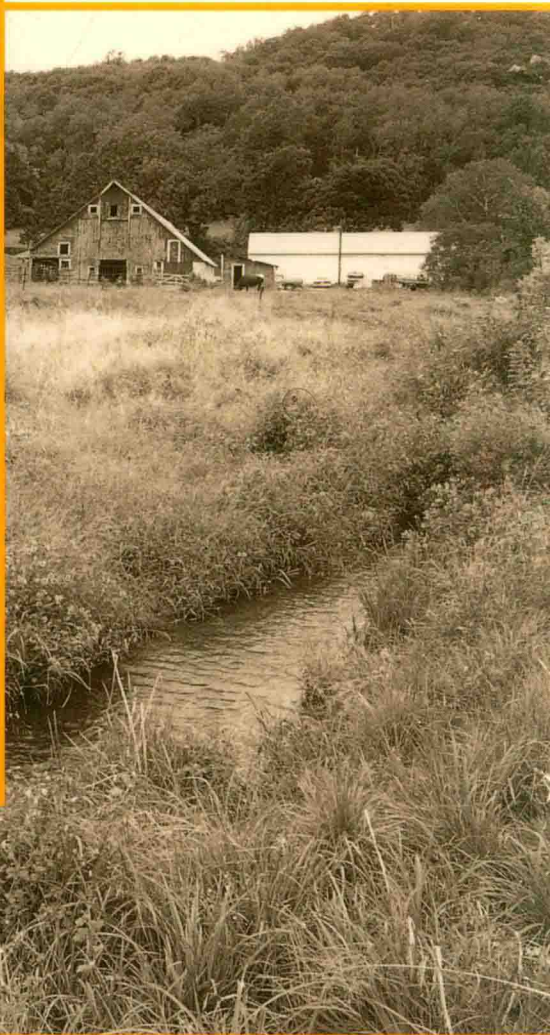


# The Farm as Natural Habitat



**Reconnecting  
Food Systems  
with  
Ecosystems**



***Edited by Dana L. Jackson and Laura L. Jackson***

***Foreword by  
Nina Leopold Bradley***

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*Edited by*

**Dana L. Jackson and Laura L. Jackson**

**ISLAND PRESS**

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## **The Farm as Natural Habitat**

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## Foreword

At a gathering of farmers in 1980, I was impressed with a comment from an Iowa farmer who had never used pesticides or herbicides on his land and whose farm was healthy, functional, and financially stable. His comment was that the government seldom acknowledges good farmers, either financially, politically, or socially.

It is important that we give appropriate support to our independent farmers. We need to raise awareness of the common values shared among farmers and environmentalists—values of satisfaction in owning land and being part of the community, values of beauty in native plants and animals, values in diversity and health of the land. As Paul Johnson has said clearly, “Conservation is not just about building another terrace, it’s sharing the land with 100,000 other species.”

The concept of *The Farm as Natural Habitat* presents the positive effects of good farming—benefits to the farm family, to the community, and most importantly to the land. These essays help shape our understanding of stewardship in agriculture. Although the remedy for a troubled landscape lies with those who manage the land, this collection provides suggestions for the responsibility of any citizen for land and conservation.

In 1948, Aldo Leopold wrote, “There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace.” With today’s fast-growing, urban society, we have almost lost track of these facts.

If we don’t work hard and work together to improve farmers’ profitability and secure a land base for farming in the face of urban development, many of us will live in sprawl, drive through sprawl, and work in sprawl. There won’t be many farmers left, and the countryside will be dominated by the hill-top mansions of the few wealthy enough to escape.



Farmers have contributed a lot to conservation and biodiversity, as well as putting food on our plate each day. Aldo Leopold spoke clearly that we have to make a living from the land, that we all need shelter, clothes, and food. But he also realized that we need a great deal more if we are to lead sane and honorable lives; we need beauty, community, and purpose; we need “spiritual relationships to things of the land.”

In 1940, Leopold wrote: “Conservation is a state of harmony between men and land.” Such a state of harmony would be nurtured by the concept of the farm as natural habitat.

