

Environmental History of the High Plains

An interview with Mark Fiege

Mark Fiege is associate professor of history and the William E. Morgan Chair of Liberal Arts at Colorado State University (CSU), Fort Collins. His research and teaching specialties include American environmental history, western American history, and US history. His interests also include historiography, the western intellectual tradition, and the history of science. He counts the ecologist Aldo Leopold and the theologian Reinhold Niebuhr among the many scholars that he admires.

Mark's research and writing focuses on the role and place of nature in human life. His book *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (1999) examines the mingling of agricultural systems and forms of resistant nature in Idaho's Snake River Valley. *Irrigated Eden* received an Idaho Library Association Book Award and was co-winner of a Charles A. Weyerhaeuser Award from the Forest History Society for the best book on forest and conservation history. His essay, "The Weedy West: Mobile Nature, Boundaries, and Common Space in the Montana Landscape," which appeared in the Spring 2005 issue of *Western Historical Quarterly*, received best article prizes from four professional associations.

Mark is a cofounder of the Center for Public History and Archaeology. Dedicated to the production of historical knowledge in service to public institutions, the Center is involved in nine projects funded by the National Park Service. Mark now directs the center, serves as principal investigator for several projects, and will coauthor a research report on the history of livestock grazing in the national parks.

Mark has taught hundreds of students in surveys, thematic courses, and seminars during his 15 years at CSU. For his classroom efforts, he received the Willard O. Eddy Teaching Award from the colleges of Liberal Arts and Natural Science.

Mark is a featured speaker at the 2010 Joint Annual Meeting of the Society for Range Management and the Weed Science Society of America, 7–11 February 2010, in Denver, Colorado. In this interview, Mark explains some of the factors affecting the ecology that we observe on our range and farmlands.



Mark Fiege.

Question: You have been a strong supporter of a clean environment in the American West. What item do you consider to have had the most important impact on the environmental history of the High Plains and northern Rocky Mountains?

Answer: Environmental historians tend to think about the past in terms of very deep time scales. Five, ten, fifty, or a hundred years ago isn't enough; let's go back centuries if not millennia. From that perspective, we often identify a series of massive disruptions that swept across North America, the aftershocks of which we are still feeling. The first of these was the extinctions that occurred near the end of the Pleistocene ice age, when entire genera of large mammals disappeared. Today it's sometimes hard to imagine the camels, cheetahs, elephants, and other creatures that once inhabited the high plains and foothills, but that's the way this part of the world once was.

The second environmental event of paramount significance—perhaps *the* event—was the arrival of Europeans in the western hemisphere. Europeans carried out wars of conquest and, with the Africans they forced to accompany them, brought diseases, plants, and animals largely unknown here. Next came the spectacular ecological collapses of the late nineteenth and early twentieth centuries, ranging from the near-extirmination of bison herds in the 1880s, to the cattle die-offs of the 1880s and 1890s, to the Dust Bowl of the 1930s. Focusing on these events does not yield a happy

story, to say the least, and in some senses that story distorts the past by diverting our attention from the resilience of people, plants, and animals in the face of radical change. But the story does remind us that we live in a land that in the relatively recent past experienced some pretty serious ecological shake-ups.

If I were to add a fourth episode to the story, and this gets to the heart of your question, I would say that the one recent event, the one recent thing, that has most affected the High Plains and Rockies has been the shift from a low-energy organic economy to a high-energy, mineral-based economy centered on fossil fuels. Reliance on sunlight, wood, water, wind, food, and draft animals for energy severely limited the impact that human actions could have on the environment. But the shift to coal and petroleum liberated humanity's power to alter land and life. Not all of the changes have been bad—the increased flow of food and wealth from the earth has benefited many people, including me. But the rapidity and magnitude of the transformation has been breathtaking. I don't mean to minimize specific problems like climate change, introduced species, beetle-killed trees, sprawl, or falling cattle prices. All of these, however, are related to our use of fossil fuels. Coal and petroleum have drastically reconfigured our relationship to the High Plains and Rockies, in unprecedented ways.

What role has fire had in shaping the plant ecology of the plains and mountain rangelands of Colorado?

I don't think I'm able to answer this question down to the level of detail that you might be expecting or hoping for. I'm a historian, not a fire ecologist, and I haven't done a detailed study of the state's fire history generally, much less its rangelands specifically. I anticipate that this will change in the future, because I'm developing a research project on Rocky Mountain fire history in collaboration with several colleagues at Colorado State University. But in general, I think it is now widely accepted that fire has been a major shaper of our biota. And the question involves not just fire, but also the human manipulation, domestication, suppression, and exclusion of fire. The environmental historian Stephen Pyne has made a lot of this latter point. Tilled landscapes, for example, seem to be devoid of fire, and in many ways they are. But combustion is still going on—it's just inside the engines of the tractors and trucks with which people work the land.

