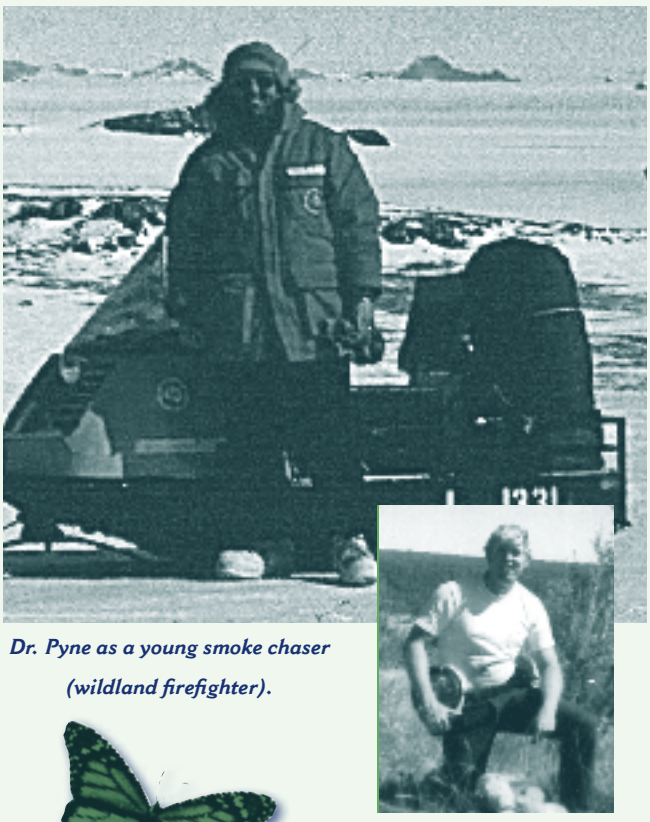
Fight or Light?

Photo courtesy of Forest Service Northern Region Archives.

The History and Impact of the Big Fires of 1910

Meet the Scientist

Dr. Stephen Pyne, Historian: My favorite science experience was the time I spent a season in Antarctica with groups of people studying ice.



Dr. Pyne as a young smoke chaser (wildland firefighter).

Thinking About Science

There are many different ways to discover new information. A historian is an individual who does research and writes about human events that happened in the past. The research and writings of historians provide important benefits to society. They tell stories from the past that help society to understand how people, groups of people, or organizations came to be as they are. History also helps society to learn from the mistakes and successes of the past. Often, historians collect information from many different places to tell a story. If possible, they interview people who were involved in the historic events.

Human history can be told at many levels. You, as an individual, have your own history. You have a family history, and your community has a history. Your race has a history, and your country has a history. The history of just about anything can be studied. What is your favorite type of music? It has a history as well. The research you will read about in this article was conducted by a historian who was interested in the history of wildland fire in America.

Thinking About the Environment

In the early years of the 20th century, the Western United States was still being settled by Europeans. Forests were cleared for railroads, mining, agriculture, and the towns where people lived. Much more land, however, remained as wild forests. As more people moved near or into these wild forests, the question of how to manage wildfires became more important. Wildfires are large uncontrolled wildland fires that are started by lightning or by people's careless actions.

In the early 1900s, some people thought that purposefully setting and controlling small fires every few years was the best way to keep any wildfires from getting out of control. Other people felt that the best way to manage wildfires was to prevent them from starting. These people also felt that any fire that started should be put out as quickly as possible. In this article, you will learn about wildfires that burned over 2 days in 1910. You will learn about the effect these wildfires had on how society viewed wildfires throughout the 20th century. One hundred years later, the wildfires of 1910 still affect American society.

Introduction

In the early 1900s, U.S. citizens became more aware of the materials that could be provided by forest lands in the West. These materials included timber for building homes, metals from mining, and water for irrigation of crops. Citizens also became aware of the importance of saving some of these lands for everyone's use. Around this time, national parks and forest **reserves** were created.

In 1905, the Forest Service was established to **manage** the forest reserves, which then became the national forests. As the manager of these large areas of forests, the Forest Service realized it had a big job to do. In particular, it had to figure out how best to manage wildfires. When fires burned the forests, there was less wood available for building homes and businesses. In addition, a growing human population became more concerned for its own safety.

As more people settled the West, therefore, the potential harm to people from wildfires became more important. As with most things, everyone did not agree on the best approach to manage wildfires. The people in the Forest Service believed that fires should be prevented. They also believed that any fire should be put out as soon as possible. Other people believed that fire itself could be used as a tool to manage wildfires. These people pointed to the American Indians' practice of starting and controlling small fires as a way of preventing large uncontrolled wildfires.

