

Trust Is a Must:



Photo courtesy of Forest Service Pacific Southwest Region.

What Is Involved in Trusting Those Who Manage Forest Fires?

Meet the Scientists

Mr. Adam Liljeblad, Social Scientist: My favorite science experience was interviewing residents of a small town about the places that were important to them. They drew on maps as we talked. That way, I could see the places that were special to them as they talked about why they valued those places so much. ▼



▲
Dr. Bill Borrie, Social Scientist: My favorite science experience was researching snowmobilers and snowcoach riders in Yellowstone National Park. A snowcoach is like a van on skis or with a bulldozer-type of tread for moving in the snow. I love visiting the park in the middle of winter when it is quiet and full of mystery!

►
Dr. Alan Watson, Social Scientist: My favorite science experience was riding by motorcycle over 2,000 miles to the Monte ('män-tē) Azul (ah-zyül) Biosphere ('bī-ə-,sfīr) Reserve in southern Mexico. I was on my way to the 9th World Wilderness Congress. I was interested in learning what the local people were doing to protect this important area while keeping their old ways of life in the jungle of Chiapas (chē-'ä-päs).



Thinking About Science



Scientists can study just about anything. In the *Natural Inquirer*, the topics studied are always concerned with the natural environment. Most of them involve studying plants, animals, water, weather, or other natural topics. Some topics, however, involve people's relationships with each other and with the natural environment. These topics and others like them are studied by social scientists.

In this study, the social scientists wondered about trust. What is trust? If you trust someone, why do you do so? The scientists wondered how much trust some citizens in Montana have in those who are making decisions about wildland fire. When social scientists develop questions to study, these questions always involve human beliefs, attitudes, values, or actions.

Thinking About the Environment

The United States contains millions of acres of public land. Public land is land that is owned by all of the citizens of a government. At the Federal level, public land includes national parks, national forests, national wildlife refuges ('re-(.)fyüjs), and other types of land. These lands are **managed** by Government employees on behalf of citizens.

Some Government employees make decisions about managing wildland fires on public land. In some places, wildland fires could threaten homes and businesses. This is because in these areas, people's homes and businesses are located close to public land. In many places, however, fire is a natural part of nature and provides many benefits to the land, the animals, and the plants there. When people trust Government employees to manage public land in the best interest of the land and the people, the Government

employees can do a better job for people and the environment.



Introduction

Trust is a complicated emotion. In the past, many social scientists have studied trust. They discovered that trust involves a number of beliefs and emotions. The scientists in this study were interested in learning more about trust. They believed that **forest managers** can do a better job if people trust them to do what is best for citizens and the environment (**figure 1**).



Figure 1. When citizens trust forest managers, the managers can do a better job of managing the forest.

The scientists searched the library and Internet for information about trust. When there is trust, there must be a trustee and a person who trusts. The trustee may be an individual, a group, an organization, or even a whole community. This is the party that is trusted. The party who trusts is usually an individual. The scientists found that trust may be made up of three parts. **Figure 2** explains the three parts that make up trust.

The scientists wanted to know how much citizens trust forest managers to make good decisions about wildland fires on their behalf.

The Three Parts of Trust	The person who trusts...
Shared values	Believes that the trustee holds similar values, such as honesty, justice, or fairness
Belief that others will act on their behalf	Willingly believes that the trustee is worthy of being trusted; is willing to take a risk and put their well-being in the trustee's control; believes that the trustee is truly interested in their well-being.
Belief that others are capable of acting correctly	Believes that the trustee is capable, reliable, effective, and has previous experience.

Figure 2. The scientists found information claiming that trust is made up of three parts. Each of the three parts is made up of other beliefs and emotions.

Methods

The scientists identified forest managers who manage wildland fires as the trustees. These forest managers work in the Bitterroot National Forest (**figure 3**). The Bitterroot National Forest is located in western Montana and part of Idaho (**figure 4**). These managers are Government employees who work for the Forest Service. These forest managers take actions to prevent large and destructive wildfires. When large wildfires occur, the forest managers take actions to control or **extinguish** the wildfires.