The situation probably has been much the same with Colorado rangelands. Research by the environmental historian Julie Courtwright reveals that early ranchers on the central and southern Great Plains burned the range, but other citizens, government officials, and eventually ranchers themselves eventually suppressed and outlawed the practice. Fire and the human role in it are controversial topics, of course, and more specific research on the situation of Colorado rangelands is needed. But it's valid to consider the extent to which anthropogenic fire shaped the range and was later suppressed and excluded. No matter what, directly

or indirectly, fire probably played an important role in shaping plant ecology. The question is how, when, and to what effect.

How did Native Americans use fire in shaping the rangeland resources?

Native Americans' use of fire is a major theme in environmental history, and evidence supports the assertion that these people shaped High Plains and Rocky Mountain rangelands with it. In part, they burned to drive game or improve its habitat. But American Indians' use of fire did not begin and end there. Too often, Indians only appear in historical accounts as backdrops or precursors to European American people and land use practices. Euro-Americans often forget or overlook the fact that Indians were not backdrops or precursors, that they continued to participate in history after the conquest, and that they adapted their fire practices to a changing world. Indians on the central and northern Great Plains—the Pawnees, for example—used fire in the spring to encourage the growth of fresh grass for their horses. Winters were harder on the central and northern plains than on the southern, and by spring Indian mounts were in dire need of forage. Thus, the Pawnees and other Indian people incorporated fire into pastoral practices centered on a grazing animal that they had adopted relatively recently.

In their use of fire to shape the countryside, Indians had much in common with other rural Americans during the late nineteenth and early twentieth centuries. Fire once was a tool that rural people of all sorts used for various purposes. Those of us interested in environmental history need to see Indians as participants in a rural, vernacular, folk history of fire, not as primitive precursors who used fire for the hunt before giving way to the advancing pioneers. Again, Julie Courtwright's research is important in this regard. She has found that early ranchers learned fire management techniques from native people. But by the late nineteenth century, farmers, townspeople, newspaper editors, and government officials—people who wanted to "civilize" the Great Plains and sprout trees on it—took steps to suppress and exclude range fire. A moment when Euro-American pastoralists learned fire practices from Indians was lost to popular memory.

What approach would you recommend to counter the potential for mega-fires in the large forest areas where the trees are being killed by the bark beetle?

I'm not able to make a recommendation for a specific policy or practice. But for any land use problem, the beetle-killed trees or any other, I would recommend a historical perspective on it. My Colorado State University colleague Jason Sibold, a geographer, has done just that for the Colorado Rockies centered on Rocky Mountain National Park. Sibold argues that current forest conditions—fuel loads but especially climate patterns—are much as they were

in about 1850, just before the region experienced massive fires that burned periodically into the early twentieth century. He also believes that human activities may have contributed to the fires, and that those fires helped transform the forests into the condition that they are in today. Understanding past fires and present circumstances ought to help today's land managers contend with large fires in the near future, Sibold says. As an environmental historian, I couldn't agree more, and I hope to become a participant in Sibold's project, which we and other colleagues will extend to other sites in the Rocky Mountains.

What do you consider to be the greatest threat to the ecological stability of our natural rangeland resources?

I think that all of the threats matter, each in relation to the others. But I'll select one that I think is paramount. Fewer and fewer Americans have a connection to, feeling for, or understanding of rangelands. More Americans than ever are from cities and suburbs. I have witnessed this shift directly—in the 15 years that I have been a professor at Colorado State University, I have noticed a distinct decline in the number of students in my classes who come from rural areas in general, much less rural areas with rangeland livestock histories. I understand that CSU's Warner College of Natural Resources is even experiencing difficulty recruiting undergraduates into majors that will steer them toward careers as rangeland conservationists or managers. I am from a suburb, and I know that people from cities and suburbs have deep feelings for nature. I also know, however, that those feelings often do not extend to rangeland environments. Most Americans desire relatively pristine and spectacular mountains, forests, trout streams, wilderness areas, and the like, not rangelands.

But if society is to care for rangelands, then more citizens must have some knowledge of them and commitment to them. I realize that environmentalists have frustrated and angered livestock owners and government land managers. But at least environmentalists have cared about the rangelands and wanted what they thought was best for them. I can imagine a day when few if any people care at all. At that moment, the rangelands will be more vulnerable than ever to mining, fossil fuel extraction, military appropriation, and residential development. The moment might arrive when some of us will long for an earlier time when ranchers and environmentalists fought over rangelands. At least someone cared.

