

Book Reviews

Ecology, 84(11), 2003, pp. 3098–3099
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FORGOTTEN PRAIRIES OF THE SOUTH

Peacock, Evan, and Timothy Schauwecker. 2003. **Blackland prairies of the Gulf coastal plain: nature, culture, and sustainability.** University of Alabama Press, Tuscaloosa, Alabama. xiii + 348 p. \$65.00 (cloth), ISBN: 0-8173-1263 (alk. paper); \$39.95 (paper), ISBN: 0-8173-1215-3 (alk. paper).

When one thinks of the ecological communities of the southeastern United States, what comes to mind may be the vast cypress swamps of the Okefenokee, the pine flatwoods of Florida, or the dark bottomland forests of oak and gum that line the Mississippi River. What does not come to mind is the image of prairies. However, prairie habitat does exist there, an ecosystem that is much more reminiscent of the wind-swept Great Plains than the hot and humid southland. As the new multi-authored publication *Blackland prairies of the Gulf coastal plain* edited by E. Peacock and T. Schauwecker (University of Alabama Press) shows, a unique area of prairie did exist in two broad swaths that stretched across Mississippi and Alabama as well as scattered patches in Arkansas and Louisiana. Remnant patches remain today and this work in part addresses the hope for restoration and preservation of this unusual habitat.

The grasslands in question are known as Blackland Prairies and commonly called the Black Belt. They exist on limestone formations (i.e., highly alkaline) of Cretaceous age that reach the surface in selected areas of the southeast, and are surrounded by younger more acidic sediments that support the growth of forests. As the sediments weather at the surface, they form a black, highly fertile soil that gives this habitat its name. The plant communities are typical of North American grasslands with grasses dominant (e.g., little bluestem, *Schizachyrium scoparium*), co-occurring with many forb species and scattered trees, often resulting in very high plant diversity. Like most other grasslands, community structure is probably determined by complex interactions of climate, disturbance (fire), and grazing. However, as this work clearly points out, knowledge and understanding of the blackland prairies is very poor and in many ways is still in the descriptive phase. Much experimental work remains to be done before we will understand how this ecosystem is structured.

The book's subtitle, *Nature, culture, and sustainability*, describes the organization of the text. The section discussing the natural history of the blackland prairies includes about one-half of the volume and covers two major topics: paleoenvironments and plant communities. Ironically, there is almost as much known about the prehistoric characteristics of these grasslands as there is about their more recent composition. One of the more intriguing hypotheses developed in Chapter 2 ("Paleoenvironment and biogeography of the Mississippi black belt: evidence from insects" by R. L. Brown) is that the black belt was an important refugium for grassland organisms during the last glacial period. The Great Plains of central North America is notable for its scarcity of endemic

species and appears to represent a conglomeration of species from other parts of the continent. The author, using data from arthropods and vertebrates, convincingly argues that these southeast prairies likely retained their grassland characteristics during the glacial advances, and therefore would have been ideal locations for grassland species to survive when much of the Great Plains was converted to boreal forest or covered by ice.

The second section includes three chapters on the cultures of the blackland prairies, both prehistoric and recent. As Schmitz et al. (Chapter 11) point out, lack of surface water, a feature of the black belt, was a major limiting factor for both indigenous cultures and European colonists. Only with the advent of modern water delivery systems has the chronic water shortages on the blackland prairies been alleviated, leading to further destruction of the habitat. One of the most fascinating chapters in the cultural section deals in part with the range and cultural implications of the Osage orange tree, *Maclura pomifera* (Chapter 12 by F. F. Schambach). The Osage orange was known to many native tribes as the best wood for making bows, and therefore became a valuable resource. However, because of the contraction of the tree's range during the glacial period and extinction of its seed dispersers (probably Pleistocene horses or other megafauna), it was only found in a very small blackland prairie area of southwest Arkansas, southeastern Oklahoma, and northeast Texas. This combination of rarity and value made the local Spiroan Indians, who controlled this resource, one of the wealthiest indigenous groups. With the introduction of horses and guns by the Spanish however, the power of the Spiro rapidly declined. Guns made the Osage orange wood obsolete and the horses that had gone feral spread the seeds throughout much of the central United States, so that the Osage orange came to occupy a large range once again.

