

Preservation Is Not Enough

The Need for Courage in Wilderness Management

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Introduction



THOUSANDS of people over many years have made tremendous efforts to preserve wild lands. And yet, regrettably, less has been accomplished than we like to think. We delude ourselves in assuming that lands will be preserved as wilderness simply because an act of Congress draws new lines on a map. Out there on the real earth, meadows are being trampled, trails are being eroded, campsites are being degraded, water supplies are being polluted, and wildlife is being extirpated. How can this happen in an age of apparent wisdom, sophistication, and sensitivity to wilderness? What can be done to reverse the degradation and truly preserve our precious wild lands?

In attempting to address these questions and provide the beginnings of answers, I use examples from my own experience in the management of the Greater North Cascades Ecosystem (GNCE) of Washington and British Columbia. The same issues, however, are common to many wildlands, such as the Greater Yellowstone Ecosystem, the Colorado Plateau, the High Sierra, and the Southern Appalachians.

Historical Background

European settlers did not see wilderness as something worth saving until their third century of residence on the North American continent. In fact, these settlers actively destroyed wilderness, transforming native forest into pastoral farmland with the passion of the newly converted. Not until settlement had progressed from coast to coast, leaving a tamed landscape in its wake, were the remaining patches of wild nature considered as something of cultural value. The decade of the 1890s, often viewed as a watershed in American history, saw the Western frontier—perennial hope of a better life for so many generations—effectively closed as the westward drive of Euro-American settlement finally spanned the entire continent.

Spearheaded by John Muir, public sentiment for wilderness preservation gained momentum through the next six decades and culminated with the passage by Congress of the Wilderness Act in 1964 (Fox 1981, Allin 1982, Nash 1982). Hampered by a web of political compromise (Allin 1982), the authors of the Act met the daunting challenge of defining wilderness: "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (for full text and explanation of the Act, see The Wilderness Society 1984).

After striving so long toward the goal of preserving wild places, it is no surprise that little thought had been given to what to do with these places after they were legally classified as Wilderness. Two types of wilderness use were defined: resource extraction and recreation. The former included mining, logging and grazing; the latter fishing, hunting, and, increasingly, nonconsumptive activities, such as hiking and nature study. Recreation, as such, was almost nonexistent in wilderness until relatively recently. Since World War II, however, recreation has become a major influence on wildland ecosystems (see Hammitt and Cole 1987), as well as an important economic force in western North America.

Only recently has attention begun to shift away from the strictly political issues of preservation and classification to the more complex question: "What actions should be taken to keep these places wild?" The interdisciplinary art and applied science of wilderness management was born as this question began to be addressed.

The name "wilderness management" itself betrays the ambiguity which obscures our efforts. Webster tells us that *wilderness* derives from the Old English for "place of wild beasts" and implies an uncontrolled state; *management* involves controlling and directing. Within this inherent paradox we have set for ourselves a formidable task.

Nonetheless, we must work toward a solution. The work of a century to allocate public lands as wilderness will have been for naught if we fail to subsequently protect them. Wilderness designation on a map, or in the *Congressional Record*, means nothing if the landscape itself is abused.

Solutions are sought against a backdrop of increasing urgency. Public demand for wilderness recreation outstrips available resources. Officials at the Mt. Baker-Snoqualmie National Forest in Washington State predict that recreational use will more than double in the next forty years, even though we approach the "practical capacity" for human use of the land today (USDA Forest Service 1987).

Records show that more than six thousand people per summer—sometimes over 200 in a single day—visit Cascade Pass, a fragile sub-alpine area four miles deep into the North Cascades National Park backcountry. The vegetation here has been so damaged by hikers that it became necessary to begin an intensive revegetation effort and construct a stonework "patio" to stabilize the remaining soil.

Recreational use of wilderness has increased dramatically in the past three decades. Historian Roderick Nash (1982) attributed much of the increased demand for wilderness recreation to a trio of revolutions: in equipment, transportation and information. With the advent of nylon, plastics, and other technological developments, exploring wilderness became easier and more comfortable. With this change, hiking became a leisure activity rather than drudgery. The coincident increases in road building and availability of automobiles opened the wilderness to new hordes. Now someone who knows nothing of a wilderness area can pick up a book and learn everything from road access to trail mileages to suggested lunch stops. Climbers can literally learn the location of every handhold and bivouac site. These aids remove much of the mystery and risk from the potential wilderness experience and a major mental block to entering these areas.

