

dormancy, relative humidity, and storage temperatures which vary with each species and potentially each phenotype combined with the phenomenon of declining fitness of seeds with time, that present significant challenges for the curators of such facilities. Combine this with the complications of preventing inbreeding, exposure to diseases, and handling techniques, and I am left with the thought "I am glad I don't have that job." The conservation process is further complicated with the fact that there are relatively few such facilities (concentrated in wealthier nations), with a lack of trained botanists, often focusing on showier plants (i.e., flowering plants), and the whole concept of international biodiversity conservation seems utterly daunting and frustrating. I suppose this is true for much of environmental science, ecology, and the like. To those who are in the thick of it, I can see the value of such a book as a reference text, and I wish them well as they are, indeed, front-runners.

On the whole, I enjoyed this book. I felt that it was well written, chock full of very good scientific references, and based on current science. I would have enjoyed a few more sections on specific examples of species recovery programs. For example, I enjoyed the chapter (#3) on efforts in western Australia to recover a great deal of rare endemic plants. Small sections on three species documented as case studies provided context for many of the ideas discussed. In particular, this chapter stressed the need for the link between management and scientific research in the efforts to collect, maintain, and restore these species.

Chapter 5 discusses the current and future roles of zoos and botanical centers. It had not occurred to me previously how valuable these places could be. They provide the facilities for research and connections with the wider plant conservation community, as well as the opportunity for education of the public on the value of rare species. I agree that zoos have focused on larger charismatic species and that greater efforts could be made to make less showy species just as interesting to the public (within reasonable limits). In summary, this volume adds much needed detail and guidance to the field of plant conservation

and restoration.

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Wilderness Forever: Howard Zahniser and the Path to the Wilderness Act

Mark Harvey
University of Washington Press, Seattle
328 pp., cloth. 2005
[ISBN 0-295-98532-1]

An unconventional American history class I took as an undergraduate student years ago helped catalyze my own interest in forest protection, but not necessarily in an entirely constructive way. During the class, required reading included *The Monkey Wrench Gang* by anarchist author Edward Abbey—a popular novel glorifying the exploits of a fictional band of ecological saboteurs, and we were also exposed to materials from the

radical group Earth First!. For some time after that, I assumed that one of the most effective strategies for protecting natural areas was confrontational activism. I of course grew older, wiser, and was exposed to many



different strategies for preserving wild lands—including that of one of America's greatest but perhaps most under appreciated environmental leaders. A native of Tionesta, Pennsylvania, Howard Zahniser (1906-1964) never chained himself to a bulldozer or marched with a protest sign hollering slogans. However, his life's work was among the most effective of any in permanently preserving the last vestiges of America's wild landscapes.

Since learning of Zahniser's Allegheny-region roots six years ago while researching a paper on wilderness preservation in the Allegheny National Forest (*Natural Area*

Journal 21: 338-345), I have been taken with the knowledge that such a conservation giant emerged from our midst here in northwest Pennsylvania. Mark Harvey's *Wilderness Forever: Howard Zahniser and the Path to the Wilderness Act* chronicles the life of Zahniser (ZON-i-ser) from his early days in Tionesta along the banks of the Allegheny River, to his work for the Bureau of Biological Survey in Washington, D.C. and permanent transition to the non-profit Wilderness Society there, to his central role in establishing America's National Wilderness Preservation System (NWPS) in 1964. Zahniser's story, told well by Harvey, carries the important lesson that it is ultimately more effective to patiently dialogue with and politely but persistently cajole your opponents into recognizing the merits of your goals, rather than to confront, litigate, or abrasively agitate. Harvey, a professor of history at North Dakota State University, began investigating Zahniser's life and work in the mid-1990s. His thorough research included numerous interviews with colleagues of Zahniser and members of the Zahniser family, examining the vast repository of Zahniser's prolific writings, and visiting places Zahniser lived and worked. *Wilderness Forever* would be enlightening reading for citizen wilderness advocates, conservation professionals, agency managers of wilderness lands, students of 20th century American history, and general audiences.

Zahniser was Executive Secretary of The Wilderness Society (TWS) from 1945-1964, and wrote the first draft of the Wilderness Act in that capacity in 1956. Congressman John P. Saylor, a conservative Republican from Johnstown, Pennsylvania, introduced Zahniser's legislation in the House of Representatives. Liberal Democrat Hubert Humphrey of Minnesota introduced the companion version in the Senate. Zahniser spent the following eight years shepherding the legislation through Congress, including attending all 18 public hearings on the bill and overseeing numerous rewrites. He died of heart failure in May of 1964, just a few months before President Lyndon Johnson signed the Wilderness Act into law. The full title of Zahniser's legislation is "An Act to establish a National Wilderness

Preservation System for the permanent good of the whole people, and for other purposes." Originally 3.68 million hectares in size, the NWPS has now grown to more than 42.9 million hectares in 680 wilderness areas in 44 states through the passage of more than 100 individual wilderness laws. No resource extraction or permanent developments are permitted in the NWPS, just low-impact forms of recreation such as hunting and backpacking.

