

lands that include over 109 million acres.⁶ Four Federal agencies share administration of the National Wilderness Preservation System: the National Park Service (U.S. Department of the Interior), the Bureau of Land Management (U.S. Department of the Interior), and the U.S. Fish and Wildlife Service (U.S. Department of the Interior), and the U.S. Forest Service (U.S. Department of Agriculture). The National Wilderness Preservation System is predominately in the western regions, particularly in Alaska, which alone contains more than 52 percent of Wilderness acreage which is largely managed by the National Park Service and U.S. Fish and Wildlife Service. Including Alaska, about 96 percent of the National Wilderness Preservation System is located in the West. Without Alaska, the proportion drops only slightly to 92 percent of total area.

The invited papers that follow below cover a number of important aspects of the National Wilderness Preservation System. The first was written by two of the world's foremost experts on wilderness as the premier land protection system in the United States. One section of this paper that focuses on wilderness recreation opportunities is included in chapter 5. A second paper emphasizes the broad public appeal of wilderness resource protection based on the values people see and appreciate in it. There are numerous dimensions of wilderness values. These values are the reasons for protection of Wilderness Areas.

INVITED PAPER

The National Wilderness Preservation System and Its Stewardship

Chad P. Dawson and John C. Hendee⁷

Humans are thought to have deep historical and cultural connections with “wild nature.” These connections can come about through direct experiences in wilderness, through art and photography, or through reading about the adventures of others. While there is widespread public support for wilderness, there are divergent and polarized viewpoints on how to define it. These viewpoints range from extreme

protectionists who believe that humans have no place in wilderness to utilitarian interests who view wilderness as a backdrop for economic development and for recreation and tourism activities.

The United States has a legal definition of wilderness. This legal definition is in the form of legislation passed in 1964 to create the National Wilderness Preservation System (U.S. Public Law 88-577). Based on this legal definition, by 2010, the National Wilderness Preservation System included over 790 management units and more than 109 million acres of public lands managed by four Federal agencies.

The term wilderness was historically used to describe places that were untamed and not under the control of humans. Areas of civilization that were cultivated and heavily influenced by human activities often bordered or were surrounded by areas that had little human influence. As the population has grown and the majority of land area has come under human influence, wilderness has now become scarce. There are few places that are not now, or have not been at one time, under human control, habitation, cultivation, or other direct influence. A gradient of human influence and impact exists from wilderness to urban centers and rural areas with population growth, road building, food production, power generation, industrialization, and human habitation.

The early history of the United States (and of the rest of the world) during European immigration was one of cultivating and “taming” the wild places and taking dominion over the land. Wilderness was seen as a place for exploration, and was often feared and avoided. As the amount of land with wild conditions began to diminish, it became more appreciated. The public's interest in wild places grew larger as wild places became scarcer. Special places were first set aside as national parks, such as Yellowstone, Yosemite, and the Grand Tetons. These areas were at first seen as park destinations for the development of recreation and tourism, rather than as preserves.

After World War II, greater public interest began to emerge to save wild areas. Some of that concern was due to interest in wilderness recreation experiences, but also due to concern about rapid industrialization and population growth. Some would argue that there are few places in the world that are wilderness in the strictest sense of the word. Thus, the more common usage of the term wilderness is in relation to our perception of areas that are little known or predominantly under the influence of natural forces. Although the term had been commonly applied to any large, remote area with natural characteristics, conditions, and processes, by 1964 it gained a new legal definition.

⁶ The Wilderness Institute at the University of Montana maintains www.wilderness.net, which includes a database of National Wilderness Preservation System statistics. Congress designates land from four Federal agencies for inclusion in the NWPS, with those designated areas staying within the home agency, but with altered management priorities.

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Okefenokee National Wildlife Refuge and Wilderness Area is enjoyed by many thousands of visitors each year while at the same time managed to protect its wilderness character. (Photograph by Ken Cordell)

Wilderness legislation and policy in the United States

—The Forest Service and the National Park Service did not begin to set Agency policies to protect primitive and roadless areas from development until the 1920s. During the following decades, roadless area inventories and administrative designations of wilderness occurred with increasing public interest. As recreational use and interest in these lands increased, concerns were raised by professionals in the agencies and the public that administrative regulation: (1) allowed too many development activities, such as mining, grazing, motorized access, and water resource development; (2) shifted boundaries or removed designation to permit resource development; (3) promulgated different regulations and management in different areas; and (4) had neither a clear policy for wilderness preservation nor a national system with coordinated management.

