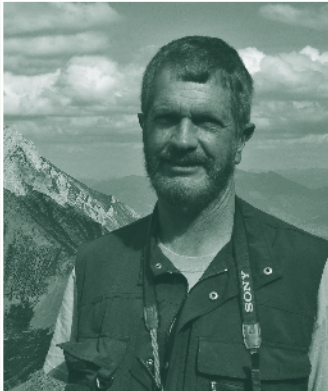


# ***Can You Hear Me Now?***

***Using the Telephone To Discover Peoples' Opinions About Wilderness***



## Meet the Scientists



▲ **Dr. Cordell:** It is always fun to discover a new idea or trend from a survey that we have done. Our surveys are about the importance of natural lands to people. We find that natural lands play an important role in everyone's life. I know that natural lands are important to me!



▲ **Dr. Tarrant:** My favorite science experience was swimming with dolphins and studying their habitat in the continental shelf at Kaikoura, New Zealand. This photograph shows the mountains of New Zealand, where I spend a lot of my time doing research.



▲ **Dr. Green:** My favorite science experience was playing with a chemistry set and accidentally blowing up a test tube when I was eight. I learned a lot from that experience! This photograph was taken in Hawaii.



### Thinking About Science

In the United States, *Federal representatives* are elected to make decisions on behalf of the whole population. These representatives make up the *Congress*. To make decisions that are in the best interest of the *majority* of citizens, these representatives often make use of public opinion research, or polls. Scientists who conduct these polls contact a *random sample* of American citizens and ask them questions.

In this study, the scientists contacted a random sample of citizens and asked them questions about a special category of natural lands called wilderness. Elected representatives can use the results of polls like this to help them make decisions. Their decisions can then reflect how the majority of American citizens feel about wilderness.



### Thinking About the Environment

People receive a variety of benefits from *publicly* owned land. When people use land or receive benefits directly from the land, they may value the land because they can use it. Scientists call these kind of benefits "use benefits." Examples include using the land for recreation, such as for hiking and camping; mining for minerals; using trees for wood; harvesting food products; and using the land for scientific research.

People also receive benefits that do not necessarily come from their activities on the land. Examples include the *preservation* of land to protect water and air quality, to provide *habitat* for *wildlife*, and to ensure that future generations can also benefit from the land. Scientists call these kinds of benefits "non-use benefits."



## Introduction

In 1964, Congress passed a law that established the National Wilderness Preservation System or NWPS. This law identified areas of Federal land to be protected as much as possible from human activities. These lands are called wilderness and are allowed to exist without any machines or permanent *habitation* by humans (**figure 1**). People receive special benefits from these lands because they are kept completely natural. Wilderness is different from other publicly owned land because it does not have any roads, buildings, or other developments.

In this study, the *social scientists* wanted to know how U.S. citizens feel about wilderness. They wanted to know if people are aware that wilderness exists. They wanted to know what people value about wilderness. The scientists also wanted to know how peoples' opinions about wilderness might have changed in recent years.

## Reflection Section



- What questions did the scientists want to answer in this study?
- Why would this information be of interest to Congress?

**The National Wilderness Preservation System** is a system of land areas with special legal protection from human development. In the *Natural Inquirer*, the word wilderness always refers to lands that are part of this national system and under Federal protection. Other undeveloped lands are referred to as wild lands to distinguish them from lands within the National Wilderness Preservation System.

## Glossary:



**Federal** (**fed** ūr ul): A union of States having a central government.

**representative** (**rep** rē **zen** ta tiv): A person chosen to act for or speak for others.

**Congress** (**kon** gres): The group of elected officials in the United States that makes the laws. Congress is made up of the Senate and the House of Representatives.

**majority** (muh jōr uh tē): More than half.

**random** (**ran** dum): Selection purely by chance, with every element having an equal chance of being selected.

**sample** (**sam** pul): A part or piece that shows what the whole group or thing is like.

**publicly** (**pub** lik lē): By the government on behalf of all citizens.

**preservation** (**prez** ūr **va** shun): To protect from harm or damage; to save.

**habitat** (**hab** uh tat): Environment where a plant or animal normally grows and lives.

**wildlife** (**wild** lif): Animals that live in the wild.

**habitation** (**hab** uh **ta** shun): Living in a place.

**social scientist** (**so** shul **si** en tist): A scientist who studies individual humans, groups, and their actions or relationships.

**endangered species** (n **dan** jŭrd **spe** shez) Wild plants or animals with so few individual survivors that the species could become extinct in the area where it naturally lives.

