UNMANAGED WILDLAND FIRES

Correlation to Learning Standards
Illinois Social Science Standards: SS.G.3.5., SS.G.2.6-8.LC.

Next Generation Science Standards: MS-LS2-4

Unmanaged wildland fires have occurred regularly in the eastern United States since European settlement. Whether for farming, creating grazing areas or homesites, settlers burned land as a management tool to help them to survive. It is probable that these fires often got away and burned uncontrollably.

In addition to fires being human caused, fires were and are often caused by nature - namely lightning. These fires and out of control human caused fires often burned large expanses of the forests over mountains and through valleys until nature (the weather) or some natural fuel break (a river, lake or ridge) intervened.

Although there were localized burning regulations, large scale fire suppression efforts for "unmanaged wildland fires" did not begin until the early 20th century when the USDA Forest Service and State Forestry agencies were organized. At the time, because there were such large numbers of unmanaged wildland fires all across the nation, the main focus was for the suppression of all fires to protect the timber resources.

In 1941, more than 30,000,000 acres burned as a result of 208,000 wildfires in the United States. The USDA Forest Service statistics showed that nine out of ten of these fires were caused by humans and determined that they could be prevented. Unwanted, uncontrolled wildfires are not only harmful to the landscape but they can also be costly in terms of damage to our natural resources and the expense to control and suppress the fires.

The purpose of the development of the fire prevention and Smokey Bear programs was to reduce the number of unwanted human caused fires. With these efforts, the USDA Forest Service and State Forestry agencies were able to significantly reduce the number of fires and to protect our nation during a significantly vulnerable time (World War II.)

Even with our prevention and suppression efforts ongoing, wildland fires continue to occur in the Eastern United States. The causes of these unmanaged wildland fires vary from state to state but the human factors are present in each and most often include children, debris burning and arson. Lightning is a factor in some unmanaged wildland fires but is usually not the leading cause of fires in the eastern United States.

We have most recently witnessed catastrophic wildland fires in Southern California. Here is a list of the most significant fires in the United States.

Historically Significant Wildland Fires				
Date	**Name**	**Location**	**Acres**	**Significance**
October 1825	Miramichi and Maine Fires	New Brunswick and Maine	3,000,000	Large Amount of Acreage Burned
October 1871	Peshtigo	Wisconsin and Michigan	3,780,000	1,500 Lives Lost in Wisconsin
September 1881	Michigan	Michigan	1,000,000	169 Lives Lost
September 1894	Hinckley	Minnesota	Undetermined	418 Lives Lost
September 1894	Wisconsin	Wisconsin	Several	Undetermined, Some Lives Lost

			Million	
September 1902	Yacoult	Washington and Oregon	1,000,000 +	38 Lives Lost
April 1903	Adirondack	New York	637,000	Large Amount of Acreage Burned
August 1910	Great Idaho	Idaho and Montana	3,000,000	85 Lives Lost
October 1918	Cloquet-Moose Lake	Minnesota	250,000	450 Lives Lost
August 1933	Tillamook	Oregon	311,000	1 Life Lost, Same area burned again in 1939
October 1947	Maine	Maine	205,678	16 Lives Lost
1949	Mann Gulch	Montana	4,339	13 Smokejumpers Killed
1967	Sundance	Idaho	56,000	Burned 50,000 acres in just nine hours
September 1970	Laguna	California	175,425	382 Structures Destroyed
July 1977	Sycamore	California	805	234 Structures Destroyed
November 1980	Panorama	California	23,600	325 Structures Destroyed
1987	Siege of 87'	California	640,000	Valuable timber lost on the Klamath and Stanislaus National Forests
1988	Yellowstone	Montana and Idaho	1,585,000	Large Amount of Acreage Burned
1988	Canyon Creek	Montana	250,000	Large Amount of Acreage Burned
June 1990	Painted Cave	California	4,900	641 Structures Destroyed
June 1990	Dude Fire	Arizona	24,174	6 Lives Lost 63 homes destroyed
October 1991	Oakland Hills	California	1,500	25 Lives Lost and 2,900 Structures Destroyed
August 1992	Foothills Fire	Idaho	257,000	1 Life Lost
July 1994	South Canyon Fire	Colorado	1,856	14 Lives Lost
July 1994	Idaho City Complex	Idaho	154,000	1 Life Lost

August 1996	Cox Wells	Idaho	219,000	Largest Fire of the Year
June 1996	Millers Reach	Alaska	37,336	344 Structures Destroyed
July 1997	Inowak	Alaska	610,000	Threatened 3 Villages
1998	Volusia Complex	Florida	111,130	Thousands of people evacuated from several counties
1998	Flagler/St. John	Florida	94,656	Forced the evacuation of thousands of residents
August 1999	Dunn Glen Complex	Nevada	288,220	Largest Fire of the Year
August - November 1999	Big Bar Complex	California	140,947	Series of fires caused several evacuations during a 3 1/2 month period
September - November 1999	Kirk Complex	California	86,700	Hundreds of people were evacuated by this complex of fires that burned for almost 3 months
May 2000	Cerro Grande	New Mexico	47,650	Originally a prescribed fire, 235 structures destroyed and Los Alamos National Laboratory damaged

The 1988 fire season, including the fires at Yellowstone National Park, are considered to be a turning point in fire management policy. The review of these fires, how and why they occurred and the management of those fires, led to the development of new federal policy regarding the management of wildland fires. The current policy regarding how federal, state, and local agencies will manage wildland fire includes:

- Wildland fire is a critical natural process and must be reintroduced to the ecosystem.
- Protection of human life is first priority including fire fighters and residents. Structures and natural resource are second priority.
- Wildland fire is an important management tool. In places where it cannot be safely done because of fuel build ups, some type of pretreatment such as fuel removal through prescribed burning or mechanical removal may be necessary.
- In areas where properties are at risk to wildland fire, federal, state, and local agencies need to cooperate in wildland firefighting, fuels reduction, prevention, and education efforts.

