

## SUMMARY

# THE NATIONAL WILDERNESS VALUES WORKSHOP

July 11-12, 2000, Washington DC

### Why a National Workshop on the Values of Wilderness

Americans value the system of protected lands we know as the National Wilderness Preservation System. Of this there is little doubt. But, do we fully understand the range and magnitude of these values, from recreation and science to clean water and sustaining species? Most would agree that we do not yet have a complete understanding of the value added by the National Wilderness Preservation System.

The National Wilderness Preservation System was established by law in 1964. Since then, numerous areas and vast acreage have been added to this system. It now includes 628 areas and about 105 million acres across the jurisdictions of four federal agencies. As the membership of the Congress, the Administration and federal land management agencies have changed, questions increasingly arise about the efficacy of continuing to protect some of our federal lands as wilderness, as opposed to some other designation of purpose, including privatization.

Are the fundamental societal values that guided establishment of the NWPS in the 1960s still with us in contemporary America? If so, do they differ in any substantial ways as viewed by Americans now? As we collectively ponder such questions, clearly needed is a comprehensive understanding of how 21<sup>st</sup> Century America views, and values, Wilderness. To the end of improving our understanding, the National Wilderness Values Workshop was organized by the Forest Service and The Wilderness Society as a kickoff to a national effort to inventory the values that Wilderness contributes. Participants at the July 11 and 12 Workshop worked to conceptualize ways to organize what we do or do not know about Wilderness values.

### Objectives

The objectives of this workshop were three:

- Conceptualize a multidisciplinary **Wilderness Values Framework** that accounts for the full range of values of Wilderness, including use and non-use values and contemporary and future perspectives.
- Summarize research and other sources of knowledge which describe our collective **state of knowledge** about Wilderness values within the context of this Framework.
- Identify **research** needed to improve our understanding of Wilderness values and to fill gaps in science-based knowledge about these values.

The most important objective for the workshop was the first one, a framework. We strived to accomplish the second and third objectives as well, but the emphasis was on the first one. We are

planning steps to continue working on two and three as we assess the results one week after the Workshop.

## **Format**

The format for conducting the meeting was to offer selected presentations at the beginning of each of the two days of the Workshop. These presentations were followed by facilitated, small-group breakouts. In these breakouts, participants used information provided in the presentations, and more importantly, pulled from their own research and expert knowledge, to conceptualize a “Wilderness Values Framework”. Conceptualizing a framework was viewed as essential to being able to inventory and communicate the full spectrum of value added by the NWPS. Toward the end of each day, we reassembled the full group of attendees to synthesize and assess progress from the breakouts.

Each person there was invited because they are seen as an expert in identifying and measuring the values of natural environments. Ranotta McNair was there representing the FS Wilderness Advisory Group. Denny Bschor was there as Chair of the Interagency National Wilderness Policy Council. Hilda Diaz-Soltero opened the Workshop and moderated Session I (see her comments below).

Invited presentations were viewed only as places to start the process of collectively thinking about a comprehensive framework for accounting for society-wide values of wilderness. All participant’s knowledge and insights were treated as equally important as those of the speakers.

## **Who were the Sponsors?**

The Forest Service and The Wilderness Society were the principal organizers of the Workshop. All of the four federal wilderness management agencies, however, were sponsors and (except for the Fish and Wildlife Service) had experts attending. In addition to Wilderness Management, the Southern Research Station’s research unit in Athens, Georgia; The Aldo Leopold Wilderness Research Institute and the Arthur Carhart National Wilderness Training Center were among the offices helping plan and carry out the Workshop.

