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**HOW DO AMERICANS VIEW
WILDERNESS – PART I**

A WILDERNESS Research Report in the IRIS Series¹

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How Do Americans View Wilderness-Part I

A Research Report in the IRIS Series

Introduction-What is Wilderness?

In 1964, the U.S. Congress voted to establish the National Wilderness Preservation System (NWPS). The vote was virtually unanimous. This legislation was enacted to permanently protect some of the most undisturbed federal natural lands in the United States. At its birth, the NWPS included just 54 areas and a little over 9.1 million acres. The Congress has since added hundreds more areas and millions more acres, increasing the NWPS to 702 areas and over 107 million acres. For the most part, these are the wildest of federal lands in the Nation (Wilderness.net at <http://www.wilderness.net/index.cfm>).

Most of the additions since the original ones in 1964 came in the years soon after the original designations. But as the U.S. population, elected government representatives and federal land management agency personnel have changed, not only have additions been made more slowly, but also questions increasingly arise about designating more Wilderness. Increasingly, commercial and development interests are seeking access to federal lands. This could make new designations more contentious. As we continue our journey through the 21st Century, the unfolding drama of trends, such as population growth, urbanization, and global climate change, will undoubtedly shift the playing field for all sides of the Wilderness designation debate. What this shift will mean for new Wilderness remains to be seen.

With a shifting playing field, the people with decision making power and those who work around these decision makers need to know what American citizens think about Wilderness. This I-Research Information Series (IRIS) Report is based on original survey research that focused on what American's see as valuable about protected Wilderness. The intended primary audiences are the policy makers, land management agencies, non-governmental organizations, political officials and those who influence decision makers. This report is published with the view that up-to-date public values research is essential at any level when Wilderness designation and management are being considered.

Where did the data come from?

The Forest Service research group located in Athens, Georgia has been collecting data and producing reports about the attitudes and values of Americans since the 1980s. A primary part of this data collection effort has been the National Survey on Recreation and the Environment (NSRE). The NSRE is an ongoing series of surveys that began in 1960 as the National Recreation Survey (NRS). The U.S. Department of Interior managed the NRS between 1965 and the mid-1980s. In the early 1990s, the U.S. Forest Service assumed science management of this nationwide research project in collaboration with other federal agencies and universities. The NSRE has provided federal and state agencies, educational institutions, and the private sector, with outdoor recreation trend and demand data on local, regional and national scales since the first NRS in 1960.<p>

The NSRE is a general population, random-digit-dialed household telephone survey designed primarily to measure outdoor recreation and environmental attitudes of Americans. This is accomplished by surveying a random, cross-sectional sample of non-institutionalized residents of the United States, 16 years of age and older. The Human Dimensions Research Laboratory at the University of Tennessee-Knoxville, an on-going NSRE cooperator, conducts the survey almost daily. The system is computer-assisted (CATI) so the trained interviewers work from a computer monitor and the data are automatically entered as telephone interviews are conducted. The average length of an interview is restricted to a maximum length of 14 minutes.

The NSRE is a major interagency effort. Depending on timing, the survey may meet the data needs of several sponsoring agencies and organizations. The agencies/organizations typically include the Forest Service (Department of Agriculture); the Bureau of Land Management and National Park Service (Department of the Interior); the National Oceanic and Atmospheric Administration (Department of Commerce); the United States Coast Guard; and the Environmental Protection Agency. State, local, and special purpose governments related to recreation and forest management are also users of NSRE. Many state governments use NSRE data for their respective Statewide Comprehensive Outdoor Recreation Plans (SCORP).

The most recent rounds (versions) of the NSRE were conducted between late fall of 2006 and October 2007. Included in these rounds were questions about what Americans see as the values derived from protection of federal wildlands as Wilderness. All data used in this report were weighted to assure the demographic profiles of survey respondents match those of the U. S. population 16 years old or older. They have been statistically analyzed using widely accepted statistical approaches. Confidence intervals at the 95-percent confidence level were computed for each percentage shown in the tables that follow. Any two percentages in any of the tables can be compared. If the confidence intervals (plus or minus ranges) of percentages being compared do not overlap, they may be considered significantly different statistically. Two additional reports based on NSRE Wilderness values data, Parts II and III, will be written and made available in the near future.