The third section of the book discusses the restoration potential and conservation efforts underway on the blackland prairies. The blacklands have suffered the typical assault seen in other grassland ecosystems including conversion for agriculture (e.g., cotton), overgrazing, and encroachment of trees due to fire exclusion. Because of the soil type, these prairies are very susceptible to erosion, making restoration that more difficult. Furthermore, the location of many blackland prairies is not even known to scientists and many remnant patches are still being discovered today. Therefore, the basic process of mapping and delineating the habitat is still incomplete.

This work will be a valuable resource for those working in southeastern grasslands and will hopefully spur research in this unusual ecosystem. The volume is mostly descriptive, so will be most useful for those initiating experimental field studies or those with a historical interest in the habitat. The descriptive nature of the work is not a function of design by the authors, but a result of a dearth of knowledge of these grasslands. Therefore, this volume should be looked upon as

the first word on this little understood system. Hopefully more is forthcoming.

As with many multi-authored works, this one suffers from rather disjointed chapters and the three sections do not necessarily flow together well. It appears more as a series of journal papers, not surprising since the book arose from a conference on blackland prairies held at Mississippi State University in 2000. These prairies can be very beautiful during certain times of the year, so some high quality photographs would have also been useful to show readers the visual characteristics of the blacklands. Additionally, very little of the volume addresses the blackland prairies of Texas, which have very similar community structure and once covered large areas of northeast Texas.

There are occasional bold and controversial statements that should be made equivocally. In Chapter 12 on the Spiro culture (F. F. Schambach), it is stated that "The Spaniards saw no bison anywhere in Arkansas, nor is there ecological reason to believe they should have seen any. The state (Arkansas) contains no good bison habitat. . . ." In addition to the blackland prairies in southwest Arkansas, potential bison habitat existed in tallgrass prairie found in northwest Arkansas and in the Grand Prairie of east-central Arkansas. Furthermore, Thomas Nuttall records small numbers of bison in the state in 1819 (Nuttall, Thomas. 1980. *A journal of travels into the Arkansas territory, during the year 1819: with occasional observations on the manners of the aborigines*. University of

Oklahoma Press, Norman, Oklahoma). Given the large native population in Arkansas at the time of Spanish contact, the reasons for few bison in the state could have been caused by reasons other than ecological, such as overhunting by local people. In the same chapter, the author states that bison cannot survive year-round on tallgrass prairie habitats. Again, this is a controversial statement as bison have been reintroduced and are surviving year-round on at least two tallgrass sites (albeit highly managed ones: Konza Prairie, Kansas and Tallgrass Prairie Preserve, Oklahoma).

Much research remains to be performed on the blackland prairies of the Gulf Coastal Plain. As this work points out, time is running out for this habitat, and it will take a concerted effort of state, federal, and non-governmental agencies to conserve what remains. Fortunately, conservation and restoration is beginning, much of it initiated by the very authors of this book. For those undertaking both biological and cultural research in these habitats, this volume will be an indispensable companion that should stimulate years of research.

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Ecology, 84(11), 2003, pp. 3099–3100
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A NEW CALL TO ARMS

Hollander, Jack M. 2003. **The real environmental crisis: why poverty, not affluence, is the environment's number one enemy.** University of California Press, Berkeley, California. xiv + 237 p. \$27.50, £19.95, ISBN: 0-520-23788-9 (alk. paper).

