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BOOK REVIEW

THE GREATER YELLOWSTONE ECOSYSTEM: REDEFINING AMERICA'S WILDERNESS HERITAGE.

Edited by Robert B. Keiter & Mark S. Boyce.
Yale University Press. 1991.

*Reviewed by Marla E. Mansfield**

Yellowstone. Whether the first image the name evokes is a frivolous black bear stealing picnic baskets or a Thomas Moran landscape, one fact is clear: Yellowstone resonates in the American consciousness. Therein lies its special nature. But, as Professors Robert B. Keiter and Mark S. Boyce make clear, Yellowstone also may be a microcosm of more generalized conflicts. Therefore, *The Greater Yellowstone Ecosystem*¹ is thought-provoking reading for all concerned about wilderness or the future of publicly-owned natural resources. In the words of Professor Keiter, the Yellowstone experience is "a test case—or paradigm—for redefining mankind's role in wildland areas of ecological importance."² At issue is how "natural" Yellowstone should be. Inherent in this question is what does "natural" mean and what role man might play in "nature."

OVERVIEW

The Greater Yellowstone Ecosystem is a book of five parts. The first and last parts are more general, while the remaining three chapters dissect three resource management problems: fire policy and management, conservation biology and wildlife ecology, and wolf recovery plans.³ These resource issues were chosen as examples of ecosystem management, which is management that transcends jurisdictional boundaries and follows the natural dynamic range of the resource. According to the editors, National Park Service and Forest Service responses to these problems show subtle movement towards ecological awareness and a realignment of the human relationship to

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1. THE GREATER YELLOWSTONE ECOSYSTEM: REDEFINING AMERICA'S WILDERNESS HERITAGE (Robert B. Keiter & Mark S. Boyce, eds., 1991) [hereinafter GREATER YELLOWSTONE ECOSYSTEM].

2. Robert B. Keiter, *An Introduction to the Ecosystem Management Debate*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 3, 4.

3. In the book's foreword, Luna B. Leopold suggests that the reader begin the book by reading the last chapter. Luna B. Leopold, *Forward to GREATER YELLOWSTONE ECOSYSTEM*, *supra* note 1, at xi, xiv. The suggestion is worthwhile; the final chapter crystallizes the organizational framework.

nature.⁴ Nevertheless, the road to ecosystem management is not easy and the economic, political, and legal objections are acknowledged.

Part of the rationale behind the book's multi-part organization is that it combines the insights of lawyers, scientists, and economists. This amalgamation is formidable but necessary. The lawyers' role arises because the Greater Yellowstone Ecosystem contains two national parks, three wildlife refuges, six national forests, and federal lands managed by the Bureau of Land Management. On top of that heady brew of disparate statutory mandates, either the state or private parties own or manage other lands or resources. Therefore, even if federal managers could agree on a management strategy for federally owned lands, constitutional and jurisdictional limitations may prevent implementation.

Scientists and economists also must be heard in any discussion about Yellowstone management. Yellowstone—both the Park and the greater area—provide not only “wilderness” or natural experiences, but also provide economic resources. These resources are not limited to minerals, timber, and forage, but include recreational opportunities. The elk, for example, is not only an animal for viewing and a part of the natural ecosystem. Elk are also “harvested” by money-dispensing hunters. Vested interests, and thus political constituencies, can collide. Scientists are necessary if one desires to manage these resources for either altruistic or human needs.

For the non-scientist, the first and last parts of the book are the most accessible. These detail the legal and social milieu. Nevertheless, the three chapters on specific resources are not beyond the layperson's ability, and provide valuable information.

THE CHALLENGE OF MANAGING THE GREATER YELLOWSTONE ECOSYSTEM

The first part of *The Greater Yellowstone Ecosystem* sets the stage for the later more particularized discussions. Part I contains seven individual contributions which, together, provide a broad foundation. Although the material may not be startling or new to those well-acquainted with the issues, the selection of articles provides a necessary primer. The mix of specialties emphasizes the complexity and importance of the questions.

The first contribution, by editor Robert B. Keiter, provides the legal and sociological overview.⁵ He ably sets the scene, emphasizing that the natural resource problems of wildlife and fire management do

4. Robert B. Keiter & Mark S. Boyce, *Greater Yellowstone's Future: Ecosystem Management in a Wilderness Environment*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 379, 380.

5. Robert B. Keiter, *An Introduction to the Ecosystem Management Debate*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 3, 3-18.

not respect boundaries. The fundamental difference between the two big federal "players" can make boundaries important. The Park Service, because of Yellowstone's historic role, might be compelled to manage to preserve Yellowstone's natural ecosystems. The Forest Service, however, views the regional conflicts as reflecting "intense competition for the unique and scarce products and experiences the area offers;"⁶ therefore the controversies can best be understood as a conflict between widely divergent "public values."⁷ Professor Keiter clearly acknowledges that economics are intimately entwined with public land issues, often putting ranchers, loggers, and mineral and recreational interests in conflict. Additionally, he underscores the fact that decisions made on public lands will affect private lands. His view of the future is that federal agencies are moving tentatively to reconsider management based on ecosystem reality. As an example, he cites the Greater Yellowstone Coordinating Committee as an "unprecedented level of cooperation between two agencies that have historically mistrusted each other."⁸

The next two contributors are scientists. Duncan T. Patten⁹ presents basic ecological principles. He defines an ecosystem in standard scientific terms. Also, for the edification of the uninitiated, he makes a vivid analogy to an urban area, likening Yellowstone to Phoenix, a city, which like a natural ecosystem, experiences both daily and seasonal migrations.