What is Meant by "Wilderness Values?"

One of the primary sets of questions included in recent rounds of the NSRE asked respondents (16 years of age or older) about their attitudes toward the National Wilderness Preservation System. Basically the survey asked respondents what they see that is of value in protection of some of the federal wildlands as Wilderness. Thus, "Values", as used here, refers to those aspects or benefits of Wilderness people perceive as important. A values scale was adopted from early work by Haas et al (1986) to measure how important each of 13 values were to respondents. Applications of this value scale for Wilderness have been published previously (Cordell et al 2003 and Cordell et al 2005).

Questioning regarding Wilderness values were preceded by a preamble describing the National Wilderness Preservation System to better assure the respondent understood what was being asked. Read was the following:

"The 702 legally designated wilderness areas that make up the National Wilderness Preservation System contain over 4 percent of the United States total land area, including Alaska. Each of these designated areas is protected to keep it as wild and natural as possible."

A second part of this preamble was read to help the respondent understand the response options they were being asked to consider. The interviewer read:

"Wilderness areas provide a variety of benefits for different people. For each benefit I read, please tell me whether it is extremely important, very important, moderately important, slightly important, or not important at all to you as a reason to preserve wilderness and primitive areas."

Then respondents were asked to rate the importance of 13 Wilderness benefits:

*Protecting water quality
Knowing that future generations will have Wilderness areas
Providing recreation opportunities
Protecting wildlife habitat
Providing spiritual inspiration
Preserving natural areas for scientific study
Preserving unique wild plants and animals
Knowing that in the future I will have the option to visit a Wilderness area or primitive area of my choice
Protecting air quality
Providing income for the tourist industry
Protecting rare and endangered species
Providing scenic beauty
Just knowing that Wilderness and primitive areas exist*

Finally respondents were asked how they felt about the amount of federal land in the Wilderness System.

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

And

How do you feel about designating more of the federal lands in your state as wilderness? Would you say you strongly or somewhat favor, neither favor nor oppose, somewhat oppose, or strongly oppose?

What do Americans Think is Most Important about Wilderness?

The column of numbers labeled 2006-2007 in Table 1 shows the estimated current percentages of Americans who indicated each of the 13 values listed above are important. Two values stand out because over 90 percent said they are very or extremely important. These are protection of air quality and of water quality. Wilderness includes natural lands with creeks and rivers flowing from them that provide natural filters to make air and water clean. Four additional values stand out also because over 80 percent indicated very to extremely important. These include protecting wildlife habitat, knowing that future generations will have Wilderness to visit (bequest value), protecting rare and endangered plant and animal species, and preserving unique wild plants and animals. In this survey, rare and endangered refers to legally designated species under the Endangered Species Act.

Table 1--Wilderness Values: Percent of U.S. residents age 16 and older who said extremely or very important with 95% confidence interval, by year of NSRE interview.

Wilderness Value	1999-2000 95% C. I. ¹	2006-2007 95% C. I. ¹	Statistically significant difference ²
Protecting air quality	91.8 (91.0, 92.5)	93.0 (91.9, 94.0)	No
Protecting water quality	91.4 (90.7, 92.2)	90.3 (89.0, 91.5)	No
Protecting wildlife habitat	87.2 (86.2, 88.1)	87.7 (86.3, 89.1)	No
Knowing future generations will have wilderness areas	85.1 (84.2, 86.1)	85.6 (84.1, 87.1)	No
Protecting rare & endangered species	82.9 (81.8, 83.9)	82.7 (81.1, 84.3)	No
Preserving unique wild plants & animals	79.7 (78.6, 80.8)	83.0 (81.4, 84.6)	Yes
Providing scenic beauty	74.3 (73.1, 75.5)	76.5 (74.7, 78.2)	No
Knowing that wilderness areas exist	74.1 (72.9, 75.3)	75.7 (73.9, 77.5)	No
Having option to visit wilderness areas in future	73.2 (72.0, 74.4)	76.2 (74.4, 78.0)	No