**ecosystem** (**e** kō **sis** tem): Community of plant and animal species interacting with one another and with the nonliving environment.

### Pronunciation Guide

<b>a</b>	as in ape	<b>ô</b>	as in for
<b>ä</b>	as in car	<b>u</b>	as in use
<b>e</b>	as in me	<b>ü</b>	as in fur
<b>i</b>	as in ice	<b>oo</b>	as in tool
<b>o</b>	as in go	<b>ng</b>	as in sing

Accented syllables are in **bold**.



**Figure 1.** Okefenokee Wilderness is located in south Georgia in the Southeastern United States. It is a part of Okefenokee National Wildlife Refuge (ref uj). Okefenokee Wilderness is a large freshwater swamp.

## Method

The scientists called people on the telephone in 1995 and again in 2000 and asked them questions about the NWPS. (What does NWPS stand for? Reread the first sentence of the “Introduction” to find out.) The scientists picked a random sample of American citizens by having a computer generate phone numbers for telephone area codes and exchanges across the country. An exchange is the first 3 digits of a 7 digit phone number. (What is your telephone exchange number?) Generating a random telephone number is like rolling a dice four times and using the number that comes up on each roll. Because of Federal laws, the scientists could only ask questions of people 16 years old or older.

The scientist told the person on the phone a little bit about the NWPS. They told the person how many acres of wilderness are in the United States. They asked the person if they were aware of the NWPS. Then they asked the person if the amount of land in the NWPS was too little, about right, or too much. They then read a list of

13 possible benefits that could be received from wilderness (**figure 2**). For each of the 13 benefits, the person on the phone told the scientists how important that benefit was to them.

The scientists compared what people said in 1995 with what they said in 2000.

**Figure 2.** Possible benefits of wilderness.

Protecting water quality
Protecting wildlife habitat
Protecting air quality
Having wilderness for future generations
Protecting <i>endangered</i> species
Preserving <i>ecosystems</i>
Providing scenic beauty
Having the chance to visit a wilderness in the future
Just knowing that wilderness exists
Using wilderness for scientific study
Using wilderness for recreation
Providing spiritual inspiration
Providing income for the tourism business

## Reflection Section



🌿 The scientists did this study in 2000. Since the year 2000, many more people have cell phones. Do you think that scientists could do this study again in 2008 and contact people with cell phones? Why or why not?

🌿 Look at the list of benefits in figure 2. Which three benefits do you think are the most important? Why?

# Findings

In 2000, more people said that they were aware of the NWPS than in 1995. In 1995, 44 percent of American citizens were aware of the NWPS. In 2000, that percentage was 57. Compared with the percentage of responses in 1995, a smaller percentage of people in 2000 said that the size of the NWPS is not large enough. However, in both 1995 and 2000, the percentage of

people saying that the NWPS is not large enough was over 50 percent (**table 1**).

Of the 13 benefits, only one was not rated as important by more than 50 percent of the people. This was the last benefit listed in **figure 2**. What is that benefit? Compared with 1995, the percentage of people saying that wilderness benefits were very important or extremely important increased (**table 2**).

**Table 1.** How Americans age 16 and older responded to the telephone survey.

Description of those who responded to the survey	Percentage aware of the NWPS		Percentage saying that the size of the NWPS is not enough	
	1995	2000	1995	2000
Place of residence				
Metro	44	58	57	54
Rural	45	58	52	44
Eastern or Western United States				
Eastern resident	43	56	56	53
Western resident	50	61	54	48
Age				
16-30	32	39	64	57
31-55	48	61	57	55
Over 55	57	70	38	39
Race				
White	46	61	56	52
Non-White	38	38	51	48
All Americans over age 16	44	58	56	52

**Table 2.** The percentage of people in 2000 saying that wilderness benefits are very or extremely important, and the percentage increase between 1995 and 2000 in people saying that wilderness benefits are very important or extremely important.

Wilderness benefit	Percentage saying that the benefit is very or extremely important	Percentage increase between 1995 and 2000
Protecting water quality	93	14
Protecting air quality	92	14
Protecting wildlife habitat	88	9
Having wilderness for future generations	87	10
Protecting endangered species	83	9
Preserving ecosystems	80	14
Having the chance to visit a wilderness in the future	75	16
Just knowing that wilderness exists	75	19
Providing scenic beauty	74	14
Using wilderness for recreation	65	16
Using wilderness for scientific study	58	11
Providing spiritual inspiration	57	13
Providing income for the tourism business	30	7

## Reflection Section



- ✿ Overall, would you say that the benefits of wilderness are important to the American public? Explain your answer using the information in table 2.
- ✿ Reread “Thinking About the Environment.” Looking at the information in table 2, would you say that more Americans place a high value on the “use benefits” or “non-use benefits” that they receive from wilderness? Explain your answer.