NINA LEOPOLD BRADLEY  
Co-founder and Board member  
Aldo Leopold Foundation

## The Farm as Natural Habitat

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# Introduction

*Laura L. Jackson and Dana L. Jackson*



Both of us moved to the upper Midwest in 1993: Laura to Iowa and Dana to Minnesota. As we expected, large-scale, specialized agriculture dominated the landscape, and there were the usual problems—habitat loss, erosion, and water polluted with sediments, excess nutrients, and pesticides. But things were changing, and not for the better. Rows of long white buildings, each holding about a thousand hogs, began to appear on one farm after another. It was happening so fast no one could keep track of the numbers. Despite the unholy stench, the rancorous opposition from neighbors, and the manure spills, the buildings kept going up. Citizen meetings were held. Counties tried to pass ordinances that were subsequently struck down by the state courts. “This is the way we will raise all livestock now and in the future—it’s inevitable” was the message from animal scientists, commodity organizations, and agribusiness leaders. It was as if animals were machines and the land grew the fuel to run the machines—technology could solve all problems that might arise.

At the same time, we were both beginning to meet family farmers with diversified cattle, hog, and grain farms in our respective states. All of them raised livestock on pasture and most rotated several crops with other land in hay and grass. The course of Dana’s work took her to farm field days sponsored by the Land Stewardship Project and the Sustainable Farming Association of Minnesota. Laura’s research and interests took her to field days held by farmers belonging to a group called the Practical Farmers of Iowa. She began to work with a few of them on the establishment of warm-season grasses and other prairie plants in grazing systems. We began to see that there were other farming patterns on the land and that there were farmers increasing biological diversity and improving water quality while staying economically viable. Why should people accept factory farms as the model of the future when there were farms like these that offered benefits to society rather than costs?

*The Farm as Natural Habitat* is about the connection between the grocery list and the endangered species list, between farming and nature. Many people are only vaguely aware that their food is not produced on Old MacDonald's Farm but in a sterile landscape of row crops drained by ramrod-straight, silt-laden streams and interspersed with meat factories housing thousands or millions of animals. A few consumers are concerned about the rising numbers of genetically altered crops, about the treatment of animals, and about the effects of farm chemicals in drinking water. But for most, farm country is not where you find nature anyway. Why bother, when it is so topographically challenged, so boring? If you want to enjoy nature, go to a park.

Although the average citizen may not often think about farming and nature together, professionals have taken a few steps in this direction. Knight (1999) and Norton (2000) each contributed editorials to *Conservation Biology* pointing out that the profession's focus on public lands has been too narrow. After all, farming is a major cause of habitat destruction for 38 percent of the 1,207 species on the U.S. federal endangered species list harmed by habitat degradation (including endangered, threatened, and those proposed for such designation). Agriculture leads the list of causes—neck and neck with commercial development (35 percent) and well above grazing (22 percent), logging (12 percent), and dams (17 percent; Wilcove et al. 1998). Despite the recent heads-up, however, few *Conservation Biology* articles concern themselves with agriculture, and those that do are usually set where agriculture is expanding into forests.

The Ecological Society of America (ESA) has likewise considered the importance of land use for nature conservation. The ESA published an extensive paper in *Ecological Applications* (Dale et al. 2000) that bravely outlined ecological principles for managing the land, including private land. However, because it assumed some monolithic "land manager," presumably of governmental origin (Cronon 2000), its results had little realistic application to agricultural policy.

Conservative social critic Dennis Avery has been thinking about farming and nature. He contends that the intensification and industrialization of agriculture in the northern, developed world—and sacrifice of nature there—will cause more food to be grown per acre, thus protecting other land elsewhere from agricultural development (Avery 1995). Pesticides, fertilizers, and varieties produced with the help of biotechnology are thus the saviors of nature in his view. This perspective has been enthusiastically promoted by a vice-president of Monsanto, Robert Fraley (Horsch and Fraley 1998). In contrast, a few U.S. agronomists and ecologists are beginning to calculate the costs of declining agricultural diversity (CAST 1999).

