-depth background information, links to web resources, and more. The wildland fire web pages will be updated and enhanced over time, so visit often for the newest materials.

Go to [www.uwsp.edu/leaf](http://www.uwsp.edu/leaf) and navigate to the Wildland Fire Resources section.

## OTHER LEAF MATERIALS

As Wisconsin's K-12 forestry education program, LEAF's mission is to provide Wisconsin's educators with high quality forestry education materials for use in the classroom and field. This is achieved through workshops, special events, and curriculum consulting.

This **LEAF Wisconsin K-12 Wildland Fire Lesson Guide** is a supplement to the **LEAF Wisconsin K-12 Forestry Education Lesson Guide** (LEAF Guide). The LEAF Guide is comprised of six grade specific units: K-1, 2-3, 4, 5-6, 7-8, and 9-12. You will find descriptions of the units and lessons on page 178. The LEAF Guide is obtained by participating in a LEAF workshop. Workshop participants receive forestry background information and practical experience using the LEAF Guide. Workshops vary in length and format, sometimes including an option for graduate credit and/or hands-on field experiences.

### LEAF WISCONSIN K-12 URBAN FOREST LESSON GUIDE

The *Urban Forest Lesson Guide* uses the places we live to provide a context for understanding forests. Lessons are designed to be used in conjunction with the *LEAF K-12 Forest Lesson Guide*. A section called "LEAF Links" is included in each urban forest lesson and describes when and how to link the urban forest lesson to original LEAF guide lessons.

### VISIT OUR WEBSITE AT [WWW.UWSP.EDU/LEAF](http://WWW.UWSP.EDU/LEAF)

The LEAF website is a great source for information and resources. On it, you will find:

- Workshops offered
- Information on LEAF special events
- On-line tree identification key
- LEAF lesson enhancements
- Educator opportunities
- On-line publications
- Field experience providers
- School forest information and assistance



# LESSON FORMAT

## Lesson Grade Level and Title

### BIG IDEAS

The subconcepts covered in the lesson as defined by the *LEAF Wildland Fire Conceptual Framework*. (Subconcept Number)

### OBJECTIVES

Knowledge and skills students acquire as a result of doing the lesson.

### SUBJECT AREAS

List of subjects addressed in the lesson.

### LESSON/ACTIVITY TIME

Total time required to complete the lesson and breakdown of time required for each lesson component.

### TEACHING SITE

Recommended location for teaching.

### NUTSHELL

Brief summary of the lesson.

### BACKGROUND INFORMATION

Information that supports, accentuates, and expands on the information addressed in the Procedure.

### PROCEDURE

#### INTRODUCTION

A short discussion or activity that sets the mood for the rest of the lesson.

#### ACTIVITIES

Step-by-step instructions for the process involved in teaching the concepts.

#### CONCLUSION

A wrap-up and review of concepts of the lesson.

### VOCABULARY

Key terms used or introduced in the lesson.

### MATERIALS LIST

Items needed to complete the lesson. Listed as per student, group of students, class, or teacher.

### TEACHER PREPARATION

Preparation needed before teaching the lesson.

### SAFETY PRECAUTIONS

Necessary precautions to teach the lesson safely.

### SUMMATIVE ASSESSMENT

Culminating questions or activities that have students apply learned information or skills to new situations.

### REFERENCES

List of materials used in creating the lesson.

### RECOMMENDED RESOURCES

Additional books, websites, or materials that will enhance the lesson.

### KEY TO SYMBOLS USED THROUGHOUT THE LESSONS



Teacher Page



Student Page



Teacher Page (Key)