Though his affinity for the Adirondack Mountains is perhaps better known, Harvey also highlights Zahniser's deep connection to the Allegheny River valley throughout the book. Every summer, Zahniser and his wife, Alice, brought their children to Tionesta to visit his mother and enjoy the natural surroundings. In 1937, Mr. and Mrs. Zahniser canoed the Allegheny River from Olean, New York, to Tionesta, which could then be done continuously as it was before the days of the Kinzua Dam above Warren. Zahniser had a particular aversion to inappropriately located dams. In the early 1950s, in his role with TWS, he and others successfully fought an ill-conceived plan by the Bureau of Reclamation to construct a dam at the confluence of the Green and Yampa Rivers in Colorado's Dinosaur National Monument. It was in researching and writing about this campaign in his *A Symbol of Wilderness: Echo Park and the American Conservation Movement* that Harvey was introduced to Zahniser's disciplined style of advocacy. Zahniser also later opposed the construction of the Kinzua Dam, which ultimately flooded one-third of the reservation lands of the Seneca Nation of Indians.

Harvey uses the last three chapters of *Wilderness Forever* to thoroughly recount the extensive dialogue and compromise that went into crafting the legislation that ultimately established the NWPS. Harvey underscores Zahniser's unique gift in uniting stakeholders of differing attitudes about forest management behind a common goal, writing, "Confident of his own views, he was unfailingly polite in his dealings with others, even those who strongly disagreed with him. For him, making room for wild lands was a matter of inclusion, of enlarging an old and deep-seated outlook

that saw the utility of natural resources as paramount."

The only 'drawback' to *Wilderness Forever*, if there is one, is that there are no tales of daring exploits in defense of Mother Earth. There is no one chasing down whaling vessels on the high seas, no acrobatic activists perched in redwood trees for weeks on end to save a favorite grove. Such stories are not to be found in *Wilderness Forever*, because that is not who Howard Zahniser was. Instead, he was a bureaucrat extraordinaire with a profound love for nature whose persistent, pragmatic efforts have led to the permanent protection of vast expanses of America's most important natural areas for future generations. As environmental historian William Cronon writes in the Foreword to *Wilderness Forever*, "Howard Zahniser arguably made a greater practical contribution to the protection of wilderness in the United States than any other single individual in the past hundred years." All things considered, that 's not much of a shortcoming at all.

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Prairie Dog Empire: a Saga of the Shortgrass Prairie

Paul A. Johnsgard
University of Nebraska Press, Lincoln
243 p., hardcover. 2005
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Prairie Dog Empire: a Saga of the Shortgrass Empire arose out of a July, 2002 hearing attended by Dr. Johnsgard concerning whether the State of Nebraska should begin to take steps towards conserving the black-tailed prairie dog. Observing the differences between biologists and various environmental groups supporting a conservation program and the ranchers, which "condemned" the prairie dog, he undertook the writing of a book centering on this "controversial animal."

Johnsgard starts the book off presenting a brief history of the geology of the Great

Plains and the different prairies that evolved over this immense area. The second chapter is devoted to the bison. The early part of this chapter contains accounts from other writers concerning the number of bison found on the Great Plains at a particular location and time, always stressing the decimation of the herds across the Plains. The final part of this chapter discusses the behavior of bison and provides a comparison to cattle regarding how each eats their food and how they store food and water.

The prairie dog is introduced in the third chapter. Johnsgard discusses the range and distribution (historic and current) of five prairie dog species: white-tailed, Gunnison's, black-tailed, Utah, and Mexican. A fairly detailed description is provided for the social, foraging, and reproductive behavior of the black-tailed prairie dog.

The next several chapters discuss many of the wildlife species that interact in some way with the prairie dog. Among the species Dr. Johnsgard focused on were: ferrets, badgers, bobcats, coyotes, owls, foxes, other small mammals, herptile associates, several birds, including raptors, and pronghorn. Most of what was presented in these chapters was based on research studies.

The remaining four chapters discuss the human and government impact on the Plains. Chapter 8 is a brief history of the "predator wars" conducted on the Plains to remove prairie dogs, coyotes, bobcats, wolves, and other animals that represented a threat to cattle and agriculture.

There are detailed accounts of the number of animals removed, how they were removed, and the ways in which they were removed. The brief history of

the settlement of the High Plains is presented in the following chapter. There is a discussion of farming, ranching, and