The second scientist is well-known to followers of Yellowstone battles for his work with grizzly bears. John J. Craighead¹⁰ here argues that the National Park Service has been too inward looking and not responsive to outside research.¹¹ More importantly, he faults the agency for not managing in accord with scientific principles for specific goals. For example, he argues that a fire management policy must be integrated with wilderness preservation. To allow natural fires to run their course would let chance determine the landscape: "This is the natural process that existed in pre-Columbian times. But is it defensible in the late twentieth century, when 'pristine' wilderness areas constitute only 14 percent of all public lands and less than 4 percent of total land area in the lower forty-eight states?"¹² According to

6. *Id.* at 10, quoting presentation by Brian Stout, supervisor, Bridger-Teton National Forest, Examining the Greater Yellowstone Ecosystem Symposium, Univ. Of Wyoming, Laramie, Apr. 13-15, 1989.

7. *Id.*

8. *Id.* at 12.

9. Duncan T. Patten, *Defining the Greater Yellowstone Ecosystem*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 19-26.

10. John J. Craighead, *Yellowstone in Transition*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 27-39.

11. Mr. Craighead has an interesting theory on the genesis of the problem. Yellowstone was initially managed by the military and he argues that it left the National Park Service "a rigid and authoritarian style of administration that has survived to the present day." *Id.* at 28.

12. *Id.* at 37.

Craighead, the National Park Service needs "goal-oriented management, for both wildlife and habitat"¹³ because Yellowstone is not a natural ecosystem; 2.5 million people visit it a year.

The next contributor, Randal O'Toole, is an economic consultant.¹⁴ He also looks at management problems and expresses concern: "Pinchot's ideal of the altruistic scientific forester working in the public interest has not been achieved."¹⁵ According to him, economic incentives have skewed the Forest Service toward timber production because the Forest Service gets to keep a percentage of timber revenues. Therefore, Mr. O'Toole suggests recreation fees be set. Allowing the Forest Service to keep some receipts would make it more responsive to those needs. In lieu of appropriations, incentives could promote recreation, wildlife habitat and even clean water. He elaborates this theme by suggesting that conservation groups be allowed to buy easements on public lands and that agencies and private landowners whose land successfully breeds endangered species be given a "bounty." Such creative alternatives to command and control regulation should be carefully appraised.

The last three contributors to Part I are lawyers. Two partake in a statutory debate and the final contribution is more philosophically oriented. William J. Lockhart¹⁶ and Karen J. Budd¹⁷ take two sides in the dispute about whether preservation or use should be the benchmark for managing the Greater Yellowstone Ecosystem. According to William Lockhart, the priorities of the National Park Service's Organic Act should rule interagency disputes. He believes that the executive branch tends to want to preserve discretion on an ad hoc basis and therefore ends up with the least common denominator as its management criterion. As an example, he cites the Bureau of Land Management position that it is committed to multiple use on its land and will not be a buffer zone for parks.¹⁸ Any such "equalization of mandates" should not occur at higher levels if the Department of Interior and ultimately the President "faithfully execute" the laws and prioritize the Park values.¹⁹ Karen Budd, however, takes the other side of the debate.

Karen Budd argues that the Greater Yellowstone process of rethinking management processes creates problems because Congress

13. *Id.* at 38.

14. Randal O'Toole, *Recreation Fees and the Yellowstone Forests*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 41-48.

15. *Id.* at 43.

16. William J. Lockhart, "Faithful Execution" of the Laws Governing Greater Yellowstone: Whose Law? What Priority?, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 49-64.

17. Karen J. Budd, *Ecosystem Management: Will National Forests be "Managed" into National Parks?*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 65-76.

18. Lockhart, *supra* note 16, at 55-56.

19. *Id.* at 576.

did not intend the national forests to be managed as parks. All that is needed and mandated from the forests is coordination, not consistency.²⁰ According to Ms. Budd, the Forest Service says that it is going along with ecosystem management without a direct legislative mandate in order to avoid new legislation. She responds: "Frankly, I would rather take my chances with Congress."²¹

Part I concludes with the thoughts of Professor Joseph L. Sax.²² Professor Sax, the modern father of the public trust doctrine,²³ believes that growing awareness of the needs of ecosystems will force a realignment of property rights. Wolf recovery and natural fire management create controversy because they run counter to society's normal primary purpose of protecting and saving property. Generally, western society strived to place property into private hands, to give exclusive rights and put property to use.²⁴ Simply buying more public land would not answer the conflict: "the central question is how our land is going to be used, and not simply who owns it."²⁵ He argues that eventually rights to property will be limited by the nature of the resource system in which the property is found: "The traditional notion that every landowner of every acre, wherever located, has identical rights of use will not, I am confident, prevail much longer. Such claims will bend to a changing conception of property that affirmatively values the sustenance of natural systems."²⁶ Professor Sax envisions that private property rights might have to yield to the betterment of the community.