On August 20 and 21, 1910, a combination of dry weather, high winds, sparks from lightning, locomotives, and human carelessness caused a large number of wildfires to **ignite** in Idaho and Montana (**figures 1 and 2**). Eighty-five people died, and 78 of them were firefighters. Following these fires, the Forest Service became even more determined to prevent or **extinguish** all wildland fires. This is a policy called fire **suppression.**

Figure 1. Idaho, 1910. Large areas of forest land were burned in the 1910 fires. This photograph was taken during one of the 1910 fires. Photo by H. English. Photo courtesy of Forest Service Northern Region Archives.

The fire suppression policy remained in effect for decades. In the late 1960s, research began to show the beneficial effects of wildland fire. The public's attitudes toward public lands were also changing. People began to favor parks and wilderness over using the forests for timber and other products. At the same time, the harmful effects and high costs of fire suppression became more apparent. Slowly, the Forest Service began to change the way it managed wildland fires.

The historian in this study was interested in understanding the impact of the 1910 fires on fire policy and American society. He wanted to know why the wildfires that burned over those 2 days were so powerful. They influenced public opinion and fire policy for most of the next century. Their influence was felt even after it became clear that fire suppression was not the best policy. The fires of 1910 continue to influence Americans today, even if people are not aware of it. The historian in this study wanted to better understand the story and impact of the 1910 fires.

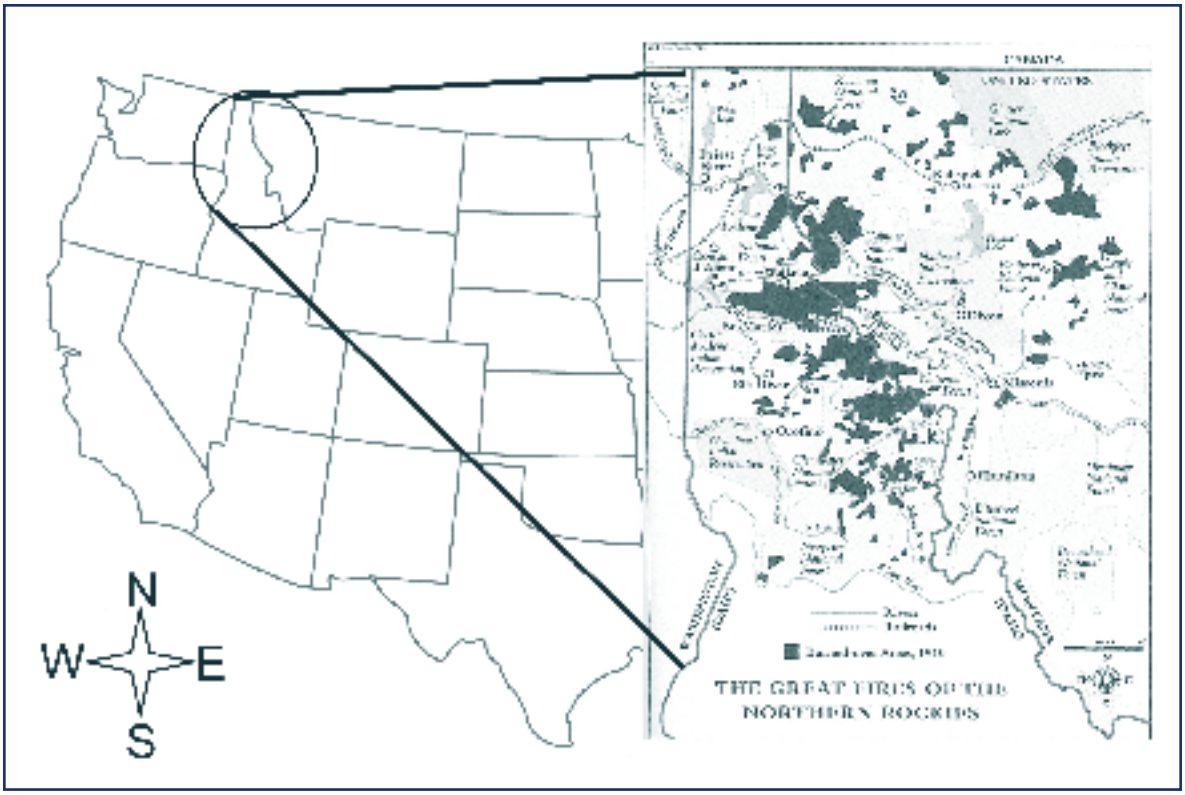


Figure 2. The area of Idaho and Montana where the fires burned.

Using Fire as a Tool

Different forests burn in different ways. In some forests, fires burn along the surface of the ground. In other forests, fires tend to burn in the tree canopy. The tree canopy is the leafy area at the tops of trees. Fires that burn along the surface of the ground are more easily controlled. Foresters can purposely set this kind of fire and use it as a tool.