All told, technological and intellectual change has made wilderness less intimidating, more inviting, and easier to reach. Americans have responded

in droves, and the question must be asked, "What can be done to save our wildlands from being loved to death?"

Current Problems

Across the land, wilderness is under attack. Noncompatible uses, such as mining, invade some areas, while appropriate wilderness activities at inappropriate levels threaten the health of wilderness ecosystems and the sanctity of human wilderness experience. A four-year study of the GNCE's Alpine Lakes Wilderness, for example, indicates that both user numbers and damage to the landscape exceed planned limits (USDA Forest Service 1991). Similar situations abound throughout the GNCE and the entire National Wilderness Preservation System. For this reason Congressman Bruce Vento (1990) recently called for a "revolution in wilderness management."

The integrity of wilderness is in trouble. The whimsy of the political process often subdivides a wilderness ecosystem into a confusing array of incomplete components. In the Greater North Cascades Ecosystem, for example, the morass of administrative designations includes national park, national recreation areas, national forests, designated wilderness areas, and provincial parks, as well as other state, provincial and private lands. All told, the GNCE is managed by a half-dozen agencies from well over a dozen different administrative offices. It comes as no surprise, then, that ancient coniferous forests, alpine highlands, dry rain shadow pine forests, and arid grasslands—all essential components of the ecosystem, and all one "Home to Grizzly Bear"—are not treated as a whole by those who decide their fate. A unified effort to foster an intact wilderness ecosystem is a far cry from the current reality. Meanwhile, habitats of wilderness species are increasingly being fragmented.

Wilderness suffers from the accumulated abuses of many years. As a consequence, land management agencies must too often deal with crisis situations and attempt to find emergency solutions to immediate problems. In a recent critique of Forest Service wilderness management, failure was attributed to inadequate budget and personnel levels, lack of management accountability, and absence of clear management standards (Beum 1990).

Furthermore, some agencies—particularly the Forest Service—tend to

manage wilderness as a subset of recreation, even though that is but one of several purposes of wilderness outlined by the Wilderness Act. As a result they overemphasize recreational uses of wilderness (Clark and Buscher 1990). Managing agencies typically fail to realize that wilderness is at least as high a priority as traditional commodity interests such as timber, mining, and grazing. In most wilderness areas, basic ecological surveys have never been conducted nor have careful management strategies been formed. Lack of personnel, time, and funding contribute to this lack of information and commitment.

Wilderness management professionals recently described eight categories of management problems: trail deterioration, campsite deterioration, litter, crowding and visitor conflict, pack stock impact, human waste, impacts on wildlife and fish, and water pollution (Cole, Petersen, and Lucas 1987). Participants at conferences on wilderness management (Frome 1985, Lime 1990) and recreational impact on wildlands (Ittner et al. 1979) raised a similar array of concerns. In a survey of wilderness managers throughout the National Wilderness Preservation System (Washburne and Cole 1983), almost three-quarters of the respondents reported impacts on vegetation in their areas. These managers—representing a great diversity of geographic areas and governmental agencies—described local resource degradation and lack of solitude due to concentrated wilderness use as their most significant management problems. It becomes apparent when examining these problems that wilderness management is primarily a matter of managing people.

As a result of human-caused problems, the spirit of wilderness is also in trouble. When people visit an apparently wild place in hopes of experiencing its healing and restorative powers (Miles 1987), too often they are confronted with the same human problems they were hoping to escape. Social impacts on the one hand—whether disruption by insensitive fellow wilderness users or overregulation by a managing agency—and physical impacts to the landscape on the other, both threaten the potential for direct human experience with wild nature. Both types of impact also threaten nonhuman values of wilderness.