## **The Agenda**

### Tuesday, July 11

- 8:00 **Tom Bancroft** of The Wilderness Society called the workshop to order and provided an introduction and statement of expectations for the Workshop. Participants then introduced themselves and provided a small amount of professional history.
- 8:25 **Denny Bschor**, Director for Recreation, Wilderness and Heritage Resources and Chair of the Interagency Wilderness Policy Council introduced Associate Chief Hilda Diaz-Soltero and provided introductory comments for the Workshop

- 8:30 Associate Chief **Diaz-Soltero** opened Session I and provided keynote remarks. (See Assoc. Chief Diaz-Soltero's comments below.)
- 8:45 **Bob Constanza** (University of Maryland), the first speaker, will provide the first presentation with the tentative title—"The role and value of ecosystems and natural capital".
- 9:45 Break
- 10:15 **John Loomis** (Colorado State University), "Economic Values of Wilderness in the U.S."
- 11:00 **Alan Watson and Dan Williams** (Rocky Mountain Research Station), "Social Values of Wilderness in the U.S."
- 11:45 **Ken Cordell** gave a wrap up of the morning's session and provided logistics information for the afternoon breakouts
- 1:00 Facilitated **breakout No. 1**
- 4:00 **Mike Bowker and John Bergstrom** (FS Research and University of Georgia) Sharing, critiquing and synthesizing results of the breakouts

### Wednesday, July 12

- 8:00-8:10 **Tom Bancroft**, Morning moderator, Call to order and instructions for the day
- 8:10-8:45 **Ken Cordell**, "Americans' perceptions of Wilderness—Results from the National Survey on Recreation and the Environment (*NSRE 2000*)"
- 8:45-9:45 **Sandra Gudmundson**, "Philosophical perspectives of Wilderness" (Metro State University)
- 10:00-11:00 **Cassandra Johnson**, "Multicultural perspectives of Wilderness" (Southern Research Station)
- 11:00-11:30 **Tom Power** (University of Montana) Synthesis and critique
- 12:30-2:00 Facilitated **breakouts**. This round of breakouts is expected to build upon results of the previous day's breakouts and on presentations of both days.
- 2:15-2:50 **Mike Bowker and John Bergstrom** Overview and synthesis
- 2:50-3:00 **Ken Cordell and Tom Bancroft**, Closeout

### Publication

The presentations at the Workshop, a paper or papers resulting from workshop synthesis, and other papers (invited and refereed contributed) will be published as a book for general readership. Island Press is the preferred publisher. A series of presentations to agency and other audiences will also be produced.

### Summary of points made by Associate Chief Hilda Diaz-Soltero

- American society is growing and its demographics are changing rapidly. But, from research, we know that one thing remains constant—All Americans care deeply about the natural environment and about their public lands.

- In 1964, the Congress of the United States established the National Wilderness Preservation System. Today, this system includes 628 areas spread across 44 states. There are over 105 million acres in this system, an area about the size of Puerto Rico, plus the state of California.
- It was the public's will to create the National Wilderness Preservation System in the 1960s, and to most Americans today, it seems that was a good thing to do. A good thing because it is a legacy to be passed from generation to generation, and Americans value passing along legacies.
- From time to time, however, questions have and still come up about the need for and value in having a system of specially designated lands that we protect and keep wild. Is having such a system truly the will of American society now, as much as it was in the 1960s? What do Americans value in Wilderness and just how much do they value it?
- Properly addressing the question about the need for a national wilderness system requires much discussion and debate. Those discussions and debates must be informed proceedings—informed by knowing what Americans value in Wilderness, and by knowing the degree to which they hold those values.
- This National Workshop is aimed at helping we in the agencies, those of you in non-governmental organizations and the Congress better comprehend the public's values toward officially designated and protected wilderness. Its objectives are to:
  - Conceptualize a multidisciplinary **Wilderness Values Framework** that accounts for the full range of values of Wilderness, including use and non-use values and contemporary and future perspectives.
  - Summarize research and other sources of knowledge which describe our collective **state of knowledge** about Wilderness values within the context of this Framework.
  - Identify **research** needed to improve our understanding of Wilderness values and to fill gaps in science-based knowledge about these values.
- All of you have been specially invited because of your specialized knowledge and because of your stature in your professional work. Thank you for agreeing to participate and contribute to this highly important and timely task of trying to better understand how American's feel toward Wilderness.
- This morning and tomorrow morning, we will hear from some of your peers their ideas of what we know about wilderness values and about approaches for measuring those values.
- After each of these presentation sessions, we will break into two groups, each charged with synthesizing our collective knowledge into a framework of wilderness values to help us fully account for the values of wilderness and to guide research to fill the gaps in our knowledge.
- On behalf of all of us participating in this Workshop, I want to thank The Wilderness Society for hosting us and providing logistical support.