Our wanton habits and limitless consumer appetites are wrecking the planet. We drive mammoth SUVs, drink gourmet coffee from disposable cups, and more often than not, do not turn off the lights. We know that despite our energy-efficient dishwashers, our yen for dolphin-safe tuna, and our neighborhood recycling programs, our affluent society uses, consumes, and wastes too much. You and I are the blame-worthy enemies of the environment; affluence is our curse and it will be our planet's undoing.

So goes the conventional wisdom, and according to Jack Hollander's concise and informative book, *The real environmental crisis*, the conventional wisdom has got it all wrong. Affluence is not Earth's great destroyer; poverty is. Whereas the desperately poor may have no choice but to despoil the environment just to meet essential needs, affluent societies choose; or rather, they *insist*, that the air be clean, streams and shorelines be pristine, and nature be preserved, abundant,

and beautiful. What the reigning orthodoxy fails to appreciate, writes Hollander, is that "[a]ffluence does not inevitably foster environmental degradation. Rather, affluence fosters *environmentalism*."

To ram home the message that poverty is the true enemy, the book's jacket shows a flimsy cardboard and corrugated metal shantytown sited on a bleak landscape of fetid trash. A woman and child in the foreground forage amid the decomposing rubbish. The squalor is palpable and green nature is completely gone, snuffed out, and buried. This is Manila's infamous dump, "Smokey Mountain," and the point being made is that human desperation and environmental ruin go hand in hand. Although we may appreciate the link, Hollander writes that we fail to appreciate the *magnitude* of the threat that poverty poses. Affluence, far from being the problem, is the *solution*. Affluent, democratic societies have the desire, the political will, and the wealth it takes to clean up after themselves. Poor, undeveloped societies do not have the luxury of worrying about pure water, fresh air, and healthy ecosystems, even though they suffer disproportionately from their lack. They do not have the political power or economic means to right ecological wrongs.

The challenge facing *The real environmental crisis*, then, is twofold: to convince us that poverty is the number one

menace to Earth's well being, and that affluence is the planet's—and humankind's—best and brightest hope.

Admittedly, it's a tough sell. We prosperous and fortunate few are a jaded lot and accustomed to being indicted of crimes against the environment. We are also thoroughly convinced of our importance. Given our unbridled consumerism and global reach, how can we *not* be ruining the planet? To which Hollander responds:

“One of the great success stories of the recent half-century is, in fact, the remarkable progress the industrial societies have made, during a period of robust economic growth, in reversing the negative environmental impacts of industrialization. In the United States the air is cleaner and the drinking water purer than at any time in five decades; the food supply is more abundant and safer than ever before; the forested area is the highest in three hundred years; most rivers and lakes are clean again; and, largely because of technological innovation and the information revolution, industry, buildings, and transportation systems are more energy- and resource-efficient than at any time in the past.”

I resisted Hollander's thesis at first, as I expect many readers will, because I was afraid of being duped. Good news is hard to accept, especially when the stakes of being wrong are so high. Nevertheless, he is correct in observing that the dire predictions of catastrophic ecosystem collapse and environmental doom have not come to pass. Not only has the sky not fallen, it has gotten cleaner.

Other books, most notably Gregg Easterbrook's controversial, *A moment on the Earth* (1995. Viking, New York), have heralded glad tidings and news of victory on the environmental front. But make no mistake; *The real environmental crisis* does not sound the “all clear” and Hollander by no means declares the battle won. It is not that our environmental concerns are ill-founded; rather, they are seriously misdirected. Hollander does not deride environmentalists, just their hyperbolic excesses, and whereas Easterbrook's tone is polemic and satirical, Hollander's is passionate and moral. Throughout the book he emphasizes the obligation that affluent nations have to bring a better life to people of the

developing world. This responsibility may make many uncomfortable, but should the affluent shrink away from their obligation, unadorned self-interest should galvanize their resolve.