Wilderness Value	1999-2000	2006-2007	Statistically significant difference ²
	95% C. I. ¹	95% C. I. ¹	
Providing recreation opportunities	66.7 (65.4, 68.0)	71.3 (69.4, 73.2)	Yes
Preserving natural areas for science	57.4 (56.0, 58.7)	64.3 (62.3, 66.3)	Yes
Providing spiritual inspiration	58.2 (56.9, 59.6)	57.8 (55.8, 59.9)	No
Providing income for tourist industry	33.3 (32.0, 34.6)	39.6 (37.6, 41.7)	Yes

¹95 percent confidence interval on weighted proportion estimates.

²Yes or No for statistically significant difference between weighted proportion estimates.

Source: NSRE 2000-2004, Version 2. Dates: 11/99 to 2/00, n=5,058. NSRE 2005-2007, Version 3b. Dates: 12/06 to 10/07, n=2,187. All NSRE data are post-weighted such that the sample age/sex/race proportions closely approximate the Census Bureau population proportions. Also included in the weighting process are adjustments based on educational attainment and metro versus non-metro residence.

Overall, in 2006-2007 most Americans over 16 years old also ascribed high importance to six additional Wilderness benefits. As shown in Table 1, these included the scenic beauty of wild landscapes, simply knowing that wilderness is being protected whether or not one ever visited an area (existence value), having the choice to visit a Wilderness Area at some future time (option value), having the opportunity to use Wilderness for recreation experiences (use value), preserving nature for scientific study, and being spiritually inspired by wildlands. The only value not seen as very to extremely important by a majority of Americans was the potential for Wilderness to draw business and thus create a source of income for the tourism industry. Only 40 percent saw industry income as highly important.

Are Urbanites Different from Ruralites?

The U.S. Bureau of Census distinguishes between metropolitan (medium to large cities and surrounding commuting areas) and non-metropolitan areas (smaller places where people do not live in or commute to the larger cities). For this report, the terms urban and rural will be used to indicate metro and non-metro counties, respectively.

Since urban residents make up about 80 percent of the U.S. population, one would expect that the importance urbanites assign to Wilderness would closely parallel the importance the overall U.S. population assigns. But the question arises about the importance rural residents assign. A comparison was set up to see if rural residents differed from urban residents, and thus differed from the majority of Americans. The results are shown in Table 2. The answer is unequivocally "no". Rural residents put the list of 13 Wilderness

values in much the same order and assigned very similar importance to them. From the highest percentages indicating very to extremely important (protecting air and water quality, both over 90%) to lower percentages (e.g., recreation opportunities and natural areas for science), there are no statistical differences between urban and rural residents. There are two values where rural and urban residents appear to differ somewhat, i.e., spiritual inspiration and income generation for the tourism industry. But these differences are not significantly different at the 95 percent confidence level (i.e., confidence intervals overlap). Providing income for the tourist industry just missed the significance criterion of non-overlapping confidence intervals. Rural residents appear to assign slightly higher importance to that aspect of wilderness protection.

Table 2--Wilderness Values: Percent of U. S. residents age 16 and older who said extremely or very important, by place of residence.

Wilderness Benefit	Metropolitan	Non-	Statistically significant difference ²
	County 95% C. I. ¹	Metropolitan County 95% C. I. ¹	
Protecting air quality	92.9 (91.7, 94.1)	93.1 (90.7, 95.5)	No
Protecting water quality	90.0 (88.6, 91.4)	91.7 (89.1, 94.2)	No
Protecting wildlife habitat	87.8 (86.2, 89.3)	87.2 (84.1, 90.3)	No
Knowing future generations will have wilderness areas	85.4 (83.8, 87.1)	86.5 (83.3, 89.7)	No
Preserving unique wild plants & animals	83.0 (81.3, 84.8)	82.8 (79.3, 86.3)	No
Protecting rare & endangered species	82.8 (81.1, 84.6)	82.1 (78.6, 85.7)	No
Providing scenic beauty	76.3 (74.3, 78.3)	77.3 (73.3, 81.2)	No
Having option to visit wilderness areas in future	76.0 (74.0, 78.0)	77.0 (73.1, 81.0)	No
Knowing that wilderness areas exist	75.3 (73.3, 77.4)	77.2 (73.3, 81.2)	No
Providing recreation opportunities	71.3 (69.2, 73.4)	71.4 (67.2, 75.6)	No
Preserving natural areas for science	64.6 (62.3, 66.8)	63.1 (58.6, 67.6)	No