## Attendees

Taylor Barnhill, Southern Appalachian Forest Coalition, Asheville, NC  
 Dr. John Bergstrom, University of Georgia, Athens, GA  
 James M. Bowker, USDA Forest Service, Athens, GA

Dr. Perry Brown, University of Montana, Missoula, MT  
H. Ken Cordell, USDA Forest Service, Athens, GA  
Dr. Robert Costanza, University of Maryland, Solomons, MD  
Hilda Diaz-Soltero, USDA Forest Service, Washington, DC  
Dr. Sandra Gudmundsen, Metro State College, Boulder, CO  
Dr. John C. Hendee, University of Idaho, Moscow, ID  
Wes Henry, USDI National Park Service, Washington, DC  
Anne Hoover, USDA Forest Service, Washington, DC  
Jeff Jarvis, USDI Bureau of Land Management, Washington, DC  
Cassandra Johnson, USDA Forest Service, Athens, GA  
Dr. Rebecca Johnson, Oregon State University, Corvallis, OR  
Dr. John B. Loomis, Colorado State University, Fort Collins, CO  
Robert E. Manning, The University of Vermont, Burlington, VT  
Giselle McAuliffe, The Wilderness Society  
Ranotta McNair, USDA Forest Service, Asheville, NC  
Dr. Pete Morton, The Wilderness Society, Denver, CO  
Connie Myers, USDA Forest Service, Missoula, MT  
Dr. David Parsons, USDA Forest Service, Missoula, MT  
Spencer Phillips, The Wilderness Society, Crafts Bury, VT  
Dr. Thomas M. Power, University of Montana, Missoula, MT  
Jerry Stokes, USDA Forest Service, Washington, DC  
Dr. William Throop, Green Mountain College, Poultney, VT  
Dr. Alan Watson, USDA Forest Service, Missoula, MT  
Dr. Daniel R. Williams, USDA Forest Service, Fort Collins, CO  
Ed Zahniser, National Park Service, Harper's Ferry, WVA

### **Selected portions of presentations**

#### **ECONOMIC VALUES OF WILDERNESS IN THE UNITED STATES: WHAT WE KNOW AND DO NOT KNOW DRAFT**

John B. Loomis, Professor  
Robert Richardson, MBA  
Dept. of Agricultural and Resource Economics  
Colorado State University, Fort Collins, CO 80523  
July 7, 2000 Draft; subject to revision and updating

#### **EXECUTIVE SUMMARY**

There are numerous economic values provided by protection of natural environments as Wilderness. These values can be grouped into eight categories: recreation, community, scientific, biodiversity, off-site, ecological services, passive-use and education. This paper reviews what is known about these eight major categories of value, and where possible, provides monetary estimates.

● **Recreation Benefits:** A conservative estimate of 16 million recreation visits to designated Wilderness in the lower 48 states has an estimated total recreation value of \$634 million annually using an average value per recreation day (\$39.61) from the existing literature. The designation of an additional 10,000 acre roadless area in the west as Wilderness would yield about 3,875 visitor days per year, providing a \$153,500 recreation value to visitors each year in the Western U.S. The same 10,000 acres in the eastern U.S. is estimated to yield approximately 11,000 visitor days per year with an annual recreation value to visitors of \$435,700.

● **Community Effects:** Combining the average expenditure per day of Wilderness use of \$30 with estimated Wilderness visits generates a level of total expenditures that directly or indirectly supports 26,820 jobs. Thus while development is restricted within Wilderness areas, visitor spending on gasoline, hotels, restaurant meals, etc., supports economic development *outside* of Wilderness areas. Designation of an additional 10,000 acres of Wilderness translates into \$443,740 of personal income and 18 jobs from Wilderness visitor spending in the eastern U.S. and \$156,318 of income and 6 jobs in the Western U.S. Surveys indicate that 45% of current residents and 60% of recent migrants to counties containing Wilderness indicate that Wilderness is an important reason for living in those counties.