Hollander largely succeeds in persuading us of his thesis because his arguments are balanced and supported by data, his organization is good, and his writing is free of jargon. The short book (237 pages including notes and an index) is illustrated with graphs and figures and its chapters are conveniently broken down into topic sections that make it readily accessible and quick to read. His rhetorical approach is to examine the popular and highly publicized environmental issues of the day—genetically modified foods, global warming, alternative fuels, etc.—review the dogma, and then deconstruct the approved canon. He also uses these issues to depict the stark contrast in mindset between the developed and developing world. For example, whereas polluted air is an anathema to the affluent, factory smoke carries with it the promise of employment and hope for a better future to a worker in a developing country. Whereas people in the affluent world are concerned about species going extinct, people in the developing world are worried about families going extinct. Hollander's strategy is to win us over intellectually, accepting that moral clarity will follow.

This work is likely to become an important work for the environmental movement because its timing is right and its message is sound. Affluent societies want to do right by the planet and they have proven their resolve time and again by taking action. They are becoming increasingly alienated by the brand of gloomy environmentalism that admits progress only grudgingly, rounds up the usual suspects, and has become much too comfortable playing the role of Cassandra. It is time for a new paradigm, and Hollander provides one.

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Ecology, 84(11), 2003, pp. 3100–3102
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CONSERVATION THROUGH AN AGROECOLOGICAL LENS

McNeely, Jeffrey A., and Sara J. Scherr. 2003. **Ecoagriculture: strategies to feed the world and save wild biodiversity.** Island Press, Washington, D.C. xxvii + 323 p. \$55.00 (cloth), ISBN: 1-55963-644-0 (alk. paper); \$27.50 (paper), ISBN: 1-55963-645-9 (alk. paper).

The loss of biodiversity has been identified as one of the critical environmental issues of the new century. Over the last twenty years we have seen a flourishing of the discipline of conservation biology and at the same time, on a more

practical side, we have witnessed an explosion in conservation efforts. Many of these efforts focused on the establishment of natural reserves. However, the “fence nature” approach to conservation has come under question as it became evident that a very important component of the landscape, people, was not being taken into consideration. Today, the conservation of biodiversity is at a crossroads—it either incorporates the production processes that are needed to feed, clothe, and house people, or it is doomed to failure. The mainstream of the conservation movement was forced to pay attention to agroecosystems and other managed systems as

part of the program for the conservation of biodiversity. In *Ecoagriculture: strategies to feed the world and save wild biodiversity*, McNeely and Scherr point toward what is needed if we want to accomplish both of these goals. This book could be an important tool to galvanize the idea that for conservation to be effective, it has to incorporate food, fiber, and animal production as an integral component.

The book is divided into three parts: the challenge, the opportunity, and policy aspects. In the first part the authors present data on global trends to argue that agriculture and food and fiber extraction have become a dominant influence in rural landscapes. The challenge, they argue, is to continue providing enough food and fiber to feed and clothe an increasing population and, at the same time, conserve wild biodiversity. In the second part, the authors develop the concept of "ecoagriculture," an approach that brings together agricultural development and conservation of wild biodiversity as explicit objectives in the same landscape. In this part, McNeely and Scherr describe the six strategies that form the basis of ecoagriculture: 1) biodiversity reserves, 2) habitat networks in non-farmed areas, 3) reduction in the conversion of wild lands to agricultural lands (mainly by increasing productivity in farm lands), 4) reduction in pollution, 5) modifications in the management of water, soil, and vegetation to enhance habitat quality, and 6) modification of farming systems to mimic natural systems. They then proceed to illustrate these strategies with current examples from all over the world, with a focus on developing countries in the tropics. The final part of the book focuses on how policies, markets, and institutions can be reshaped to support ecoagriculture.

This book is well written, easy to read, and will appeal to a broad audience, although it seems to be written mostly for environmental policy makers, conservation biologists, and to a certain extent conventional agriculturalists. The book also includes a glossary of terms that non-experts will find helpful, and has an extensive reference section.