Wilderness Benefit	Metropolitan	Non-	Statistically significant difference ²
	County 95% C. I. ¹	Metropolitan County 95% C. I. ¹	
Providing spiritual inspiration	56.8 (54.4, 59.1)	62.9 (58.4, 67.5)	No
Providing income for tourist industry	38.5 (36.2, 40.8)	45.0 (40.4, 49.7)	No

¹95 percent confidence interval on weighted estimated activity participation rates.

²Yes or No for statistically significant difference between weighted estimates of activity participation rates.

Source: NSRE 2005-2007, Version 3b. Dates: 12/06 to 10/07, n=2,187. All NSRE data are post-weighted such that the sample age/sex/race proportions closely approximate the Census Bureau population proportions. Also included in the weighting process are adjustments based on educational attainment and metro versus non-metro residence.

Does Region of the Country Matter?

The U.S. Bureau of Census divides the Country into four primary regions—the Northeast, South, Midwest and West. The Northeast stretches from Maine south to New Jersey and Pennsylvania. The South includes states from Delaware and Maryland to Texas. The Midwest ranges from Ohio to Kansas and then north to North Dakota. The West is the largest geographic area including vast areas from the eastern borders of Montana, Wyoming, Colorado and New Mexico west to the Pacific, including Alaska and Hawaii. These "macro" regions are very different in relief, vegetation, land ownership (much of the West being public land), and people.

Do the people living in these different regions have different opinions about Wilderness values? Generally, the answer is not much (Table 3). People living in different regions value Wilderness similarly. There are however, a few differences that are statistically significant and worthy of mention.

Table 3--Wilderness Values: Percent of U.S. residents age 16 and older who said extremely or very important, by Census region.

Wilderness Value	Northeast 95% C. I. ¹	Midwest 95% C. I. ¹	South 95% C. I. ¹	West 95% C. I. ¹	Statistically significant difference ²
Protecting air quality	94.5 (92.1, 97.0)	92.9 (90.8, 95.0)	93.0 (91.2, 94.9)	92.1 (89.8, 94.4)	No
Protecting water quality	92.5 (89.7, 95.3)	89.9 (87.5, 92.4)	92.6 (90.7, 94.5)	86.3 (83.4, 89.2)	Yes
Protecting wildlife habitat	84.2 (80.3, 88.1)	90.2 (87.7, 92.6)	87.4 (84.9, 89.8)	87.7 (84.9, 90.4)	No

Wilderness Value	Northeast 95% C. I.¹	Midwest 95% C. I.¹	South 95% C. I.¹	West 95% C. I.¹	Statistically significant difference²
Knowing future generations will have wilderness areas	86.7 (83.0, 90.3)	86.3 (83.4, 89.1)	83.8 (81.1, 86.5)	86.7 (83.9, 89.6)	No
Preserving unique wild plants & animals	84.1 (80.2, 88.0)	85.4 (82.5, 88.3)	81.8 (79.0, 84.6)	81.6 (78.4, 84.9)	No
Protecting rare & endangered species	82.5 (78.4, 86.5)	84.2 (81.2, 87.2)	81.2 (78.3, 84.0)	83.5 (80.3, 86.6)	No
Providing scenic beauty	72.0 (67.2, 76.8)	72.5 (68.8, 76.1)	80.9 (78.1, 83.8)	76.9 (73.3, 80.4)	Yes
Having option to visit wilderness areas in future	70.3 (65.5, 75.2)	75.2 (71.7, 78.8)	76.0 (72.9, 79.1)	80.6 (77.3, 83.9)	Yes
Knowing that wilderness areas exist	72.5 (67.8, 77.3)	74.1 (70.5, 77.7)	77.5 (74.4, 80.5)	76.5 (72.9, 80.1)	No
Providing recreation opportunities	70.4 (65.5, 75.3)	71.7 (68.0, 75.4)	71.0 (67.7, 74.3)	71.9 (68.1, 75.7)	No
Preserving natural areas for science	62.3 (57.2, 67.5)	64.7 (60.8, 68.6)	65.4 (62.0, 68.9)	63.7 (59.6, 67.7)	No
Providing spiritual inspiration	53.9 (48.6, 59.2)	54.5 (50.4, 58.6)	64.7 (61.3, 68.2)	54.3 (50.1, 58.5)	Yes
Providing income for tourist industry	37.6 (32.5, 42.8)	41.5 (37.5, 45.6)	41.1 (37.5, 44.7)	37.1 (33.0, 41.2)	No

