Natural Resources and Environmental Issues

Volume 0 *Wilderness Areas: Their Impact* Article 7

1-1-1990

The role of wilderness in protecting biodiversity

David S. Wilcove
The Wilderness Society, Washington D.C.

Follow this and additional works at: http://digitalcommons.usu.edu/nrei

Recommended Citation
Wilcove, David S. (1990) "The role of wilderness in protecting biodiversity," *Natural Resources and Environmental Issues*: Vol. 0, Article 7.
Available at: http://digitalcommons.usu.edu/nrei/vol0/iss1/7

This Article is brought to you for free and open access by the Quinney Natural Resources Research Library, S.J. and Jessie E. at DigitalCommons@USU. It has been accepted for inclusion in Natural Resources and Environmental Issues by an authorized administrator of DigitalCommons@USU. For more information, please contact becky.thoms@usu.edu.

THE ROLE OF WILDERNESS IN PROTECTING BIODIVERSITY

David S. Wilcove
The Wilderness Society, Washington D.C.

ABSTRACT: Arguments for and against Wilderness designation often revolve around decidedly unecological themes, such as commodity values, recreational opportunities, and esthetics. Yet one of the strongest arguments in support of Wilderness is ecological: the preservation of biodiversity. Wilderness Areas are important reservoirs of biodiversity, and their value increases as unprotected wildlands are developed. However, in recent years some writers have argued that Wilderness preservation is counterproductive to good wildlife management. Upon closer examination, it can be shown that: (1) most of the ecological arguments against Wilderness are unsubstantiated or inaccurate; and (2) the Wilderness Act provides sufficient flexibility to address the major management issues that are likely to arise in Wilderness Areas.

Twenty years ago, when we first celebrated Earth Day, the National Wilderness Preservation System totaled about 10 million acres. Today it contains over 91 million acres, a nine-fold increase in less than a generation. Moreover, the battle to designate more of our federal lands as Wilderness continues, a point that has not escaped the attention of people in Utah, Arizona, Idaho, California, and other states where major Wilderness bills are under consideration.

But we must not forget that whereas Wilderness with a capital "W" — lands that are protected by congressional decree — has grown during the past twenty years, wilderness with a small "w" — the remaining wildlands of America — has steadily shrunk. Literally millions of acres of federal lands have been mined, logged, or developed in ways that preclude their consideration for official wilderness designation. Thus, when one examines the bottom line of the balance sheet, America has far fewer wildlands today than it did in 1970. And we will undoubtedly have even less 20 years from now when we gather to celebrate Earth Day 2010.

For all practical purposes, therefore, the wildlands of America are a finite and diminishing resource. The debate revolves around how much of that resource we wish to protect for posterity and why we might wish to do so. The arguments for Wilderness designation often revolve around decidedly unecological themes, such as commodity values, recreational opportunities, and aesthetics. But I am convinced that one of the strongest arguments in support of Wilderness designation is ecological: the preservation of biological diversity. Wilderness areas are important reservoirs of biological diversity, and their value increases with every acre of unprotected land that is turned into corn, cattle, or concrete.

In recent years, a small but vocal band of state fish and game agencies, wildlife biologists, and writers has argued that Wilderness preservation is in fact harmful to wildlife or, more precisely, counterproductive to good wildlife management. Author Alston Chase, for example, has written (Chase 1989) that Wilderness protection is "[a]imed more at pleasing the recreational desires of backpackers than at the needs of wildlife."

Published by DigitalCommons@USU, 1990

To the contrary, I will argue that: (1) Wilderness designation is beneficial to biological diversity; (2) most of the ecological arguments against Wilderness are unsubstantiated or inaccurate; and (3) the Wilderness Act provides sufficient flexibility to address the major wildlife management issues that are likely to arise in Wilderness Areas.

WILDNESS AND WILDLIFE

Even to those who study it, ecology remains a complicated subject. The natural world is so engagingly diverse and complex that efforts to codify its workings as simple rules and formulas are usually unsuccessful. Ecological "laws" — in contrast to the laws of physics — tend to be either absurdly simple or rife with exceptions.

