

A New Century for Natural Resources Management

Edited by Richard L. Knight and Sarah F. Bates

A BOOK REVIEW BY CRAIG L. SHAFER

MANY BOOKS ON CONSERVATION TOPICS have poorly integrated chapters, are hard to read, are often dull, and end up serving primarily as references for a narrow, technical audience. The 1995 Island Press book *A New Century for Natural Resources Management*, edited by Richard L. Knight and Sarah F. Bates, suffers from none of this. Good planning and meticulous editing resulted in a logical progression of short, interesting, easy-to-read reviews and essays by diverse topic authorities. This book ought to attract a very wide readership that includes researchers, natural resource management specialists, land managers and planners, policy makers, legislators, environmentalists, and students.

The book's theme—that the way agencies view natural resource management must continue to diverge from the utilitarian tradition of the 19th century—is timely. The twenty-one chapter volume illustrates that views and practices in natural resource management are always changing; for these authors, change is too slow because of the challenges natural resource agencies will face after the millennium. Organized in three sections, the book traces the history and conflicts related to natural resource management before emphasizing new approaches for the future.

The first six chapters focus on U.S. history. **Chapter 1** by Curt Meine is a well-documented account that intermeshes the emergence of forestry, agriculture, range-wildlife-fisheries management, recreation and wilderness with the establishment of the early federal agencies and the influence of Gifford Pinchot, John Muir, and Aldo Leopold. Meine demonstrates that the resource concept (e.g., forests, wildlife) arose first; agencies then formed around such concepts, and the academic natural resource disciplines came later.

Chapter 2 by Robert H. Nelson is a longer analysis of the creation, early activities, and responsibilities of Forest Service, Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service. Nelson believes the agencies started out with the progressive era ideal of “scientific” management, and even though their actions quickly became politicized, the ideal still shapes thinking today. The author argues that the outdated belief that economic progress is inevitable with science guiding resource management should be replaced by a more “values-oriented” model.

Stan H. Anderson's **Chapter 3** focuses on the concept of “sustained yield” as practiced in forestry, range, wildlife, and fisheries management. Perhaps deliberately, the author avoids dealing with the controversial concept of “sustainability.”

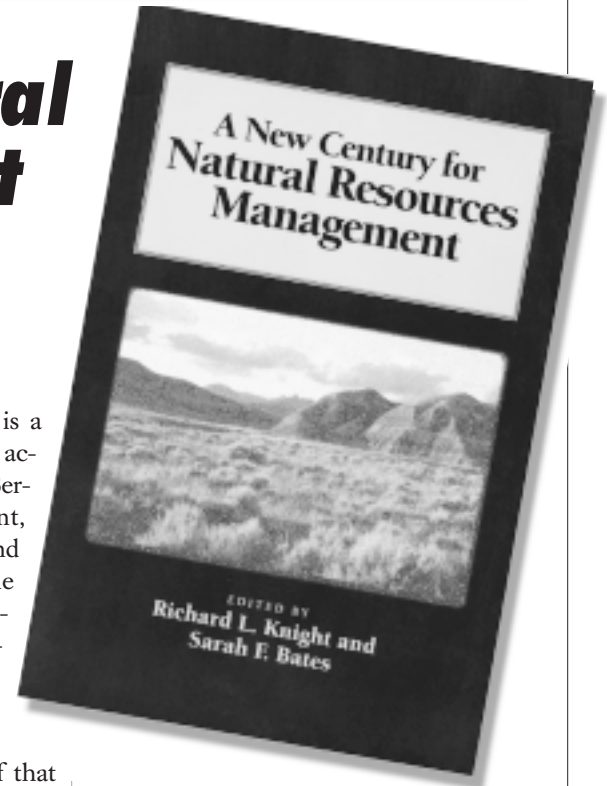
In **Chapter 4**, Dale Heine analyzes the history of American natural resources education. He observes that both the western “ranger factories” and the midwestern and eastern schools prepared students for jobs with other professionals, all with similar backgrounds and speaking the same jargon. This type of education, perhaps indoctrination, he argues, was found at universities claiming to be sanctuaries for independent thinking. Government employment standards, professional association certification requirements, and special interest groups shaped these academic requirements. The traditional B.S.-B.A. requirements of the 1960s represent the formal educational background of many of today's senior land managers. But today, “many new students soon foresee their education as too prescribed, management-production focused, too narrow, and impersonal,” causing them to drop out. Although 4,000 university de-

grees in natural resources are awarded annually, the author implies that many students will not be prepared for the next century, especially as leaders in policy development.