Wildland fire policy will be further shaped by the implementation of the President's Healthy Forests initiative. This initiative recognizes that recent fire seasons have been some of the worst in modern history. One of the primary causes is the build up of excessive fuels. These fuels feed a fire making it hotter and more catastrophic than normal. The initiative also addresses the fact that excessive red tape and rules are hampering the land managers ability to address this fuel build up.

In general, unwanted fires started by humans and nature usually occur when the conditions are good for the fire to spread rapidly and cause great damage or threat to life and property. Consequently, firefighters will actively

work to control and suppress these fires. They will use their knowledge of the fire triangle and its behavior, to control the fire. The main method firefighters employ is to eliminate the fuel a fire needs to burn by digging a fire line around the fire either by hand or with mechanical equipment. Firefighters will also dig hotspots out and smother the embers with fresh soil cutting off the oxygen supply. Water is used sparingly as it is often in short supply in wildland fire situations. Water sources can be very far away and inaccessible.

Unmanaged Fire Teaching Activity

Looking at the Issue: Managing Natural Events - Unmanaged Fires (Activity adapted from "Investigating your Environment - Investigating an Environmental Issue", USDA Forest Service publication)

Purpose: The students will discover the basics of an issue by learning how to explore sources of information from which to begin an issue analysis.

Objective: As a result of participation in this investigative process, the student will be able to:

- Identify, collect and analyze data and information about an issue
- Summarize facts about an issue.

Preparation: The students will conduct an investigation of wildland fires that have occurred in the United States and examine current fire policy and the Healthy Forests Initiative as it relates to managing these natural events that are by nature - unmanageable. Information sources include, but are not limited to: newspaper and magazine reports, data from appropriate agencies, state and federal agency reports, and internet resources. Working in small groups the students will complete the activity sheets. A class discussion follows with each group presenting a summary of their work and a brief statement that summarizes the general impact of this issue on the environment.

Activity A - Describing the Issue: Discuss with the class the issue of unmanaged wildland fires in the United States. Discussion should be directed to determine (by listing) what they know and how they feel about this issue. Using the background material, the students should develop written responses to the questions on Activity Sheet A.

Activity B - Collect and Record Information: In this research phase, the students should work in small groups to utilize references sources to complete Activity Sheet B. With the basic problem stated, the students will use Activity B to agree on a direction to take to understand the problem.

Activity C - Exploring Interrelationships and Identifying Conflict: The students will identify interrelationships within the issue of "managing unmanaged fire" and look at some potential or existing conflicts within this issue. Students are to complete Activity Sheet C. This exercise may reveal that more information on specific topics is needed to continue.

Activity D - Analyzing Impacts: The purpose of this final activity is put the issue of unmanaged fire in its broadest context and look at the potential impacts this issue could have for our natural resources. Students are to complete the chart on Activity Sheet D and prepare group presentations summarizing their investigation.

Activity A: Describing the Issue

Title of Issue:

Description of Issue:

What is happening?

Where is it happening? (Past history and events, etc.)

Who is affected?

How are they affected?

What are the impacts of the issue? (Economically, aesthetically, socially, politically, etc.)

What are the possible courses of action about the issue?

What agencies and/or organizations are involved that have major responsibilities in this issue?

Activity B. Collect and Record Information

List some factors that might contribute to the issue.

Describe what you want to find out about this issue or its factors.

Describe the kind of information that needs to be collected.

Information Sources about this activity (people, agencies, websites, reports, etc.)
1.

2.

3.

Based on the information we have read and the things we've discussed, our group would like to find our more about:
1.

2.

3.

Questions we will ask to find out these things are:
1.

2.

3.

In order to find out more about these things, we will specifically look for information about:
1.

2.

3.

Activity C: Interpreting the Information Collected - page 1

Management Practices Used for This Activity	Why	Special characteristics of the land or resource (suitabilities/limitations/constraints)	Economic Considerations	Effect of current practices on the total environment

Activity C: Interpreting the Information Collected - page 2

Describe what the collected data tells you about the issue.

List comparisons, contrasts or cause-and-effect relationships that can be inferred from the collected data.

What big ideas are suggested by the interpretation of this data?

What implications do these big ideas have to environmental management?

Extending the investigation: List parts of the investigation that can be explored more fully by more data collection.

Describe data that still needs to be collected.

Describe what might be significant about collecting the additional information.

Activity D: Analyzing the Impact

Based on the data you have collected, describe the general interest and impact, as you see it, that this issue can have in the following areas.

Area	Impact on other nearby environments	Social Patterns	Economics	Politics	Other
Locally (county, city) Interest Impact					
Regionally (State or states) Interest Impact					
Nationally (county, city) Interest Impact					
Internationally (county, city) Interest Impact					

From the chart above, your observations and the analyzing of information about the issue, construct a brief statement which would summarize the general impact of this issue on our natural resources.

This publication is a product of the United State Forest Service and may be accessed online at http://www.na.fs.fed.us/fire_poster/unmanaged.htm.