¹95 percent confidence interval on weighted proportion estimates.

²Yes or No for statistically significant difference between weighted proportion estimates.

Source: NSRE 2005-2007, Version 3b. Dates: 12/06 to 10/07, n=2,187. All NSRE data are post-weighted such that the sample age/sex/race proportions closely approximate the Census Bureau population proportions. Also included in the weighting process are adjustments based on educational attainment and metro versus non-metro residence.

Somewhat fewer people in the West region, relative to the Northeast and South, place high importance on water quality as a benefit of Wilderness. Higher percentages of people in the South relative to the Northeast and Midwest see Wilderness as important for natural scenic beauty, and a higher percentage of people in the West relative to the Northeast place high importance on the option of visiting wilderness areas at some time in the future. A definitely higher percentage of people in the South relative to the rest of the U.S. see Wilderness as a source of spiritual inspiration. Feelings of spiritual inspiration may be associated with deeply held beliefs about passages in the Christian Bible that discuss wilderness experiences.

Are Americans' Viewpoints Changing?

The percentages and confidence intervals in the earlier referenced Table 1 show Wilderness values for two periods of time, seven years apart. The number 7 has come to symbolize many things in different cultures, modern and ancient. Recently, 7 has been seen as a lucky number. In the 7 years since the winter of 1999-2000, percentages of Americans assigning very to extreme importance to the 13 wilderness values in this report have generally increased, or remained at the same level. There are four values with increases that are statistically significant (i.e., confidence intervals do not overlap). These include preserving unique wild plants and animals, providing recreation opportunities, preserving natural areas for science and providing better income for the tourist industry. In this survey, unique wild plants and animals refers to species not usually found elsewhere. Particularly noteworthy of the statistically significant trends are increases in percentages assigning high importance for science and tourism. Percentages for both of these values rose nearly 7 percent.

Do Citizens Want More Wilderness?

NSRE respondents were asked their opinions about whether they saw the amount of federal land now designated as Wilderness as too little, about right, or too much. Over half in 2006-2007 (almost 51%) indicated there is not enough Wilderness, and 35 percent indicated the amount is about right (Table 4). Only 4 percent expressed the opinion that there is already too much. The percentage indicating the amount of designated Wilderness is "about right" increased slightly between 1999 and 2007. This upward shift resulted in smaller percentages in 2007 indicating "too much or don't know". The percentage of people who said "not enough" changed very little ending at almost 51 percent in 2007.

Asked how they felt about designating more of the federal lands as Wilderness in their home state, more than two-thirds of respondents (67%) indicated they somewhat or strongly favor more (Table 5). About 13 percent opposed more Wilderness in their state. There were no statistical differences between response percentages in 1999-2000 and 2006-2007 to the question about adding more designated Wilderness in the respondents' home state.

Table 4--Attitudes about the amount of land Congress has designated as wilderness. Percent of U. S. residents age 16 and older with 95% confidence interval, by year of NSRE interview.