Chapter 5 by Gloria E. Helfand and Peter Berck reviews “traditional” concepts in natural resource economics. Non-economists will find it uncommonly user-friendly. They argue that environmental degradation results when policies violate basic economic principles like when the Forest Service sells timber on public land below cost.

Next, in **Chapter 6**, Eric Katz traces the evolution of natural resource ethics. The author examines in detail the highly influential views of John Locke, the famous 17th century philosopher, who thought that nature had value only when used as “property.” Locke's views have been used to undermine environmental legislation (Duncan 1996). The author might have given more emphasis to how Locke's work has been interpreted to support conservation. Some claim it argues for restrictions on private land use if counter to the public good (Shrader-Frechette and McCoy 1993). Locke influenced thinking of that age.

The second section of the book focuses on conflicts. Relying on his uncommon insight, David W. Orr's essay in **Chapter 7** is about a “sense of place.” Orr begins by giv-





ing a personal account of growing up in small-town western Pennsylvania. He explains, "we no longer have a deep sense of place." His honesty in writing about the economics of place is persuasive.

"The disorder of ecosystems reflects a prior disorder of mind, values, and thought that...put humanity outside its ecological context.... People need healthy food, shelter, clothing...a vital civic culture...and wildness. But they are increasingly offered fantasy for reality, junk for quality, convenience for self-reliance, consumption for community, and stuff rather than spirit. Business spends \$120 billion a year to convince us that this is good.... Our economy has not...fostered largeness of heart or spirit.... And it is not ecologically sustainable." Orr's basic message is profound: people will take more responsibility for their environment when they sense being part of a human community, a feeling being rapidly lost in the United States.

Chapter 8, by Mark W. Brunson and James J. Kennedy, discusses dominant use practiced by the Forest Service, National Park Service, the Bureau of Land Management, and the Fish and Wildlife Service, why social values changed, and how land management agencies responded. In later decades, our technically trained land managers found themselves unprepared for the jobs they landed and were surprised at the skills required. Examples include public relations, negotiating, writing for the public, skills usually advocated for lawyers, legislators, or journalists. In addition, land managers after mid-century encountered new stresses: living with locals in rural western small towns, new laws giving one agency power over another's actions, and employees calling for new paradigms.

The latter meshes with Jeff DeBonis' **Chapter 9**, which shares his experience as a new Forest Service employee and his subsequent disillusionment with their practice of overcutting timber. While there, he formed the Association for Forest Service Employees for Environmental Responsibility (AFSEEE). In 1993, he left that organization to form Public Employees for Environmental Responsibility (PEER). There, disillusioned public employees found a sanctuary of like-minded people

and a vehicle to lobby for their points of view. Today, PEER has 10,000 paying members and Jeff has moved on.

Next, in **Chapter 10**, Winifred B. Kessler and Hal Salwasser describe the creation of the 1990 Forest Service "New Perspectives" initiative, which they say led to the June 1992 adoption of an "ecological approach" in Forest Service management, a step towards "ecosystem management." However, all agencies have a long way to go before qualifying as acknowledged ecosystem management practitioners, at least based on some definitions (Grumbine 1994). The December 1995 Ecological Stewardship Workshop in Tucson, Arizona (*Park Science*, 16(2):13-15) was former Forest Service Chief Jack Ward Thomas' pet initiative.

Chapter 11 provides Rupert Culter's thorough account of the role of environmental NGOs (non-governmental organizations). Quoting John Rousch, we learn that only about 50 have budgets in the tens of million of dollars. The undisputed giant is the National Wildlife Federation, whose 5.3 million supporters allowed them to spend \$97 million in just 1993. The author acknowledges tension between NGO amateurism and agency-industry professionalism but thinks the gap is closing rapidly. Recent analyses produced two primary NGO criticisms—lack of collaboration and little attention to the economic well-being of local people—but we learn nothing else about what NGOs are doing wrong. Since the book provides a large dose of agency criticism, such treatment is unbalanced.

In **Chapter 12**, Vawter Parker reviews the history of public interest lawyers taking agencies to court. For example, the Sierra Club instigated the famous 1969 "Mineral King" case. Although the Disney Corporation planned massive development on For-

est Service land, the conflict finally ended when Congress added Mineral King to Sequoia National Park in 1978.

In **Chapter 13**, John B. Loomis documents that government cost-benefit analyses taking into account more than just "marketable goods" was not prominent until the 1960s and reviews techniques to value such "externalities."

Thomas Michael Powers' **Chapter 14** was very enlightening, though heavy in places for non-economists. The old "extractive" economic model may indeed be flawed, and Powers provides some easy-to-understand supportive examples. Relying on graphics, Powers illustrates that the old model predicted the economic demise of

some small western communities after their resource extraction industries were curtailed. But this prediction never happened; some towns even became more prosperous than before! Powers lists economic trends that may account for this surprising result and then proposes an updated economic model—one placing far more emphasis on the degree people value environmental quality in their community and surrounding region. Threatened

western rural communities reared on this old model could gain insight here or in the author's 1996 book.

