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1996

6-12-1996

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Citation Information

Houck, Oliver A., "Biodiversity Protection and Ecosystem Management: Aspirational Goals or Law-to-Apply?" (1996). *Biodiversity Protection: Implementation and Reform of the Endangered Species Act (Summer Conference, June 9-12)*.

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Oliver A. Houck, *Biodiversity Protection and Ecosystem Management: Aspirational Goals or Law-to-Apply?*, in *BIODIVERSITY PROTECTION: IMPLEMENTATION AND REFORM OF THE ENDANGERED SPECIES ACT* (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law 1996).

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BIODIVERSITY PROTECTION AND ECOSYSTEM MANAGEMENT:
ASPIRATIONAL GOALS OR LAW-TO-APPLY?

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BIODIVERSITY PROTECTION
IMPLEMENTATION AND REFORM OF THE
ENDANGERED SPECIES ACT

Natural Resources Law Center
University of Colorado
School of Law
Boulder, Colorado

June 10-12, 1996

Biodiversity Protection and Ecosystem Management:
Aspirational Goals or Law-To-Apply?

1. The biodiversity ecosystem imperative

For general background, from a wealth of good sources, see:

Edward O. Wilson, The Diversity of Life, Harvard Press, 1992

Reed Noss and Allen Cooperrider, Saving Nature's Legacy: Protecting and Restoring BioDiversity, Island Press, 1994

Alverson, Kuhlmann and Walker, Wild Forests: Conservation Biology and Public Policy, Island Press, 1994

Reed Noss and Robert Peters, Endangered Ecosystems: A Status Report on America's Vanishing Habitat and Wildlife, Defenders of Wildlife, 1995

2. Getting there from here

a. A peek at the chasm:

Houck, "Coming to Grips with Biodiversity" (attached)

b. "Consideration" of biodiversity under NEPA

Marble Mountain Audubon Society v. Rice, 914 F.2d 179 (9th Cir. 1990) (invalidating timber sale EIS for failure to consider impacts on "biological corridors")

c. Biodiversity protection and ecosystem management through "management indicator species"

Compare Sierra Club v. Marita, 843 F.Supp. 1526, 1541 (1994), affirmed 46 F.3d 606 (1995) (rejecting challenge to forest plan based on biodiversity, stating that while "the principles of conservation biology put forth by plaintiffs represent sound ecological theory ... considerable uncertainty seems to surround the question of exactly how these principles should be applied.")

with Suring et al., "A Proposed Strategy for Maintaining Well-distributed, Viable Populations of Wildlife Associated with Old-growth Forests in Southeast Alaska." Report of Intragency Committee on the Tongass National Forest, 1992 (proposing a management strategy for the nation's largest national forest based on habitat requirements of minimum viable populations of indicator species).

See also "National Forest System Land and Resource Management Planning" 60 Fed. Reg. 18886 et seq, Apr. 13, 1995 (proposed rules de-emphasizing role of minimum viable populations of indicator species in favor of "principles of ecosystem management")

d. Legislative initiatives

Compare "National Biological Diversity Conservation and Environmental Research Act," (requiring federal agency actions to be "consistent with the goal of the conservation of biodiversity, to the maximum extent practicable") HR 585 (1993)

with "Northern Rockies Ecosystem Protection Act," H.R. 2638 (1994) (establishing biological corridors and "wildland restoration and recovery system" for the Northern Rockies region).

with "Forest Health Act" S. 391 (1996) (requiring increased logging to avert a "forest health crisis")

e. Constitutional initiatives

Schlickeisen, "Protecting Biodiversity for Future Generations: An Argument for a Constitutional Amendment," 8 Tulane Env. L.J. 181 (1994).

Minors Oposa v. Secretary of the Department of Environment and Natural Resources, 33 I.L.M. 173 (1994) (Philippine Supreme Court confers a right of action to enjoin logging contracts, based on the Philippine Constitution, stating that rights to "a sound environment ... need not even be written in the Constitution, for they are assumed to exist from the inception of humankind").

f. Which leaves us in the meantime, with biodiversity protection and ecosystem management through the Endangered Species Act ... the subject of this conference.

Querey: It is possible to arrive at biodiversity protection and ecosystem management without relying on endangered species? (Write for 3 hours).

3. A proposal

That all federal public lands be managed to ensure the restoration and perpetuation of viable populations of indicator species and communities of species representative of ecosystem health.

PREFACE

COMING TO GRIPS WITH BIODIVERSITY

Every once in a while an idea comes along that changes the way we think about ourselves. The great religions are enduring examples but nearly as powerful have been the secular teachings of Ghandi, Darwin and Freud. Here at the end of the twentieth century we find ourselves at the doorsill of another new teaching. It has been preceded by a handful of prophets—Aldo Leopold and Rachael Carson for openers—who have demonstrated the interconnectedness of living things. It has been resisted by the followers of other prophets who see in this interconnectedness a threat to the supremacy of the master species, humankind. The emerging idea is not yet crystal clear, but what the writings of E.O. Wilson, Michael Scott, Reed Noss and other scientist-preachers of the field of conservation biology are outlining is a new organizing principle for life on earth, biological diversity.