Attempts At Solutions

The practice of wilderness management has typically been viewed as a combination of visitor management, such as limiting access, restricting uses, and educating users, and site management, including policies on trails, campsites, fire, and restoration of damaged areas (Hendee, Stankey, and Lucas 1978; 1990). With only a few exceptions wilderness management is, in fact, people management. The effect of human activities on wilderness can be managed directly, through regulation, or indirectly, by influencing behavior. Researchers (Hendee, Stankey, and Lucas 1978; 1990) and at least one agency (USDA Forest Service 1986) agree that indirect methods, such as educating users and limiting access, are preferable to direct regulatory approaches, such as rationing use, because they minimize intrusion into the human experience of wilderness.

The most effective wilderness management tool is public education. Visitors are more likely to respect a place—whether the issue be trampling vegetation, overusing an area, feeding wildlife, or improperly disposing of waste—when they understand these problems. In my own experience, the vast majority of visitors who mistreated the environment did so out of ignorance, not maliciousness. Eradicating that ignorance is finally being seen as a top priority for wilderness managers (Hansen 1990, Passineau 1990). In its official policy on wilderness management the Forest Service acknowledges that educational approaches are "the primary tools" (USDA Forest Service 1986). Former Chief of the U.S. Forest Service, R. Max Peterson (1985), states that wilderness management is "80-90 percent education and information."

In a national survey of wilderness managers the majority of respondents thought that personal contact with visitors was the most effective management technique (Washburne and Cole 1983). One of the most important responsibilities of wilderness rangers is to make positive educational contacts with visitors. Such contacts range from short, informal chats to publicized interpretative talks. In many cases, educational effort is concentrated at trailheads or information centers. When permits were abolished in the North Cascades' Glacier Peak Wilderness Area a few years ago, the worst effect noticed by the staff was the lost opportunity to talk with visitors about their potential impact.

Most educational efforts thus far have occurred in the wilderness areas

themselves, or at their portals. But if wilderness is to remain wild, the public must be educated before it ever arrives in the backcountry (Hansen 1990, Passineau 1990). The GNCE, in an encouraging trend, has developed an extensive wilderness education outreach program for the region's schoolchildren, conducted by the nonprofit North Cascades Institute, with the support of the U.S. Forest Service.

One of the most basic management questions concerns access. Should everyone who wants to visit a wilderness area be allowed to do so? If not, how do we limit numbers? Should visitors camp wherever they choose, or only in designated areas? The use of permits has been a controversial issue. Proponents claim that permits are a necessary management tool (Hendee and Lucas 1973), while others argue vehemently against them, believing they engender a "police-state wilderness" (Behan 1974).

In practice, adjacent areas have vastly different policies. North Cascades National Park has one of the most restrictive and regulated backcountry visitation policies in the nation. To obtain a permit, visitors must provide, in advance, specific details of their hiking activity. Campers must use designated campsites, and they cannot change plans in mid-trip unless they encounter a ranger. And they often *do* encounter rangers in the backcountry, much to the chagrin of some visitors. To make this system work, a team of a dozen or so rangers patrols the backcountry using two-way radios, as well as using an information/permit station outside the backcountry. Detractors call this degree of regulation overzealous, saying it ruins their experience of wilderness. Detractors and proponents agree, however, that physical damage to the landscape has decreased since the system was instituted a decade ago. By contrast, adjacent national forest wilderness areas in the North Cascades have an "open-door" policy, requiring no permit and no contact with agency personnel. This approach appeals to visitors who cringe at institutionalization of wilderness. But, unarguably, many of these unregulated lands have seriously deteriorated. Over twenty years of monitoring the impact of backcountry recreation on the subalpine vegetation of the North Cascades indicates clearly that unrestricted recreation leads to ecological deterioration of popular sites (Thornburgh 1986; 1990).