The book's third and final section emphasizes new approaches. **Chapter 15** by S.T.A. Pickett and R.S. Ostfeld is timely and analyzes a topic Pickett has addressed before (Pickett et al. 1992). The authors argue that the "classical" (or equilibrium) ecological paradigm has failed and should be replaced with their "flux of nature" paradigm. The authors say their flux model nullified the long-held "balance of nature" metaphor. As they point out, this reexamination has been ongoing for a long time. Scientists working for the Park Service in the 1970s questioned the notion of "steady

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states." Botkin dealt the "balance" idea its biggest blow in 1990. Pickett and Ostfeld perceive some management strategies are driven by the classical model, including "nature knows best" hands-off management. Vestiges of such thinking can be seen at Yellowstone and elsewhere.

Next, R.L. Knight and T.L. George, in **Chapter 16**, contrast traditional biotic "resources management" disciplines with ideas subsumed under the new field of conservation biology, providing a brief sketch for those unfamiliar with its emergence. The authors do not recommend abandoning traditional natural resource management approaches but supplementing them with conservation biology's more holistic, landscape-process awareness.

In **Chapter 17**, Susan Jacobson provides her thoughts about producing better trained natural resource managers. Predictably, she believes a conservation biology or sustainable development perspective provides a better academic focus than the traditional resource disciplines. She recommends more disciplinary breadth, training in economics and social skills, etc., and legitimately questions whether universities can handle this need. This point is key. For future conservation biologists, Noss (1997) gave universities a scathing assessment, with some notable exceptions. Readers with land management experience may laugh at any suggestion that new resource managers can leave a university with all the knowledge and skills they will ever need. Only in this century, have universities tried to fill a need once reserved for practical experience, apprenticeships, and continued personal study. Jacobson's recommendations are sound, she is well acquainted with the literature (Jacobsen and McDuff 1998), but they lack some insight derived from personal work experience.

In **Chapter 18**, James J. Kennedy and Jack Ward Thomas propose a new model for managing natural resources—manage for social value instead of things! Readers might not reach this awareness on their own. The authors believe their model reflects what students actually encounter on the job, often to their great surprise. For NPS readers, "social conflict management" may sound familiar. The authors do not advo-

cate a "consumer-is-always-right code." They do advocate honoring diverse values and participating in value evolution. Many agencies already do this through interpretation, public hearings and Congressional testimony, publications, videos, TV and radio interviews, etc.

Robert Costanza uses **Chapter 19** to review the new transdisciplinary, problem-focused field of "ecological economics," which he was instrumental in developing. He highlights some key ideas in his previous papers. The presentation is easy to follow.

In **Chapter 20**, Holmes Rolston offers his views on a global economic ethic. However, it is difficult to understand the real, tangible benefits of continual articulation of slightly improved versions of a nature ethic, at least for the book's intended audience. If most land managers understand Aldo Leopold's "land ethic" in the 1949 book *A Sand County Almanac*, they will not be far off course.

Edward Grumbine in **Chapter 21** begins with a Cascades backcountry bear story to highlight his disappointment that some critical population viability factors were not addressed by the Interagency Grizzly Bear Study Committee in 1990, or fixed in a 1992 document revision. The author says the private Greater Ecosystem Alliance did a much better job using similar data. This could be, because the viability determinants he highlights were highly significant. However, to attribute the two results to different organizational value systems (private sector versus government) is speculation. Grumbine has provided valuable technical guidance and insight in previous work (Grumbine 1992), but it unfortunately again gets intermixed with black-and-white essay generalizations driven by his frustration with agencies. The author repeats his five primary "ecosystem management" principles from his significant 1994 paper.

The book ends abruptly with a one-page synopsis. Although each section of the book begins with a useful synthesis, top officials in agencies and elsewhere are conditioned to look for "strategies." Because of this expectation, however difficult or even scientifically naive, the book should have ended by bringing more detailed focus to more of the dominant ideas presented in its many chapters.

A New Century for Natural Resources Management is refreshing for a multiauthored volume. Most chapters are very good and each should teach most readers something new. Unfortunately, those who most need its insights are unlikely to read it, e.g., agency heads, second- or third-level Washington or regional office agency lieutenants, some oversight-providing political appointees, the Congress, natural resource extraction industry officials, western small-town communities, land-rights activists, and some field managers with formal academic training from the 1960s or earlier who have been able to keep up. They should. **P**

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