That said, I will mention one law that in my experience has withstood the test of time; in fact, it seems to get stronger with time. It is simply this: To find the most intact and interesting array of wildlife, go to the wilderness (that's wilderness with a small "w").

Over the past 15 years I have had the good fortune to travel to a number of countries to study wildlife in general and birds in particular. The most exciting places — those I vividly remember even now — are all essentially wilderness areas. They may not be congressionally designated Wilderness, but they are big, wild places where humans are at best a minor presence. A prime example is Manu National Park in Peru — or more precisely that portion of Manu that could only be reached by a three-day drive and a two-day canoe trip, with its harpy eagles, jaguars, tapirs, ten species of monkeys, and six species of macaws. Many of these species simply cannot be found in places where people are a dominant part of the landscape.

To find the greatest assortment of endangered honeycreepers on the island of Maui, I found myself visiting the rainforests of the Kipahulu Valley. Getting there meant a two-day hike across the floor of Haleakala Crater and over the north rim, followed by a final descent into rain-soaked forests and steep muddy slopes. In Hawaii — as in Peru and so many other places — there is a strong and obvious correlation between the remoteness of a locale, the lack of a permanent human presence, and the number of native birds.

Lest one think this pattern is solely a tropical phenomenon, consider where one might go in the United States to simultaneously find a mountain lion, gray wolf, and grizzly bear. The answer (unfortunately) is only in the Glacier-Waterton area straddling the Montana-British Columbia border. Here in a region dominated by two national parks, several Wilderness Areas, and much unprotected wildland, the three top predators of North America co-occur. A century and a half ago, these species were found throughout the American West.

Manu Park, the Kipahulu Valley, and Glacier National Park retain as complete an assemblage of native species as can be found in their respective regions. And in addition to the charismatic birds and mammals, they harbor a vast array of plants, insects, fungi and other less conspicuous but equally important life forms.

Now let us consider what the Wilderness Act means for wildlands. The goal of the act is simply to ensure that a few places retain their wild character for future generations. It prohibits logging, road and building construction, and the use of mechanical vehicles and motorized equipment within designated Wilderness Areas. Livestock grazing, where established prior to an area's designation as Wilderness, is permitted to continue. Mining is prohibited, with the exception of valid mining claims established before 1984. These may be worked at any time. Hunting is allowed in most Wilderness Areas.

The terms are stringent, but hardly inimical to wildlife. In fact, the biota of these wildlands has persisted for literally thousands of years

without extensive human manipulation of the land. The burden of proof should lie with those who would log, mine, or develop the land to demonstrate that they can do so without significantly diminishing biological diversity.

IS WILDERNESS GOOD FOR WILDLIFE?

The argument that Wilderness designation is not beneficial for wildlife is based on a belief that: (1) wildlife populations need active management, and (2) active management is not possible in Wilderness Areas. In other words, without watering devices, food plots, prescribed burns, and other tools of modern wildlife management, wildlife populations in Wilderness Areas will wither away. And unless wildlife managers have access to the back country through a network of roads, these necessary management actions cannot be performed. It reflects something of a colonialist attitude towards wildlife, a belief that nature unattended inevitably runs amuck.

There are at least three problems with this perspective. First, it is heavily oriented towards a handful of game species. The watering devices, for example, are usually cited as necessary to perpetuate healthy populations of bighorn sheep, deer, and quail. These animals represent only a tiny fraction of the hundreds, even thousands, of species of native plants and animals found in most Wilderness Areas. The other species may not be as popular with some wildlife managers, but they are an equally important part of the biota. The extent to which they will benefit from the devices is debatable. Plants, for example, may be harmed if watering devices concentrate herbivores around a small area. The devices may also draw cattle into the area, thereby reducing the amount of forage available for native wildlife.