Much emphasis has been given to management of wilderness campsites, as these are where physical and social impacts are concentrated. Controversy has existed over the relative virtues of concentrating and dispersing camping use,

as well as the effectiveness of closing impacted areas altogether. Concentrating campsite use appears to be superior to visitor dispersal for minimizing physical impact throughout a wildland (Cole 1981). Because most impact occurs within the first few years of use, campsite closures are often ineffective (Cole 1981, Cole and Marion 1986). A variety of techniques for monitoring impact of wilderness campsites has been developed (Cole 1983; 1989). Cole (1990b) has put forth a useful set of campsite management principles. Human waste in high-use areas creates another web of problems. To cope with this challenge, latrines are often placed in high-use areas and campsites. These toilets range from primitive pits to experimental composting models in use in North Cascades National Park (Weisberg 1988).

Sometimes the effort to preserve wildness leads to paradoxical practices. At Cascade Pass, in an ongoing management activity, we shoveled hiking routes across early season snowfields, attempting to align the snow trail as closely as possible to the true trail below. Hundreds of trampling feet could then melt out on the trail rather than on fragile meadows. But the image of a uniformed employee shoveling snow below glaciers left some visitors doubting the wildness of the place.

In a similar move to preserve fragile vegetation, we placed agricultural salt blocks for deer in a subalpine basin. Paradoxically, this was intended not to tame the deer but to keep them wild. Salt is a limiting resource in the subalpine environment of the North Cascades, and all nonhuman mammals are drawn to it. The most abundant sources of salt are provided by humans through urine and sweat. Deer and other mammals stay around campsite areas specifically to obtain salt and, in the process, become corrupted by food handouts from uninformed hikers. Our salt blocks were an attempt to wean them from this self-destructive addiction.

Increasingly, managers are focusing on restoration and "repair" of damaged areas (Pollock 1988, and Ouderkirk, this volume). An innovative and successful revegetation project at North Cascades National Park (Lester and Calder 1979) has inspired similar work elsewhere. Previously denuded subalpine meadows have been revegetated with native species grown from seed in a greenhouse and planted in their area of origin. This time- and labor-intensive procedure often yields dramatic results which are conspicuous to returning backcountry visitors. In a positive (but too rare) example of

interagency cooperation, the National Park Service now helps train Forest Service personnel in these revegetation techniques.

Planning for the future of wilderness has generally been haphazard or nonexistent. Managers' time and energy are often stretched too thinly with present matters to engage in the time-consuming task of planning. Recently, however, Forest Service researchers developed a planning system, which can be used in a variety of ecosystems. Called Limits of Acceptable Change, or LAC (Grumbine 1985, Stankey et al. 1985, Wuerthner 1990), the system makes two major advances. First, it provides a process for determining the desirable conditions for an area, rather than the merely tolerable. Second, it provides managers with an existing planning procedure, hopefully speeding up the planning process.

LAC is currently the primary focus for agency managers involved in wilderness planning. Prominent conservation analyst Michael Frome (personal communication) feels that LAC falls well short of its goals by allowing managers to avoid decisions by using a cumbersome bureaucratic procedure. While success or failure remains undetermined, LAC clearly signals that managers are now recognizing the need for long-range planning and for establishing limits on cumulative impacts on wildlands.

No system of long-range planning, however, will succeed without gathering more accurate information on the biological, physical, and social environments to serve as a baseline to monitor change (Hendee, Stankey, and Lucas 1990, Cole 1990a, Stankey 1982). Simply put, it is hard to get somewhere if you don't know your starting point. If planning is to ever bear fruit, managing agencies must place baseline resource and use inventories as higher priorities.

Several authors have proposed sets of principles for managing wilderness. Hendee, Stankey, and Lucas (1978) set forth the first set of principles over a decade ago, and their work dramatically influenced managing agencies. The Wilderness Society (1984) and Reed, Haas, and Beum (1990) augmented the original, solid work of Hendee and his colleagues with additional principles for wilderness management, while Hendee, Stankey, and Lucas (1990) recently made their own revisions. Taken as a whole, these guidelines offer insightful direction to managers. The trend over the years toward recognizing biocentric values and the importance of maintaining ecosystem integrity is

encouraging. Nevertheless, more sweeping changes in wilderness management are called for.