The scientists identified citizens living near the Bitterroot National Forest as those who may or may not trust forest managers. To get answers to their questions, the scientists developed a survey of questions to ask the citizens. The scientists asked questions of a **sample** of citizens living in the Bitterroot Valley of western Montana. The scientists used both land line and cell phones to speak with citizens. This valley had many recent wildfires, and those fires had occurred in areas not too far from the citizens' homes. **Figure 5** gives an example of some of the questions asked.

The scientists then put all of the answers together. Based on the three parts of trust shown in figure 2, the scientists determined which of those parts of trust the citizens felt about forest managers in the Bitterroot National Forest.



Figure 3. The Bitterroot National Forest. Photo by Garon Smith.

Reflection Section



- Why is trust an important emotion in your life?
- Do you think that forest managers can do a better job if citizens trust them? Why or why not?



Figure 4. The Bitterroot National Forest is located in Idaho and Montana.

1. When managers of the Bitterroot National Forest speak on television, radio, in newspapers, or at public meetings about forest fires, how often, if at all, do they tell the truth?
2. How much confidence, if any, do you have in fire managers in the Bitterroot National Forest?
3. How often, if at all, do you think fires in the Bitterroot National Forest are managed according to a fair process?
4. How satisfied are you, if at all, with the way the Bitterroot National Forest staff deals with fires?
5. Based on your observations and experiences, what portion, if any, of the people who manage forest fires in the Bitterroot National Forest know what they are doing?
6. How much do you agree with this statement: Managers of the Bitterroot National Forest respond to the needs of local residents when fighting fires?

Figure 5. Some of the questions asked by the scientists.

Reflection Section



Match the six questions in figure 5 with the three parts of trust in figure 2. Which of the three parts does each question address?



In today's society, what are two disadvantages of using the telephone to ask questions of citizens?

Findings

Of all of the people the scientists tried to contact, 68 percent answered their questions. Of these, almost 90 percent said that they had been affected by smoke and fires in the Bitterroot Valley.

The scientists found that citizens think that forest managers act with honesty and care about citizens' needs. The scientists also found that citizens do not think managers pay attention to what people think. Although citizens are not completely satisfied with or entirely confident in the way fire is managed in the Bitterroot Valley, they are proud of the way it is managed. Citizens feel that forest managers are somewhat effective, reliable, and competent in managing fires.

Although all three parts of trust were important, the scientists found that "The belief that others are capable of acting correctly" was the most important to the citizens.

Reflection Section



What are some of the positive things citizens had to say about forest managers? What are some of the negative things citizens had to say about forest managers? If you were the scientists, what would you tell the forest managers to do to increase the level of trust?



Although all three parts were important, the scientists found that "The belief that others are capable of acting correctly" was the most important part of trust. Based on your own experience, which part do you think is most important and why?

Discussion

The scientists believe that studies like this can help forest managers do a better job of managing fire. By understanding what people believe and feel about the way forest managers manage fire, they can improve what they do. They can also communicate better with the public about their decisions.

The scientists caution, however, that citizens' opinions should not be the only way that success is measured. Forest managers, and especially those who manage fire, must consider many things. They must consider the animals and plants that live in the forest, for example. They

must consider the long-term health of the forest. The scientists concluded that understanding public trust is just one way to evaluate how well forest managers are doing. They believe, however, that understanding and building trust should be used more often as a way to evaluate how well forest managers are doing.

Reflection Section



- How can better communication build more trust between an individual and a trustee? Use an example from your own life.
- Think about any public land close to your home. This can be a local park, a State park, a national park, or State or national forest land. Do you trust the managers to do a good job of managing the land? Why or why not?

This article was adapted from Liljeblad, A.; Borrie, W.T.; Watson, A.E. 2009. Determinants of trust for public lands: Fire and fuels management on the Bitterroot National Forest. *Environmental Management*. 43: 571–584. <http://www.treesearch.fs.fed.us/pubs/34155>.

Glossary

Biosphere ('bī-ə-,sfīr): The part of Earth where life can exist.

Extinguish (ik-'stīŋ-(g)wīsh): To bring to an end.