Small controlled fires burn away much of the **understory,** but leave large trees standing. This is because large trees are **resistant** to small fires. The burned vegetation provides nutrients to the soil. It also prevents small trees from growing up and competing with larger trees. These smaller trees, once they are burned, are no longer fuel for a larger wildfire. If a wildfire begins to burn, there will be little fuel left to burn near the ground, and the wildfire will burn out, or can be put out, much more quickly.

Number Crunches

- How many years has it been since the wildfires burned in 1910?

Reflection Section

- What were the questions the historian wanted to explore?
- How do you think the historian explored his questions?

Methods

The historian did this research in two ways. Both ways involved traveling to the areas of Idaho and Montana where the wildfires occurred. The historian visited places of importance to the wildfires, such as the tunnel where firefighters sought shelter from one of the fires **(figure 3)**. Had survivors still been alive, he could have talked to people who had lived through the fires. Instead, he also visited the libraries, offices, and museums that keep newspaper articles, letters, documents, photographs, and other written or photographic material about the wildfires. This even included a trip to Washington, DC, to read Government documents about the fires and Forest Service fire policy, and to examine old photographs **(figure 4)**.

The historian made copies of as much information about the fires as possible. He took notes and recorded his notes on a computer. He then sorted his notes by categories, such as date, individual, and event. Then, he placed related events in the order that they happened to create a timeline. He included information about events that happened before and after the big fires of 1910.

Then, the historian began to write the story of what happened in the years before 1910, during each month of the year of 1910, during the 2 days of the biggest fires, and after 1910.

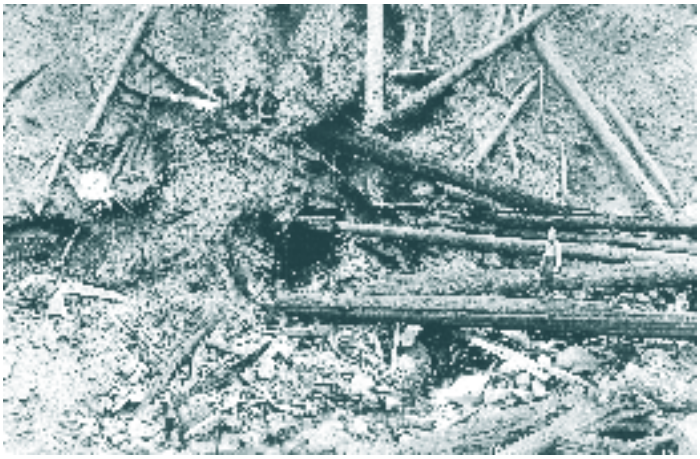


Figure 3. The Nickolson mine shaft. This mine shaft is also called the Pulaski Tunnel, named after the man who saved most of his fire crew on August 20, 1910. Ed Pulaski had led his men into the mine, then forced them to stay by threatening to shoot anyone who tried to leave. Most of the men survived the fire, which had burned to the entrance of the mine. Photo courtesy of Forest Service Northern Region Archives.

Figure 4. Lolo National Forest, Montana, 1910. View from the Northern Pacific Railway grade between Borax and Lookout, taken after the 1910 fires. Photo taken by R.H. McKay. Photo courtesy of Forest Service Northern Region Archives.

Reflection Section

- Look at the photographs in figures 3 and 4. What are some of the advantages of having photographs if you are a historian?
- Historians must write history as accurately as possible. A story of historical **fiction** must be clearly identified. Why should stories of historical fiction be clearly identified as such?

Findings

The foresters who managed the national forests in the early 1900s believed that all fire was bad. They believed that the best thing to do was to keep fires from burning and put out any fires as quickly as possible. The historian discovered, however, that many things in 1910 were beyond the control of the foresters.

The historian found that there were many reasons the fires were so large and numerous on August 20 and 21, 1910. The weather had been dry all spring and summer. On those 2 days, strong winds began to blow. Locomotives with faulty brakes sent sparks out along the railroad tracks. Trees had been cut down to make room for the tracks. The areas beside the tracks contained dry brush that readily ignited and flames were spread by the winds. Lightning and human carelessness with campfires also contributed to the many fires ignited.

On August 24, the winds stopped and it began to rain and snow in the area. Some towns had been burned to the ground, and large areas of Idaho and Montana forests were destroyed. Eighty five people died on August 20 and 21. Once the crisis had passed, the foresters became even more determined not to let fires burn. The public, who witnessed the destruction or heard about it in newspapers, agreed.