We should not lose sight of what we hope to accomplish by designating an area as Wilderness. Wilderness Areas are intended to be remnants of wild America; they are not intended to be game farms. Section 4(c) of the Wilderness Act allows the use of motorized equipment, motor vehicles, and man-made structures when they are the minimum necessary to properly administer an area for wilderness purposes. Maintenance of existing water supplies is an accepted practice in most Wilderness Areas, and development of additional water supplies is permitted — but only when essential to wildlife survival. Land managers can construct and maintain watering devices or food plots in Wilderness Areas as compensation for natural sources that are no longer available to wildlife. But they cannot construct and maintain them to increase game populations to unnaturally high levels. These principles are spelled out in an August, 1986 agreement among the Forest Service, Bureau of Land Management, and International Association of Fish and Wildlife Agencies regarding wildlife management in Wilderness Areas.

Second, there is little evidence to even support the claim that game animals suffer when an area is designated as Wilderness. In fact, the data often tell a very different story.

For example, last summer the Arizona Game and Fish Commission expressed concern over proposed wilderness bills for Bureau of Land Management lands in Arizona. The commission was worried that Wilderness designation would hamper its ability to manage areas for desert bighorn sheep. Yet according to an analysis by the former game chief for the Arizona Game and Fish Department (Brown 1989), the annual harvest of bighorns in Arizona has increased steadily since 1965, and most of this increase has come from wilderness — designated or de facto Wilderness. Desert bighorn sheep in these areas have benefitted more from Wilderness management and efforts to eliminate feral and domestic livestock competition than from water developments. Non-wilderness areas, in contrast, have fewer bighorns now than in 1965, despite construction of numerous watering devices and the transplanting of additional bighorns.

And third, when we do not protect wildlands as Wilderness, we run the risk of opening the door to logging, mining, off-road vehicles, and other potentially destructive uses of the land. In California, for example, the Bureau of Land Management has opposed a bill to expand the number of Wilderness Areas and national parks in the California desert, arguing that it already has sufficient resources and willpower to manage the area with sensitivity to the needs of wildlife. Yet last June, the United States General Accounting Office issued a report (GAO 1989) harshly critical of the bureau's wildlife protection efforts in the California desert. The report noted that "nearly one-half of the required wildlife management implementation plans have not been developed. In addition, BLM's progress in implementing completed plans has been limited." It also stated that "BLM has frequently allowed the needs of competing interests, such as recreation and commercial use, to take precedence over wildlife interests when conflicts have arisen."

The argument that Wilderness designation is ultimately harmful to wildlife is groundless. But it raises an important issue about the future of our wildlands and the biological wealth they contain. As development engulfs more of the unprotected lands surrounding our parks and Wilderness Areas, as more species of plants and animals become dependent upon the small number of wild fragments we choose to protect, what steps will we need to take to protect them not only from ourselves, but also from some of the natural disturbances that will inevitably befall them? Small, isolated fragments of habitat are vulnerable to overuse, external influences, or even such normal events as windstorms and fires. And the small, isolated populations of plants and animals within them can be severely harmed by such things.

I was reminded of this danger when Hurricane Hugo plowed across the Caribbean and into our southeastern states last fall. In Puerto Rico, it destroyed habitat for the endangered Puerto Rican parrot and reduced parrot numbers from 47 birds before the storm to less than half that number today. In South Carolina, Hugo leveled much of the Francis Marion National Forest, which contained one of the largest colonies of the endangered red-cockaded woodpecker. Both the Puerto Rican parrot and the red-cockaded woodpecker have weathered hurricanes for millennia. But until a few decades ago, both species were far more widespread and abundant than they are today and consequently, far more likely to withstand natural disturbances.

As our wildlands become fewer and more isolated, we will undoubtedly have to increase our monitoring programs and management efforts. I am convinced that the Wilderness Act provides sufficient authority to do so. At the same time, its strict standards ensure that the biological wealth within Wilderness Areas will not be damaged by greed, indifference, or overzealous good intentions.

LITERATURE CITED

Brown, D.E. 1989. Are wilderness areas good for sheep management? Arizona Republic, November 3.

Chase, A. 1989. What's right and wrong with the Wilderness Act, 25 years later. Seattle Times, September 19.

United States General Accounting Office. 1989. California Desert: planned wildlife protection and enhancement objectives not achieved. GAO/RCED-89-171. Washington, DC.