These benefits have to do with human health by protecting air and water quality. They also have to do with environmental health by protecting endangered species and ecosystems. Information such as this can help our elected representatives make decisions about wilderness that are in the interest of the majority of American citizens.

## Reflection Section



- ✿ In what ways can wilderness help protect human health?

## Discussion

In 2000, a higher percentage of people said that “non-use benefits” from wilderness were more important than “use benefits.”

From Cordell, H. K., Tarrant, M. A., and Green, G. T. (2003). Is the public viewpoint of Wilderness shifting? *International Journal of Wilderness*, 9(2), pp. 27-32.

## FACTivity



### Directions:

For this FACTivity, you will conduct your own survey like the scientists in this article. You will actually ask people some of the same questions that the scientists in this study asked. The questions on your survey come from a larger survey called the National Survey on Recreation and the Environment or NSRE, for short. To look at more questions from the survey, go to this Web site: <http://www.srs.fs.usda.gov/trends/Nsre/nsre2.html>.

1. Copy the survey and the chart (on p. 54-55) to record the responses.
2. Ask at least five people the questions on this survey and record their responses on the response chart. These people can be classmates, other students, family, and

friends, but don't ask the same person twice. Remember, do not ask people for names because their responses should be anonymous.

3. Bring the answers to class with you.
4. Have the class compile all of their responses.
5. Hold a class discussion about the responses. What did you find about what people know about wilderness? Are there any areas where a majority of the people responded the same way? Do you think this could be important? Why or why not? Do any of your findings support what the scientists found? If so, how? If not, what are the differences?



## Wilderness Survey

1. Were you aware that Congress established the National Wilderness Preservation System?

1. Yes
2. No
3. Don't know
4. Refused to answer

2. Do you think the amount of land Congress has designated as wilderness is not enough, about the right amount, or too much?

1. Not enough
2. About the right amount
3. Too much
4. Don't know

3. Do you plan to visit a wilderness within the next year?

1. Yes
2. No
3. Don't know
4. Refused to answer

4. Even if you do not plan on visiting a wilderness within the next year, would you want to visit one sometime in the future?

1. Yes
2. No
3. Don't know
4. Refused to answer

Please tell me whether you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree with the following statements about wilderness.

5. I enjoy reading about and viewing pictures, videos, TV shows, and movies featuring wilderness.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

6. I enjoy knowing that other people are currently able to visit wilderness.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

7. I enjoy knowing that future generations will be able to visit and experience wilderness.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

8. Wilderness is important to protect because it contributes to better local, national, and global air and water quality.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer



9. Wilderness is important because it helps to preserve plant and animal species that could have important scientific or human health value, such as sources of new medicines.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

10. I support protecting wilderness just so it will always exist in its natural condition, even if no one were to ever visit or otherwise benefit from it.

1. Strongly agree
2. Somewhat agree

3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

11. I believe the trees, wildlife, free flowing water, rock formations, and meadows that wilderness protects have value themselves, whether or not humans benefit from them.

1. Strongly agree
2. Somewhat agree
3. Neither agree nor disagree
4. Somewhat disagree
5. Strongly disagree
6. Don't know
7. Refused to answer

Survey Response Chart. Record the responses on this sheet for each person who answers the questions. Place the number that matches the person's answer by each question.

Question	Respondent (Example)	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5
1	1 (Yes)					
2	2 (About the right amount)					
3	3 (don't know)					
4	Etc.					
5						
6						
7						
8						
9						
10						
11						

Question	Respondent 6	Respondent 7	Respondent 8	Respondent 9	Respondent 10	Respondent 11
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

## Alternate FACtivity



Using the Internet, visit <http://www.wilderness.net>. Click on “Search map of wilderness areas,” which is located in the left hand column titled “General Wilderness Information.” You will see a map of the United States with wildernesses identified on the map. Working in pairs, select a State. Click on that State and do research on the

wilderness within that State. If you select a State with many wildernesses, you might want to focus your research on just two or three of them. Present your findings to the class. You may want to draw maps and pictures to use in your presentation. After the presentations, hold a discussion about the similarities and differences in wildernesses that were presented.



If you are a Project Learning Tree-trained educator, you may use PLT Activity #19, “Values On the Line” and PLT Activity #91, “Good Ol’ Days” as additional activity resources.