● **Passive Use Values:** Generalizing the two studies of Western U.S. passive use values (e.g., existence, bequest values) we estimate annual values of Western wilderness (outside of Alaska) to be \$6.72 per acre, yielding annual passive use values of \$287 million for 42.7 million acres. Using the one study of Eastern wilderness we estimate a passive use value of \$4 per acre, yielding annual passive use values of 4.5 million acres to be \$19 million.

● **Scientific Values:** Wilderness provides a natural benchmark or control area for judging the effects of human development on natural systems and understanding of unfettered ecological processes. Wilderness has also been the source of study for more than 400 scientific journal articles. Using a rough estimate of the annual value per journal article, these Wilderness based articles yield an estimated economic benefit of \$5 million annually. The methodology for estimating scientific benefits needs substantial improvement before this estimate can be treated as any more than an rough approximation.

● **Biodiversity Values:** Wilderness designation provides one of the strongest levels of protection of biodiversity available to policy makers. Currently, more than 10% of the land in the Everglades, American Desert Province and Coniferous Forest-Alpine Meadow provinces are protected by Wilderness. Altogether Wilderness designations of a million acres or more protects about one-third of the 35 ecoregions of the continental United States.

● **Off-Site Benefits:** Just one of the off-site benefits of Wilderness, the increase in the value of private property adjacent to Wilderness areas, provides a gain of 13 % in per acre values in the Green Mountains of Vermont. With about 47 million acres of Wilderness nationwide, there are probably hundreds of millions of dollars in property value enhancement on private lands adjacent to or nearby these Wilderness areas.

● **Ecological Services:** Ecological services provided by Wilderness include watershed

protection, carbon storage, nutrient cycling, and fish/wildlife habitat. In principle, the recreational use of wildlife should be reflected in the agencies visitor use estimates.

Wilderness watershed protection yields a cost savings to several small towns' water treatment plants and highway departments from avoiding sedimentation associated with logging. This benefit is estimated to range from at least \$130,000 to as much as \$260,000 annually from just one small National Forest of 631,000 acres (Loomis, 1988). Given the 47 million acres of Wilderness, between \$9 and \$18 million in cost savings could be realized if this case study is generalizable to Wilderness areas throughout the U.S. An acre of forest has an estimated value of \$65 a ton for storing carbon, and thereby help to moderate climate change (Morton, 1999). With 29.5 of the 44 million acres of Wilderness being forested (Loomis, et al., 1999), a rough estimate of the value of carbon stored in continental U.S. Wilderness forests is \$2.4 billion annually. Costanza, et al., in their article in *Nature*, estimated that benefits of climate regulation from temperate forests could be valued at \$35 per acre per year. This yields a value of about \$1 billion annually in climate regulation benefits from Wilderness forests. These same authors indicated that temperate forests also provide waste treatment services by recovering mobile nutrients and cleansing the environment. The authors then estimated about another \$35 per acre from temperate forests arise from the waste treatment benefits of forests. Thus, Wilderness forests would provide another \$1 billion in benefits per year from this ecosystem service.

● **Educational** Values: Wilderness often provides a natural laboratory for many high school and college courses. Wilderness has also been used by various organizations to help teenagers and adults develop self-reliance, teamwork and coping skills they transfer to everyday life. While we are unable to estimate an economic value, the Wilderness Experience Program continuum of Friese, et al. (2000) may provide a starting point.

Table E-1 provides an overview and summary of the types of economic benefits provided by Wilderness.