Eventually it became clear that legislative protection was needed to create a permanent and coordinated national system for wilderness preservation. From 1956 to 1964, more than 50 wilderness bills were introduced in the U.S. Congress. These bills were heavily debated by different interest groups. Political compromises were necessary to finally get wilderness legislation, thus some human activities were permitted in some areas, even though they would not be consistent with the intent of the wilderness legislation. These included activities such as mining, grazing, aircraft landings, and water resources development.

In 1964, the U.S. Congress passed The Wilderness Act (U.S. Public Law 88-577), thus creating the National Wilderness Preservation System. The Wilderness Act broadly states policy for designating Wilderness and recognizes the need to protect significant natural areas because of the rapid loss of such resources:

In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of Federally owned areas designated by Congress as “wilderness areas,” and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. (U.S. Public Law 88-577, section 2a).

The language above is referred to as the “guiding management intent” because it specifically refers to “use and enjoyment,” provided that areas remain “unimpaired” and ensured “preservation of their wilderness character.”

Section 2c of The Wilderness Act includes an important and often-quoted definition of Wilderness:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean...an area of underdeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value (U.S. Public Law 88-577, section 2c).

This definition is an ideal tempered by four conditions to make it practical. One of those four conditions refers to “outstanding opportunities for solitude or a primitive and unconfined type of recreation,” a phrase often referred to as the guiding principle for recreation management. Certain types and amounts of recreation are permitted, provided the

area is “protected and managed so as to preserve its natural conditions.” This principle is especially important regarding primitive facilities, trails, backcountry travel, recreational equipment (e.g., removable climbing gear, backpacking stoves), and management activities.

Creation of the National Wilderness Preservation System in 1964 was just the beginning of legislative designations. By 2009, there were more than 170 different laws passed by the U.S. Congress designating new areas or adding acreage to existing ones. The initial designation of 9.1 million acres was followed by congressional designations in 32 of the 45 years between 1964 and 2009 to add acres and units to the National Wilderness Preservation System (table 3.10). The largest single increase was the addition of approximately 56 million acres in Alaska under The Alaska National Interest Lands Conservation Act of 1980 (U.S. Public Law 96-487). Proposals for additional acreage are continuing to be brought before Congress and its committees.

Potential threats to Wilderness—Designating areas as Wilderness is just the first step and must be followed by stewardship to maintain those areas. Numerous types of internal and external conditions, influences, and changes threaten Wilderness resources and values, now and in the future.⁸ One example of a threat is that Wilderness Areas in many States are increasingly isolated remnants of historic ecosystems. As the surrounding landscape becomes more developed, Wilderness Areas become ecologic islands that can continue with various processes, provided they are large enough or are not disconnected from other natural areas. This concern is most pronounced in the Eastern United States, with its smaller Wilderness Areas. Most threats to Wilderness are projected to increase in the coming decades. Land managers will need to monitor potential threats and to prepare management plans to minimize, mitigate, or remove them.

Wilderness stewardship and management—Some level of Wilderness management is necessary because of increasing visitor use and changing uses of surrounding lands. The idea of management of an area intended to be free

⁸ Dawson and Hendee (2009) identified 19 categories of internal and external threats as the change agents that affect wilderness conditions and values: Fragmentation and isolation of wilderness areas as ecologic islands; Impacts on threatened and endangered species; Increasing commercial and public recreation use; Permitted livestock grazing; Invasion of exotic and non-native species; Administrative access, facilities, and intrusive management; Adjacent land management and use; Private and public land inholdings within wilderness; Established mining claims; Wildland fire suppression activities; Reduced air quality; Reconstruction and maintenance of water projects and reduced water quality; Advanced communication and navigation technology that reduces solitude; Motorized and mechanical equipment trespass and legal use; Aircraft noise and air space reservations; Urbanization and encroaching development; Global climate change; Legislation designating new wilderness areas with compromised wilderness conditions; and Lack of political and financial support for wilderness protection and management.

Table 3.10—Acreage of Wilderness designated in 1964 at the creation of the National Wilderness Preservation System and in subsequent 5-year intervals through 2010

Year	Acreage
1964	9,139,721
1966–70	1,153,382
1971–75	2,612,902
1976–80	68,027,642
1981–85	8,563,271
1986–90	5,560,032
1991–95	8,772,384
1996–2000	1,119,621
2001–05	1,353,607
2006–10	3,199,777
Total	109,502,248

Source: wilderness.net (N.d.).

of the influences of modern human activities may appear paradoxical. However, Wilderness management has evolved to become the control of human uses and of the internal and external influences to protect and preserve an area’s solitude and naturalness, including natural processes and conditions. Hendee and Dawson (2004) highlight the Wilderness stewardship philosophy for managers:

Wilderness management should not mold nature to suit people. Rather, it should manage human use and influences so as not to alter natural processes. Managers should do only what is necessary to meet wilderness objectives and use only the minimum tools, regulations, and enforcement required to meet those objectives. In wilderness, people adapt to nature, to naturalness and solitude, and that is the source of human benefits from wilderness experience, as well as the ecological and non-use benefits.