Forest manager ('fōr-əst'ma-nī-jər): Skilled individual who takes care of natural resources.

Manage ('ma-nij): To have charge of or direct the work of.

Sample ('sam-pəl): A part or piece that shows what the whole group or thing is like.

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



FACTivity

In this FACTivity, the question you will answer is: How much do some adults trust Federal forest managers?

The method you will use to do this is the following:

Make a copy of the questions on the following page: One set of questions will be needed for each adult surveyed. You should survey between two and five adults.

After the information has been collected, share your results with the other students. Create a chart that shows the total numbers of answers to each of the questions. Determine the level of trust by adding the score for each adult who responded. A high trust level would be represented by a score between 30–35, a score showing moderate trust levels is between 21–29, and low trust level scores are between 9–20. Combine your information and determine how to display results in a graph or chart.

If you do not live near a public land area that is managed by Federal forest managers or State or local park managers, then survey adults about how much they trust their local fire departments.

What Do You Think?

Please circle the choice that best describes how you feel about Federal employees who manage public land (Federal forest managers). You may substitute local fire department employees for Federal employees if you do not live near Federal public land.

When Federal forest managers speak on television, radio, in newspapers, or at public meetings how often, if at all, do they tell the truth?

Always – 4
Mostly – 3
Less than half the time – 2
Never – 1
Don't know – Do not count

Generally speaking, how satisfied are you, if at all, with the way Federal forest managers fight fires?

Very satisfied – 4
Somewhat satisfied – 3
Somewhat dissatisfied – 2
Very dissatisfied – 1
Not sure – Do not count

How much attention, if any, have Federal forest managers paid to what people think when they decide what to do about forest fires?

A good deal of attention – 3
Some attention – 2
Not much attention – 1
Don't know – Do not count

Federal forest managers respond to the needs of local residents when fighting fires.

Strongly agree – 4
Somewhat agree – 3
Somewhat disagree – 2
Strongly disagree – 1
Don't know – Do not count

In the past, how pleased, if at all, have you been with the way fires in your local national forest were managed?

Very pleased – 4
Somewhat pleased – 3
Somewhat displeased – 2
Very displeased – 1
Does not apply – Do not count

Based on your observations and experiences, what portion, if any, of the people who manage forest fires know what they are doing?

All – 4
Most – 3
Less than half – 2
None – 1
Don't know – Do not count

In your community, how would you rate the effectiveness of your local Federal forest managers in dealing with fire- related issues?

Excellent – 4
Good – 3
Fair – 2
Poor – 1
Don't know – Do not count
Does not apply – Do not count

How sure, if at all, have you felt that forest fires threatening your community or your property would be put out in time?

Very sure – 4
Somewhat sure – 3
Somewhat unsure – 2
Very unsure – 1
Don't know – Do not count
Does not apply – Do not count

I find the local Federal forest managers to be reliable when managing fires.

Strongly agree – 4
Somewhat agree – 3
Somewhat disagree – 2
Strongly disagree – 1
Don't know – Do not count

FAC'Tivity Extension

Compare and contrast between Federal forest managers and local park managers. To do this, conduct more surveys, substituting "Federal forest managers" with "local park managers."

If you do not live near a public land that is managed by Federal forest managers or State or local park managers, then compare and contrast the trust level between the local fire department and the local police department.



Correlation to National Science Education Standards

Science as Inquiry:

Understandings About Scientific Inquiry;
Abilities Necessary To Do Scientific Inquiry

Science in Personal and Social Perspectives:

Natural Hazards;
Risks and Benefits

Science and Technology in Society:

Understandings in Science and Technology

History and Nature of Science:

Science as a Human Endeavor;
Nature of Science

Additional Web Resources

Bitterroot National Forest

<http://www.fs.fed.us/r1/bitterroot/>

Fire and Aviation Management

<http://www.fs.fed.us/fire/management/>

Forest Fires

<http://www.foresthistory.org/ASPNET/Policy/Fire/FamousFires/FamousFires.aspx>



Teachers: If you are a PLT-trained educator, you may use Activity #34, "Who Works in this Forest?" or Activity #81, "Living With Fire," as additional resources.