The Changes Called For

In spite of the genuine concern and painstaking work of dedicated wilderness managers, the approaches tried thus far are inadequate and doomed to failure unless major changes are made. Cole (1990a) pointed out that changes must occur both inside and outside the managing agencies. He urges agencies to expand research programs, encourage planning and monitoring, upgrade the training of personnel, and increase the accountability of managers. He encourages those outside the agencies—academicians, conservation groups, and the general public—to demand professional management and to become more involved in wilderness management issues. A recent critique of Forest Service wilderness management saw the need for increased management accountability, clarified resource standards, and increased funding and personnel (Beum 1990).

Several other fundamental changes are called for, if indeed we are to maintain wild nature even as we mingle with it.

BECOMING VISIONARY

Wilderness management today suffers from a lack of vision. Long-term planning for wilderness is in its earliest stages. We, as a society, have not yet begun to take the even longer view necessary. We should be planning for ecosystem health not just years, but centuries and millennia from now. Wilderness managers must ask: What should this place look like in one hundred years? What type of experience can a hiker have on this ridge two hundred years from now?

To keep our wilderness vision broad we must spend as much time as possible *out there*. Wilderness managers often become too bogged down in paperwork and embroiled in contemporary brushfires to maintain an expansive view of the function and power of wilderness and of the potential of their work. Often those with the most power to affect an area know it least intimately. Decisions made in offices closed away from the outdoor reality

seldom speak loudly or clearly enough for the needs of the place. None of the headquarters and planning offices of the federal agencies that manage the Greater North Cascades Ecosystem lie within their respective boundaries. It should be an agency requirement that all managers and bureaucrats spend at least two weeks a year in any wilderness whose future they help shape. Responsibility to the place itself—rather than to political powers—is felt more clearly while sleeping on the ground and listening to its spirit than while sitting in a windowless meeting room, behind a computer, or at the end of a telephone cord. The General Accounting Office recently reported that 130 Forest Service ranger districts with wilderness responsibilities did not have a single employee who spent even ten percent of his/her time on wilderness management (Vento 1990).

Part of the cause for lack of vision lies in the inherent nature of bureaucracies. Most wilderness managers work for the federal government—the biggest bureaucracy of all. Agency workers often feel defeated as they see their hard work cast aside for political reasons. Unsympathetic attitudes of presidential administrations quickly filter down to field offices in the hinterlands. Progress moves interminably slowly at times as the wheels of bureaucracy turn. Promotions are generally not based on who has been the most committed to the long-term health of a wilderness ecosystem. For the sake of their own survival, managers avoid taking strong actions. In such a social milieu, committed workers too often become demoralized and mediocrity flourishes.

Wilderness management provides a classic example of the superiority of "an ounce of prevention over a pound of cure." Many management problems are the direct result of having wilderness areas that are too small to support self-sustaining ecological processes. The lack of sufficiently large areas, in turn, follows from a lack of vision in the political process of wilderness designation. Wilderness managers need to become more involved in the controversial politics of designation to advocate "big wilderness" (Foreman 1991). Large areas are more capable of managing themselves, saving both habitat and taxpayer dollars.

REDUCE ACCESS

One of the most tangible means of managing wilderness wisely is one of the simplest: close roads. By reducing road access into wilderness we vastly

increase its size and integrity. The passage into wilderness is as important a part of the backcountry experience as the arrival at a destination. Managers do a disservice to hikers by allowing overly easy access to the high country; they further the illusion that one can bond with wilderness by racing in and out. In the North Cascades, climbers routinely rush to the high country to bag a peak, then rush back out, cursing any forest they must travel through. Managers err seriously by promoting this attitude and behavior. Rather, our goal should be, as Joseph Sax (1980) put it, "to engage the contemplative faculties" of visitors. We can dramatically reduce physical impact on the environment, and deepen the quality of a visitor's experience by reverting access roads to hiking trails.

This wilderness, the last we have, cannot be all things to all people. There is absolutely no responsibility to provide easy auto access to dramatic viewpoints. This only promotes a postcard view of nature—nature *looked at* rather than *lived in*. Moreover, with most of the United States already containing extensive roads, the opportunities for vehicular exploration far outstrip the availability of genuine wilderness experience. We have the knowledge and technology to restore roads to trail conditions. All that we lack is the wisdom.