The strength of this book is that the authors make a compelling argument for the need to transform agricultural and conservation practices into an integrated approach. Furthermore, they also provide a roadside map on how to accomplish this goal. Essentially, this is not the type of book that rants about what the problem is without offering solutions. However, the wide range of examples (36 total) is a mixed blessing. On the one hand, they show that ecoagriculture strategies are applicable in a wide variety of contexts, geographical, social, and economic. On the other hand, each example suffers from superficiality and, taken together, they tend to dilute the underlying concept of the integration of agriculture and conservation. After reading all of these examples, it is easy to conclude that the only practice that is not part of ecoagriculture is "the fence-in/people-out" approach. It would have been better if the authors had focused on a narrower set of examples that clearly illustrated the integrated strategy. For instance, the examples of shade coffee and organic cacao could have been combined into a single example of agroforests in the humid tropics. These two systems have been extensively studied by agroecologist and conservation biologists and they provide among the best example of ecoagriculture in the Neotropics. Another important example, which illustrates the integrated approach, but was not even

mentioned in this book, is the example of sustainable agriculture in Cuba. Since the 1990s Cuba has developed agricultural policies that incorporate all six strategies that the authors ascribe to ecoagriculture. This is a serious omission.

Finally, I have one main conceptual problem with this book. The authors make the neomalthusian assumption that we need to keep increasing food production in order to be able to feed a growing population. This assumption leads them to focus on increased production as one of the pillars of ecoagriculture. Although I agree that under certain circumstances increased local food production is necessary, it is not the case that this is always a wise strategy, as the authors seem to assume. Over the last two decades, it has been well documented that abundance, not scarcity, best describes the food supply in the world. Furthermore, there does not seem to be any relationship between poverty, hunger, and food production. One study found that 78% of the malnourished children under five in the developing world live in countries with food surpluses. Yet the problem is even more pernicious. Subsidies in the developed world lead to grain overproduction which results in "dumping" practices that depreciate food prices in the developing world and makes it impossible for small-to-medium farmers to make a living from farming. In some cases displaced farmers move to the cities, increasing the demand for cheap food in the cities; in others, they change their production to more ecologically damaging production activities (such as ranching or illegal crops); in yet others, after losing their land in good agricultural soils, they move to the agricultural frontier and cut primary forest to eke out a living. The focus on the need to increase agricultural output pushes the authors to take a lenient approach to intensive agricultural technologies that may be damaging to the environment. This is best reflected in one of their examples: "Regenerating native pine forest habitat in Honduras through improved crop technology." In this example, McNeely and Scherr describe a collaborative project between the National Coffee Program and the Pan-American Agricultural School of Zamorano. Among other things, the program consisted of encouraging coffee growers to intensify coffee production by replacing traditional coffee varieties with higher-yielding varieties. The increased income from coffee allowed them to purchase fertilizers to further increase production in coffee and staple food crops. As a result, encroachment into the forest subsided. Having seen many of these coffee intensification programs in Latin America, I am very troubled by the inclusion of this example as part of ecoagriculture. It would be interesting to re-visit this project now, after the coffee price collapsed in the world market as a consequence of overproduction. Advising farmers to convert to organic coffee production, maintain their traditional lower-yielding diversity plantations, and take advantage of premium prices for organic/shade-grown coffee would have been a more sustainable strategy and one that would have been more in line with the principles of ecoagriculture delineated by the authors.

In sum, with the important exception of the productionist assumption, and the superficiality of most of the examples, this book is an important contribution. It not only outlines the problems with the current approach that separates biodiversity conservation from agricultural production, but it

also provides suggestions as to how to develop a more integrated approach. Although the concepts behind *Ecoagriculture* are not new to agroecologists, its merit is in striving to bring these ideas to the forefront of conservation and agriculture. The fact that the authors are affiliated with main stream conservation and agricultural communities means that these ideas, which 20 years ago were thought to be revolutionary, are now in the forefront of conservation and agri-

culture. That's an important accomplishment for those who have been in the trenches for 20 years.

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