In the middle of the 20th century, Forest Service scientists began to learn new things about the role of fire. They began to discover that fire can be used as a tool to prevent large wildfires. They also learned that fire can have benefits in some **ecosystems.**

Slowly, the Forest Service began to change its mind about how best to manage fires. The agency adopted a mixture of approaches. Some fires needed to be controlled, and some needed to be set. Near the end of the 20th century, fire suppression was no longer seen as the best way to prevent large fires. Forest managers now realize that the use of small controlled fires, called **prescribed fire,** is a way to restore the fires we want and that nature needs. It is also a way to prevent the fires we do not want and that do damage.

Reflection Section

- What one thing is still out of the control of people in regard to wildfires?
- How has research helped foresters to do a better job of managing fire?

Discussion

The historian put some thought into what his work means for today. He noted that weather is still important to the start and spread of wildfires, just as it was in 1910. As humans burn more **fossil fuels,** they may be causing a change in long-term weather patterns. As the **climate** changes, humans may be creating better conditions for large wildfires. People should carefully consider and learn from the past.

Reflection Section

- Before reading this article, did you think all wildfires should be put out? How do you think your opinions about wildfires have been influenced by hearing about wildfires in the news? How is the shaping of your opinion similar to the reaction to the wildfires of 1910? How is it different?
- Describe another instance where learning about the past can help make decisions about the future.

Glossary

Climate (ˈ**klī**-mət): The average condition of the weather over large areas, over a long time, or both.

Ecosystem (ē-kō-**sis**-təm): Community of plant and animal species interacting with one another and with the nonliving environment.

Extinguish (ik-ˈ**stiŋ**-(g)wish): To bring to an end.

Fiction (ˈ**fik**-shən): An invented story.

Fossil fuel (ˈ**fä**-səl ˈ**fyü**(-ə)l): Fuel, such as coal, petroleum, or natural gas, formed from the fossilized remains of plants and animals.

Ignite (ig-ˈ**nīt**): To cause to burn.

Prescribed fire (pri-ˈ**skrībd** ˈ**fi**(-ə)r): The controlled application of fire to wildland fuels under certain weather conditions as a forest management tool.

Resistant (ri-ˈ**zist**-tənt): The condition of being able to withstand the force or effect of.

Suppression (sə-ˈ**pre**-shən): To inhibit the growth or development of.

Understory (ˈ**ən**-dər-ˌstȯr-ē): The vegetation between the forest canopy (the area with leaves) and the ground cover.

Accented syllables are in **bold.** Marks taken from Merriam-Webster Pronunciation Guide.

Adapted from: Pyne, S.J. 2008. *Year of the fires: The story of the great fires of 1910.* Missoula, MT: Mountain Press Publishing Company.

FACTivity

Time Needed:

One class period or homework

The question to be answered in this FACTivity is: What was the impact of a recent natural disturbance on a community, a region, or the world? Natural disturbances are events such as fires, floods, earthquakes, tsunamis, and volcanoes.

The procedure to use to answer this question is:

Discuss the story of the 1910 fires with the rest of the class after you have all read the article. In particular, discuss the impact the fires had on Forest Service fire policy and on public attitudes toward wildland fires.

As a class, identify a natural disturbance that has been in the news in the past year. Collect information about the event and its impact using the library and Internet. You should also record your own recollection of the event. How did you learn of the event? How did you feel about it? Were you or someone you know directly affected by the event? Collect photographs as well.

Write a story about the event and its impact, including photographs. Your teacher will have you share your stories with the class or in small groups.

FACTivity Extension

After you and your classmates have shared your stories, your teacher will hold a class discussion comparing and contrasting your stories with the story of the 1910 fires. How are the natural disturbances similar and different? How do the impacts compare? Do you think the impact of the recent event will last as long as the impact of the 1910 fires? Why or why not?

Teachers: If you are a PLT-trained teacher, you may use Activity #86, "Our Changing World," #89 "Trees for Many Reasons," and #81, "Living with Fire," as additional resources.

National Science Education Standards

Science as Inquiry:
Abilities Necessary To Do Scientific Inquiry;
Understanding About Scientific Inquiry

Life Science:
Structure and Function in Living Systems;
Populations and Ecosystems

Science in Personal and Social Perspectives:
Populations, Resources, and Environments;
Natural Hazards;
Risk and Benefits;
Science and Technology in Society

Science and Technology:
Understanding About Science and Technology

History and Nature of Science:
Science as a Human Endeavor;
Nature of Science

Additional Web Resources

1910 Fire Commemoration Information Site (includes good photographs and eyewitness accounts)
http://www.fs.fed.us/r1/1910-centennial/index.html

The Great 1910 Fire (includes good photographs)
http://www.1910fire.com/

Idaho Forest Products Commission: The 1910 Fires
http://www.idahoforests.org/fires.htm