



The Dangers of Black-and-White Conservation

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The world is a complex place. To simplify this complexity, people often reduce it to simple either-or choices—black or white, do or don't, yes or no, winners or losers, nature or nurture, and so on. Even our computer systems are based on binary logic. Conservationists are people, so we tend to do this too.

Case in point: protected areas. Protected areas have long been the cornerstone of conservation, both nationally and internationally. Many of the areas we aim to protect exist as remnants of natural habitat in highly fragmented landscapes or are carved out of larger areas that are rapidly being eroded by human actions. The protected areas—parks, nature reserves, wildlife refuges, wilderness areas—are often viewed as “islands” of nature surrounded by an inimical matrix with little conservation value. Decades ago, ecologists provided a scientific foundation for this view in the theory of island biogeography, which likened nature reserves to oceanic islands and explained their species richness and rates of biodiversity loss in terms of the size and isolation of the reserves. Even though we know that reserves and protected areas are not really islands and the surrounding landscape is not really the same as an ocean, this binary view—that areas are either protected and have conservation value or they are not and they do not—continues to hold sway over a good deal of thinking in conservation and resource management.

Another case in point: the benefits of nature. Conservation is ultimately founded on the values that people and societies place on nature. These values, too, have tended to be viewed simplistically, contrasting the aesthetic, spiritual, and ethical benefits of conserving nature and biodiversity with the more pragmatic and economic benefits of protection. This distinction is not new—many Nature Conservancy preserves, for example, were created based on their beauty or an ethical responsibility to protect remnant populations of rare plants and animals, and the U. S. National Wildlife Refuge System was established largely to manage populations of game species for recre-

ational hunting. The current fad of “ecosystem services” in conservation has the potential to perpetuate or exacerbate this dichotomy. In attempting to create ways of valuing the goods and services that natural ecosystems provide to people, conservation may be drawn into an economic accounting in which nature either has economic value or it does not. A recent exchange of views in *Nature* (Costanza 2006; Marvier et al. 2006; McCauley 2006; Reid 2006) has sharpened this debate and shows that conservation is not quite so cut and dried.

But thinking about protected areas or the benefits of conservation in such simple, black-and-white terms is shortsighted and wrong. Protected areas do not exist in isolation from their surroundings, and the surroundings are not without conservation value of their own. If landscape ecology tells us anything, it is that protected areas and their surroundings are usually richly textured mosaics of different habitats and human uses with differing degrees of naturalness. What goes on in any particular place in a landscape is affected by things elsewhere in the landscape—the predator that lurks in an adjacent woodland, the nutrients that flow from an upslope field. To ensure conservation in one place requires consideration of the broader landscape and the threats, resources, and biodiversity it contains. And people are part of that landscape as well. The ways in which people relate to a conservation landscape are many and varied, some with clear economic benefits, some with quasi-economic benefits, and some that come only through the knowledge that we are protecting biodiversity because it is there. There are multiple constituencies for conservation, and to succeed we must aim to be relevant to them all. Doing conservation requires that we consider nature as a multicolored palate, with varied hues and shades. We must find ways to measure where we are on these spectra and adjust our conservation practices and expectations accordingly.

In one of many thoughtful digressions in his book *Zen and the Art of Motorcycle Maintenance*, Robert Pirsig (1974) reflects on the prevalence of dualistic, yes-no

thinking in society and, especially, science. He observes that we actually learn more from experiments in which the result is neither “yes” nor “no” but something in between, which forces us to reformulate and expand the scope of the original question. Being properly trained in dualistic logic, scientists often disdain or discard such results. But nature, and the ways in which it benefits people, is not black and white. As we wrestle with how to expand our vision beyond protected areas alone, or how to express the value of natural systems in multiple ways, we should be wary of the alluring trap of simplistic, dualistic thinking.

How might this change how we do conservation? We would make greater use of land-cover and land-use information to place the areas we protect in their landscape context, and we would use projections of future land-use changes to evaluate the long-term effectiveness of this protection. We would recognize that it should not be a foregone conclusion that human uses of lands and waters are incompatible with or inimical to biodiversity, and we

would develop ways of measuring the trade-offs between different human activities and biodiversity protection. We would recognize that there are many dimensions to the value of ecosystem services to people, dimensions that depend as much on the people and their cultures as on the properties of the natural (or managed) ecosystems. And from this we would fashion conservation that preserves our future as well as protects the present.

All of these things can be done. But none of them will happen if we portray the world as black and white.

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