**Table E-1 Summary of Annual Economic Values of Wilderness in the Lower 48 States**

Use	Economic Value (Millions)	Economic Impact	Other Indicators
Recreation Value	\$634		
Passive Use Value (option, existence, bequest)	\$306		
Ecological Services (carbon sequestration, etc).	\$2,000-3,400		
Scientific Biodiversity	\$5		+400 journal articles
1/3 of U.S. Ecoregions Community (Recreation related) Off Site (Gain in local property values)		+ 1 million acres protected   26,822 Jobs	13 %

Tables from Ken Cordell's presentation

Does Level of Knowledge of the NWPS Affect Opinions?

	Knowledgeable (36.1%)	Not Knowledgeable (63.9%)
Overflights should be banned	22.6%	22.8%
Overflights should be allowed	15.0%	10.0%
Not seeing others important	25.3%	16.3%
Not seeing others unimportant	44.6%	55.1%
Seeing management does not detract at all	68.5%	69.8%

Do Wilderness Visitors Feel Differently About the NWPS?

	Visit (38.9%)	Do Not Visit (61.1%)
Overflights should be banned	19.2%	22.1%
Overflights should be allowed	11.9%	10.5%
Not seeing others important	23.5%	18.5%
Not seeing others unimportant	42.3%	52.1%
Seeing management does not detract at all	64.1%	68.1%

**Are Feelings  
Toward the  
Environment  
Related to  
Opinions  
About the  
NWPS?**

	<b>Environmental Protection a Top Issue (38.3%)</b>	<b>Environmental Protection Not a Top Issue (61.7%)</b>
<b>Overflights should be banned</b>	<b>25.3%</b>	<b>16.5%</b>
<b>Overflights should be allowed</b>	<b>5.9%</b>	<b>11.3%</b>
<b>Not seeing others important</b>	<b>30.3%</b>	<b>17.8%</b>
<b>Not seeing others unimportant</b>	<b>37.0%</b>	<b>52.6%</b>
<b>Seeing management does not detract at all</b>	<b>61.3%</b>	<b>65.5%</b>

**Does  
Lifestyle or  
Education  
Influence  
NWPS  
Opinions?**

	<b>Regularly Use PC (49.4%)</b>	<b>Don't Use PC (50.6%)</b>	<b>College Degree (32.5%)</b>	<b>No Degree (67.5%)</b>
<b>Overflights should be banned</b>	<b>19.5%</b>	<b>22.0%</b>	<b>21.1%</b>	<b>20.8%</b>
<b>Overflights should be allowed</b>	<b>11.5%</b>	<b>10.2%</b>	<b>10.0%</b>	<b>11.5%</b>
<b>Not seeing others important</b>	<b>20.4%</b>	<b>20.0%</b>	<b>21.8%</b>	<b>19.7%</b>
<b>Not seeing others unimportant</b>	<b>44.9%</b>	<b>51.8%</b>	<b>42.0%</b>	<b>51.2%</b>
<b>Seeing management does not detract at all</b>	<b>66.2%</b>	<b>66.3%</b>	<b>68.7%</b>	<b>65.6%</b>

**Ranking of  
Wilderness  
Values by  
Public**

<b>Values</b>	<b>Percent Strongly Agreeing</b>	<b>Groups Differing</b>
<b>Intergenerational vicarious, passive use</b>	<b>88.5%</b>	<b>Protecting the environment (+)</b>
<b>Enhanced environmental quality</b>	<b>81.5%</b>	<b>Protecting the environment (+)</b>
<b>Scientific, medicinal benefits</b>	<b>78.4%</b>	<b>Knowledge (-) and protecting the environment (+)</b>
<b>Intrinsic, whether humans benefit or not</b>	<b>77.0%</b>	<b>Visited Wilderness (+) and protecting the environment (+)</b>
<b>Vicarious passive use</b>	<b>76.5</b>	<b>Visited Wilderness (+)</b>
<b>Existence w/o use</b>	<b>70.7</b>	<b>Protecting the environment (+)</b>
<b>Aesthetic, passive use</b>	<b>63.0</b>	<b>Visited Wilderness (+) and protecting the environment (+)</b>

**An important reference for your desk**

Loomis, John B. and Richardson, Robert. 2000. Economic Values of Protecting Roadless Areas in the United States. The Wilderness Society, Washington, DC. 34 p.