This stewardship philosophy is based on the Wilderness Act and is balanced between protection of Wilderness naturalness and human use and enjoyment. The stewardship philosophy favors the natural integrity, but allows accommodation of some primitive styles of recreation and opportunity for solitude. Wilderness should be managed as a pristine extreme in the landscape (over 4 percent of U.S. land area) to maintain the distinctive qualities that define and separate it from other land uses (over 95 percent of U.S. land area). Wilderness is managed from a biological perspective where environmental integrity and primeval conditions are the basis for human enjoyment, values, and benefits. Wilderness is managed as an ecosystem and not as a separate set of resource types (e.g., water, forests, or wildlife) since this focuses managers on a comprehensive perspective across resource types.

If Wilderness is to be managed to maintain or improve natural conditions and not allow degradation at particular sites or across the area, then an understanding of the carrying capacity of the area is essential. One of the major components in managing Wilderness recreation is to manage in favor of activities that depend on natural conditions. This requires acknowledgment that there are other places for recreational experiences that do not require natural conditions. An implication of this management philosophy is that Wilderness is not primarily a place for recreation nor any associated activities. All management activities, including search and rescue operations, should have as light an impact on the land and on Wilderness experiences as possible. Required are minimum tools and regulations to allow naturalness and solitude. Examples are using hand tools instead of gas-powered tools in maintenance activities, using educational materials in place of direct trip management, or using minimal directional trail signs and not mileage markers.

Concluding remarks—The National Wilderness Preservation System is the ultimate in an attempt to protect natural land and preserve its natural functioning in perpetuity. Recreation is accommodated, but it should be compatible with the primary purpose of Wilderness, which is preservation of naturalness. In today's world of increasing population and expanding development, preserving wild lands requires some level of management. While management and Wilderness may seem paradoxical, management and stewardship is essential. The Wilderness Act acknowledged that some areas of the United States should stay wild and provide solitude and wild land experiences. The long-term results are that the natural forces and processes that shaped and formed the lands in the NWPS will be evident in the Wilderness Areas that we leave for future generations.

End Invited Paper

INVITED PAPER

Values of the Urban Wilderness

Patricia L. Winter⁹

Introduction—Wilderness is widely supported by the American public (Campaign for America's Wilderness 2003) and provides myriad ecosystem services and other benefits (Schuster and others 2005, Williams and Watson 2007). Wilderness services and benefits deemed important to the public include use (such as recreation) and non-use

values (such as scenery appreciation) (Brown and Alessa 2005). Protecting wilderness and its values as population and environmental changes evolve is a significant challenge (Hill 1994). Wilderness Areas near urban places (urban-proximate wilderness) are under elevated threat from human impacts, including encroaching development and spillover of ambient air pollution (Cordell and others 2005). It is hoped that this discussion will help broaden recognition of environmental issues with wilderness beyond the traditional biospheric focus to incorporate other values (Schultz and Zelezny 2003). Recognizing the broader variety of values invites a holistic consideration of wilderness protection efforts.

This paper examines values through the experiences of visitors to urban-proximate wilderness areas. Experiences are grouped according to types of values, considering direct reports from visitors both during and after their wilderness visits. In each case, the discussion surrounds direct-use values (Schuster and others 2005). Some of these benefits extend beyond the immediate wilderness visit. Focusing on visitor experiences can inform management of wilderness (Cole 2004), help broaden the consideration of wilderness benefits, and facilitate wilderness preservation efforts (Hill 1994). Findings may help illuminate the broad array of values represented in an urban-proximate wilderness, including the value of the recreational experience to a diverse urban public.

Methods—Through a series of four studies conducted by the author, experiences of the urban wilderness visitor are examined. These studies were oriented to urban-proximate wildernesses on the San Bernardino and Angeles National Forests in southern California. Urban-proximate wildernesses in other geographic areas may demonstrate their own unique use and resource character and thus conclusions from this paper may not apply.

Results—Evidence is provided for wilderness values linked to the following:

- physical (including exercise, physical challenge, and preparation for more challenging trips)
- psychological and spiritual (such as solitude, self-definition, self-affirmation, and renewal of soul)
- social (by fostering and maintaining social connections including spending time with family and/or friends, and serving as the basis of some relationships)
- transactional by fostering connection to nature (including being close to nature, observing wildlife, visiting a natural and unspoiled area, fostering environmental identity, and enhancing personal environmental responsibility).

Not all questions were worded in the same way across the four studies, presented in the same order, nor asked in the same wilderness areas.

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