ACHIEVING TRUE BIOCENTRISM

Wilderness managers should be leaders in cultural transformation. For long-term sustainable human culture, we must move from anthropocentrism (human-centeredness) to biocentrism (life-centeredness). In seeking biocentrism we should follow the direction of Devall and Sessions (1985), who note that "all things in the biosphere have an equal right to live and blossom and to reach their own individual forms of unfolding," rather than the distorted view of earlier wilderness managers (Hendee and Stankey 1973), who implausibly described biocentrism in terms of human benefit. When we spend time living in wild places we see clearly that wilderness is more than a human playground; it is home for myriad forms of life.

PREVENTION OVER REHABILITATION

Restoration of damaged areas is gratifying work, but several cautions are in order. First, it is far easier to *avoid* problems than to repair them. Second, in many cases, vegetation cannot be replaced with the original species because oftentimes those original species cannot be propagated. At Cascade Pass, original site of restoration efforts in the North Cascades, showy sedge (*Carex spectabilis*) and partridge-foot (*Leutkea pectinata*) now predominate in many areas originally covered by heathers (*Phylodoce empetrifomis* and *Cassiope mertensiana*). These new meadows stand as a tribute to years of dedication and hard work, and are vastly superior to bare ground, but they are not a restoration of the original plant community. Lastly, the public should not be led to believe that managers can fix anything that visitors destroy. If this attitude were to become pervasive, restoration efforts would backfire: rather than undoing previous damage, they would encourage more damage. Replanting damaged meadows should never become a routine part of an agency's work.

ENCOURAGING INDIVIDUAL RESPONSIBILITY

As with restoration, so with all of wilderness management: individual responsibility must be encouraged. Wilderness managers should be neither Big Brother nor janitor. Ultimately, the goal of the wilderness manager should be to work oneself out of a job by encouraging the public in every way to share in the responsibility of taking care of these precious lands. The agencies cannot, and should not, tend to hikers like flocks of errant sheep.

GREATER EDUCATIONAL EFFORT

Of the many steps necessary to transform our relationship with wilderness, none is more fundamental than education. Agencies must transcend their political boundaries and interact with users *before* they enter wilderness. Education and awareness of nature, including wilderness values, should be an integral part of every school's curriculum (see Charles, this volume). Management agencies should aggressively promote this idea and offer their

services to schools. Interpretive programs in park and forest areas should always be top budget priorities.

Obviously, these changes will not occur overnight. One thing, however, is certain: if we don't try, we won't succeed.

The following steps are necessary for change:

1. Establish a vision of the ideal.
2. Take decisive action toward that goal, even if such action is controversial and unpopular with some of the public.
3. Play a strong and conspicuous role NOW—closing roads, limiting numbers of visitors—with the intent of minimizing our role in the future.
4. Approach decisions biocentrically, never forgetting that the integrity of nonhuman lives is of equal concern as our own lifestyle.

Wilderness represents one extreme of the world's land-use spectrum. Over ninety-five percent of the contiguous United States has been altered from its original wilderness state. Only two percent is legally protected from exploitative uses. To even consider allowing further degradation of this tiny remnant of wild land is a travesty, not to mention a violation of the letter and spirit of the Wilderness Act.

Our ultimate goal is to rediscover old ways of living lightly upon the landscape, to again find the place where wilderness and civilization are compatible. We must intermingle more freely with wild nature; we must learn from it without destroying it. For this possibility to become reality, we must take strong action now. Do we have the courage to take the first step?

Acknowledgments

Some of these ideas appeared in different form in *Forever Wild: Conserving the Greater North Cascades Ecosystem*, M. Friedman, ed. 1988. Mountain Hemlock Press, Bellingham, Washington.

My thoughts on wilderness and its management have been deepened by dialogue with many people over many years. I would especially like to thank Edie Dillon, Ed Grumbine, and Saul Weisberg for sharing their insights. My students at the Sierra Institute of the University of California-Santa Cruz and

Prescott College helped sharpen my thinking during many backcountry discussions. And most of all, I thank the North Cascades and the desert canyons of the Southwest, my two most profound teachers.

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