Have you observed any activity or action that you consider to have made a positive impact on the ecological stability of our natural resources?

Many people, and certainly most environmental historians like me, would say that the drive to use natural resources has overwhelmed society's capacity or willingness to conserve the ecological relationships intrinsic to them.

Across America, plant and animal species are in deep trouble, birds for example, and I'm not sure that we will mobilize the means or the will to prevent their destruction. No formal policy or management practice is perfect, furthermore, and certainly not everyone agrees on the meaning or even rightness of "positive impact" or "ecological stability" and what those terms might imply.

But in general, most formal laws and practices have conserved—or at least strengthened the potential for conserving—ecological relationships in forests, waters, rangelands, and on farms. Efforts to arrest soil erosion, maintain forest cover, prevent or mitigate pollution, reverse the loss of native plants to introduced species, or protect cherished places or environments have had positive effects, however weak or indirect, on ecological conditions. Americans always have struggled to reconcile their desire to make a living from the earth with their awareness that they ought to maintain the bonds between living things and the land. Most conservation measures reveal, in short, a popular awareness that we can't simply reduce nature to money.

Beyond formal policies, on a grassroots level, Americans often have shown a remarkable awareness that their actions have profound ecological consequences, an awareness that is necessary for any policy or practice that might have a positive effect on ecological relationships. In the environmental history class that I teach, I sometimes require students to write the history of a piece of land. I require them to use the knowledge they have gained in class, of course, but more important, I ask them to find physical evidence on the land that can help them deduce its history. Many students struggle with the assignment, because generally we do not teach or encourage young people to look carefully at the environment, much less look at it historically. By far the students who write the most perceptive papers are those from rural places where their families have maintained some kind of productive connection to land, whether keeping a few horses, running a few head of cattle, growing something, or hunting. These students might be weak in other ways, but their awareness of land greatly exceeds that of their classmates from cities and suburbs. Usually the rural students write their papers on the places they are from, and some of them have been brutally honest in identifying mistakes their families have made. The exercise offers powerful evidence that people who are the least shielded from consequences—especially the consequences of their own actions—are the most aware of their environment and the ecological relationships intrinsic to it.

What advice would you give to a young range professional in conserving the natural resources of our country?

Part of me feels uncomfortable answering that question, because I'm a historian, not a range professional, and I don't know the work the way the people on the ground know it. But since you asked, here's my answer.

First, I would advise that young man or woman to find pragmatic solutions to problems. Pragmatism, I would suggest, is a proud American tradition and far more effective than narrow absolutist or fundamentalist positions that generally end up weakening those who hold them. Beyond that, I would advise the young range professional to think of conservation as something more than just a means of finding narrow instrumental solutions to specific problems in nature. Is conservation merely about figuring out how to keep weeds out, maximize forage, stabilize the soil, or regulate the size of a deer herd? Or is it also about maintaining the integrity of physical things—sets of physical things—the value of which ultimately transcends our need for material gain?

Finally, I would advise the young range professional to take pride in his or her work. I recently read that over half of the Harvard class of 2007 went into finance and consulting, careers that are based on the manipulation of other people's money. This starkly contrasts with the young men and women from our state colleges and land-grant universities who end up doing the bulk of the nation's professional work, including the conservation of natural resources. The importance of conservation alone exceeds by orders of magnitude the Wall Street flimflam that masquerades as authentic labor. Be proud that you are a conservationist, not an opportunist and exploiter.

What are some of the questions or challenges that the Society for Range Management and the Weed

Science Society of America should be aware of, and for which they might develop solutions?

I'm an environmental historian, so I operate on the fringes of resource management, conservation, and the liberal arts. Most people think I'm odd if not a little crazy when I tell them that weeds are historically significant, that appreciating national parks requires an understanding of how livestock have shaped them, or that land, not just books and documents in libraries, can convey historical information. But I'm not alone in holding these sorts of ideas; plenty of other environmental historians do, too. And I'm certain that I'm not alone among my peers in welcoming opportunities to work with resource professionals and scientists on issues of mutual interest. I certainly have benefited from my work on natural resources; perhaps range managers and weed scientists might see some advantage in collaborating with historians like me. Perhaps we can advance our individual goals while producing knowledge that might help us better understand and solve resource problems. Perhaps we can coax our fellow citizens, and especially our students, to care about rangelands and other vital parts of our precious natural heritage. We have lots of problems. Can we work together on them?

Interview by Gary Frasier, co-chair of the Public Relations Committee, 2010 Annual Meeting of the Society for Range Management and the Weed Science Society of America (gfrasier@aol.com).