This book is a first response to the idea of biological diversity. It is an unfinished response, indeed it is a variety of partial responses by nearly a dozen experts in the biological sciences, social sciences and law who are asking themselves the question: If biological diversity is an imperative, then how do we get there from here? Like the proverbial blind men describing an elephant, each with a firm-but-limited grip on a leg, a tusk or a tail, the writings here are as informative in the composite as they are individually. Taken together they indicate ways in which human institutions may, and should, change. Change is, of course, what is so threatening about environmental principles in general and about the idea of biological diversity. If it is correct that the diversity of life is necessary for the future of life on earth and that human institutions must change to accommodate it, then the maintenance of biological diversity sets a new bottom line for human activity, higher than that currently set even for the protection of endangered species. Suddenly, we are talking about Major Accommodation of nature. If you disliked environmental protection, if you thought endangered species protection was faintly hysterical, biological diversity will send you up the wall.

These worries remain, however, largely premature. Biological diversity, with the exception of a few federal natural resources programs, has not yet risen to bite any human activity on the ankle or to steer any use of the earth and its resources in a new direction. At least three obstacles stand in its way, and each is alluded to in the articles that follow in this book. The first obstacle is the lack of precision on exactly what biological diversity is. The second is the lack of public awareness of biological diversity and a reason to maintain it. The last is the paucity of mechanisms for incorporating the idea—however defined and accepted—into human institutions so that life on earth remains, in fact, diverse. The size of these tasks should not be underestimated, and bears brief mention.

The threshold challenge to biological diversity is the ease with which it is said and the difficulty by which it is interpreted and applied. More than half a century ago, Aldo Leopold wrote that "the first order of intelligent tinkering is to save every cog and wheel," which seems a perfectly sensible statement in the context of, say, the Atom Bomb but becomes more problematic when we come to mowing the lawn or a new road through town. The fact is that nearly all human development impinges on the resilience of the earth and its biota. The challenge then, is to draw the line in a an objective, scientifically supportable fashion so that human beings can understand and be guided by it. Setting these thresholds, however, has proven no small task even for discreet parts of our ecosystem such as water and air quality, and great debates continue to rage over "acceptable levels" of Dioxin in the environment, of particulates and even the exhaustively-studied DDT. The task has proven little easier in setting thresholds for the endangerment of discreet species whose histories maybe little-known and whose distinction from related sub-species and populations are . . . subtle, to put the matter generously. The conservation of biological diversity requires us to go beyond even these difficulties to address water, air, soil and living things, endangered and nonendangered, as a whole. The task is daunting. This author has had the good fortune to participate with some of the best minds in conservation biology at several meetings addressed to this task. Suffice it to say, the science may be close but it has not yet arrived.

The second obstacle facing biological diversity is its low resonance with the American people as an idea or a threat. E.O. Wilson's magnificent statement of the idea in *The Diversity of Life* may

have sounded the alarm bell, but not many of us have looked outside to see what was going on. A 1993 poll conducted by the Defenders of Wildlife, a Washington-based environmental organization, showed that, as an issue, biological diversity rated dead last in public awareness, on a shopping list of environmental issues ranging from endangered species to global warming. We have come to the point that we, many Americans at least, appreciate the pieces; we do not yet take in the whole. We will move mountains to save baby seals, wolves and stranded whales. But in a world rife with street-shootings, grinding inequity and ethnic wars of extermination, it is hard to get worked up over "ecosystems." The idea lacks the cachet of a best-seller, and an idea that can't be easily sold these days is in trouble.

The last obstacle facing biological diversity is the scarcity of mechanisms to implement it for major federal activities or on a local, private level. As was the case with the term "environment" thirty years ago, few federal statutes today even contain the word "diversity." The one federal agency with an explicit diversity mandate, the U.S. Forest Service, has a checkered record of interpreting its meaning. Several forest plans, some described later in this book by Kuhlman, rationalize the continued fragmentation of forest ecosystems through extensive clearcutting as actually promoting "diversity" by the introduction of habitat for deer, rabbit and other species that are widespread, if not epidemic, in the nation at large. Newer forest plans on the other hand, such as that developed for the immense Tongass forest of Alaska, start with the long-term needs of rare species to then determine what other uses, including timber harvest, remain. The Forest Service has, in effect, become the laboratory for the concept of biological diversity at the federal level.

Two thirds of America is privately owned, however, and the states with the greatest numbers of vanishing species and ecosystems are those that have been subject to the most rapid private development: Florida, California and Hawaii. Mechanisms to preserve biological diversity on private lands include conservation easements, tax reductions and endangered lands purchase programs, but in their aggregate they remain dwarfed by the pace of private land development itself. Few adult Americans raised outside of cities can even recognize the landscapes around their home towns, and no one could predict

anything but even more rapid development in the years to come. The one, startling innovation on the nonfederal side of land development habitat of conservation planning has been prompted by the Endangered Species Act and is described later in this book by Lindell Marsh. It is the State of California that is serving as the laboratory here, and California habitat conservation plans have become impressively ambitious, covering acreages as vast as several states, numerous species and ecosystems, and a mix of zoning, tax and property right trading mechanisms. This planning process may well be the last best hope for saving at least some cogs and wheels of our natural world.

And of saving ourselves? As I've said, that case is not yet firmly established. The link between biodiversity and human welfare is indicated, and is certainly supported by medical and scientific uses of little-known and lower-form biota, but it is not yet proven as linear. Less yet is this link accepted as a fact of life by the American public, for an increasing number of whom life in a city or a well-tended suburb is about all there needs to be. Less yet are mechanisms in place for either public or private development that are even in the same ballpark as the soaring rate of development and the crash of life systems on earth. The first is a job for science; the second, for educators; and the third, for lawyers like me. I have no confidence that these jobs can be done. I only know that the situation seems too risky and too critical not to try.

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