The seven contributors to Part I provide a spectrum of responses to the prospect of ecosystem management. Whether the reader disagrees or agrees with the individual positions, the collection should spark debate.

THE RESOURCES: FIRE, UNGULATES, AND WOLVES

Parts II-IV concentrate on three issues: fire management, elk and bison management, and reintroduction of the wolf. The controversies involve whether to allow the Yellowstone ecosystem to be "natural."

20. Budd, *supra* note 17, at 68.

21. *Id.* at 73.

22. Joseph L. Sax, *Ecosystems and Property Rights in Greater Yellowstone: The Legal System in Transition*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 77-84.

23. See, e.g., Joseph Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970) and Joseph Sax, *Liberating the Public Trust Doctrine from its Historical Shackles*, 14 U.C. DAVIS L. REV. 185 (1980).

24. Sax, *supra* note 22, at 77-78. As an example, he cites the doctrine of appropriation in western water law; to leave water in a stream was to "waste" water.

25. *Id.* at 80.

26. *Id.* at 81. This reviewer has made similar observations. See Marla E. Mansfield, *On the Cusp of Property Rights: Lessons from Public Land Law*, 18 ECOL. L. Q. 43 (1991).

In the fire scenario, that would entail allowing fires to run their course. In dealing with elk, "natural" management would allow elk numbers to fluctuate and not be regulated by man. Because the wolf was at one point part of the Yellowstone ecosystem, its reintroduction would restore a natural element. Each of these management decisions requires use of more than just National Park Service lands. Moreover, the results of these decisions can impact private lands or economic interests.

The contributions in each section enable the layperson to comprehend the basic scientific principles and arguments. The sections on fire management and wolf reintroduction are the most accessible, perhaps because the topics are the most dramatic. The fires of 1988 provide a resonant backdrop for the fire management section, which includes discussions of a Canadian perspective and an analysis of the cost to protect developed areas from fire. The wolf recovery section similarly strikes an emotional chord; wolves are animals that many either prize or despise.²⁷ The section on wildlife management may lack the immediacy of the other two. Nevertheless, one issue discussed in that part is itself a miniature of all the other issues.

Bison and elk are integral parts of the Yellowstone ecosystem. Yet, because they can carry brucellosis, these symbols of the West conflict with another important image of the West, one which is also of political and economic importance.²⁸ Brucellosis is a disease with significant economic impact to cattle ranchers. It causes cows to abort and is rigorously controlled in domestic animals. Infected herds can be destroyed. To be free of brucellosis is very important for a cattle-producing state. Methods that can control brucellosis in domestic cattle, however, are not necessarily effective in controlling the disease in bison and elk. This fuels a conflict between the natural and the domesticated, between interests in the wild and in private property. This simple conflict symbolizes the dilemmas of ecosystem management.

The lawyer, therefore, gains an appreciation of the political and economic dimensions of the issues by reading these cross-disciplinary contributions. Although some of the articles might intimidate the non-scientist, the basic premises are accessible. Anyone with an interest in the future of publicly-owned natural resources should enjoy the challenge.

27. Research, however, showed that a large percentage of the general population neither liked nor disliked the wolf. Polarization occurs between members of certain environmental groups and ranchers. Alistair J. Bath, *Public Attitudes about Wolf Restoration in Yellowstone National Park*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 367-76.

28. See E. Tom Thorne, Mary Meagher, and Robert Hillman, *Brucellosis in Free-Ranging Bison: Three Perspectives*, in GREATER YELLOWSTONE ECOSYSTEM, *supra* note 1, at 275-87.

CONCLUSION

In the final part of *The Greater Yellowstone Ecosystem*, the editors attempt to appraise the importance of the management decisions discussed and other trends, such as grizzly bear management and the work of the Greater Yellowstone Coordinating Committee. They conclude that there is some movement toward ecosystem management, but recognize that it has not been consistently or easily embraced.²⁹ In fact, without the impetus of the Endangered Species Act, the concept does not have great stamina and appears to be resisted by the Forest Service.³⁰ Nevertheless, the editors champion ecosystem management as necessary to properly define man's relationship with the wild and chide the federal agencies for not broadening their management vision to include all federal interests as well as state and private landholdings.

Whether or not you agree with the premise that ecosystem management is desirable or with the assessment of its current state of implementation, *The Greater Yellowstone Ecosystem* is a valuable tool in the debate. Nevertheless, its brave mixture of science, law and economics might make it difficult for the book to find an easy audience. This is unfortunate because it has much to say. In fact, informed citizens of Wyoming, Idaho, and Montana should consider it required reading because of the direct impact these issues have on the politics and economics of their region.

29. Keiter and Boyce, *supra* note 4, at 405.

30. *Id.* at 395, 403.