Response	1999-2000 95% C. I.¹	2006-2007 95% C. I.¹	Statistically significant difference²
Not enough	49.5 (48.4, 50.6)	50.7 (47.7, 53.7)	No
About right amount	29.7 (28.4, 31.0)	35.0 (31.5, 38.4)	Yes
Too much	6.0 (4.4, 7.5)	4.1 (0.0, 8.3)	No
Don't know	14.8 (13.4, 16.3)	10.2 (6.2, 14.3)	No

¹95 percent confidence interval on weighted proportion estimates.

²Yes or No for statistically significant difference between weighted proportion estimates.

Source: NSRE 2000-2004, Versions 2, 4, 6. Dates: 11/99 to 1/01, n=14,781. NSRE 2005-2007, Version 3b. Dates: 12/06 to 10/07, n=2,187. All NSRE data are post-weighted such that the sample age/sex/race proportions closely approximate the Census Bureau population proportions. Also included in the weighting process are adjustments based on educational attainment and metro versus non-metro residence.

Table 5-- Attitudes about designating more of the federal lands as wilderness in the respondent's home state. Percent of U.S. residents age 16 and older with 95% confidence interval, by year of NSRE interview.

Response	1999-2000 95% C. I.¹	2006-2007 95% C. I.¹	Statistically significant difference²
Strongly favor	42.7 (41.2, 44.2)	39.8 (36.5, 43.1)	No
Somewhat favor	27.4 (25.8, 29.1)	27.4 (23.8, 31.0)	No
Neither	12.2 (10.4, 14.0)	17.1 (13.2, 21.0)	No
Somewhat oppose	6.4 (4.6, 8.3)	8.2 (4.1, 12.3)	No
Strongly oppose	6.0 (4.1, 7.9)	4.6 (0.4, 8.8)	No
Don't know	5.2 (3.3, 7.1)	3.0 (0.0, 7.2)	No

¹95 percent confidence interval on weighted proportion estimates.

²Yes or No for statistically significant difference between weighted proportion estimates.

Source: NSRE 2000-2004, Versions 4 & 6. Dates: 2/00 to 1/01, n=9,812. NSRE 2005-2007, Version 3b. Dates: 12/06 to 10/07, n=2,187. All NSRE data are post-weighted such that the sample age/sex/race proportions closely approximate the Census Bureau population proportions. Also included in the weighting process are adjustments based on educational attainment and metro versus non-metro residence.

Summary

Two values stand out as highly important reasons to Americans for having federal Wilderness. Over 90 percent of Americans said protection of air and water quality are very to extremely important values of Wilderness. Four additional values also stood out, although they seem to be a little less important. Included are protection of wildlife habitat, knowledge that future generations will have Wilderness to visit (bequest value), protection of rare and endangered plant and animal species, and preservation of unique wild plants and animals.

Overall, there were no differences by place of residence. Rural residents listed the 13 Wilderness values in much the same order and level of importance as urban residents. Rural residents may have placed a slightly higher value on the tourism benefits of Wilderness, though the difference was not statistically significant. There were only a few differences between people living in the four macro regions of the U.S. Somewhat fewer in the West region placed high importance on water quality and more people in the South put high importance on scenic beauty and spiritual inspiration. The West ascribed the greatest benefit to the option value of Wilderness.

In the 7 years between 1999-2000 and 2006-2007, percentages of Americans assigning very to extreme importance to the 13 wilderness values in this report have generally increased, or remained relatively the same. Those values with increases that are statistically significant include preserving unique wild plants and animals, providing recreation opportunities, preserving natural areas for science, and providing better income for the tourist industry. The latter two rose nearly 7 percent. Over half of Americans continued to say there is not enough Wilderness, and 35 percent indicated the amount is about right in 2006-2007, up about 5 percentage points from 1999-2000. Over two-thirds favored designating more federal lands as Wilderness in their home state in 2006-2007, roughly the same percentage as 7 years earlier.<p>

Next Reports

This is Part I of a planned 3-part report. Part II will compare Wilderness values between age, gender, education, income and other demographic groupings within U.S. Society. Part III will compare values across people who pursue different recreational activities and will examine the level of people's agreement with different expressions of the benefits of Wilderness.

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