The World Conservation Union (IUCN) has been thinking about farming and nature in developing countries but has come up with a decidedly different

conclusion than Avery's. A new report entitled *Common Ground, Common Future: How Ecoagriculture Can Help Feed the World and Save Wild Biodiversity* teams up IUCN with Future Harvest, a nonprofit organization that builds awareness and support for food and environmental research. Jeff McNeely and Susan Scherr (2001) propose a mixed strategy: increase agricultural production on currently farmed land, enhance wildlife habitat on farms, establish protected areas near farming areas, and mimic natural habitats within farming systems. They call for more ecological research in the service of agriculture and for government policy that rewards farmers' conservation efforts. The World Bank has also begun to address the problem of biodiversity and agricultural intensification (Srivastava et al. 1996). Without ignoring North America and Europe, both publications rightly focus on developing nations where human populations are growing fastest.

Until recently, large environmental organizations have mostly been concerned about protecting nature from agriculture, and they have lobbied Congress and state governments for stricter regulations on farming to protect water quality and endangered species. The widening discussion on "multi-functional" agriculture in Europe and "multi-benefit" agriculture in the United States has engaged their interest in collaborating with sustainable farm groups to promote nature-friendly farming in the 2002 farm bill.

Meanwhile, hamburgers and fries have been on the best-seller list. Eric Schlosser's *Fast Food Nation: The Dark Side of the All-American Meal* (2001) examines the implications of America's quintessential meal for livestock farmers, meatpackers, rural communities, children's health, and the treatment of farmland. The enormous buying power of the fast-food industry (the average American consumes three burgers and four orders of fries a week) has helped to move cattle away from grazing on pastures, to fattening on corn in a huge feedlot. More land must be plowed and planted, fertilized, sprayed, and irrigated to feed cattle. His other observations on everything from teen labor to food engineering to the suburban landscape show the broad social impacts of this food system.

The place we call home, the Midwest, the Breadbasket, and (a little too charitably, we think) the Heartland, is an ecological sacrifice area. Disparaged for its flatness, the Grain Belt is a notorious bore. Although big Midwestern cities are few, they do have interesting ethnic food, museums, art, music, and theater. What visitors really object to, we suspect, is the region's utter devotion to growing crops. Much as we protest that "really, once you get off the highway, it's quite nice," the visitors' objectivity cannot be denied. Unlike the visitor, however, we know that it was not always thus.

Although our perspective is Midwestern, few agricultural areas of the United States, Canada, and other developed countries are exempt from the

model of agriculture practiced here. Corn is grown in huge fields, heavily fertilized, and sprayed with pesticides not only in Iowa, but also in eastern Colorado, west Texas, Pennsylvania, Vermont, and Europe. Millions of hogs are fed that corn in climate-controlled buildings in the upper Midwest, Utah, Oklahoma, North Carolina, Poland, and the Netherlands. Other crops with their own history of environmental damage (wheat, sunflowers, sugar cane, potatoes, cotton, vegetables, fruits) dominate other regions. And, worse, this model—of efficiency, specialization, homogeneity—continues to be exported to developing nations. What happens here, happens throughout the world.

This book is a reaction, in part, to the bullying notion that the agricultural landscape we see now in Iowa, with only one-tenth of 1 percent of its original vegetation intact, and home to some of the most nutrient-polluted lakes and streams in the United States, is inevitable. Many of the contributors to this book know farmers who are already making a solid living and improving the soil, water, and biological diversity on their land. *The Farm as Natural Habitat* stems from the conviction that the agricultural landscape as a whole could be restored to something better. The destruction of every last shred of nature is not a necessary compromise for the survival of the family farm or because of the need to “feed the world.” In this book, we maintain that the trend toward sterile, industrialized agriculture is an unacceptable, unaffordable sacrifice, that it is far from necessary, and that we can help farmers reverse it to benefit nature conservation, rural communities, farm families, urban residents, and consumers.

Beyond reacting to real or perceived prejudice, this book is also a straightforward attempt to respond to and carry forward the insights of Aldo Leopold. In the Midwest, Leopold is not just a quotable icon of environmentalism but also a scientist whose observations on farming and nature were dead-on then and still accurate today. He wrote about the prairie ecosystem underlying current land uses, the incremental habitat loss caused by the industrialization of agriculture, the follies of land grant schools of agriculture (promoting exotic species and wetland drainage) and the awkward relationship between private land owners and government conservation programs (see chapter 5). Leopold’s “The Farmer as a Conservationist,” written in 1939, articulates the need for more skillful conservation based not on fear but on a “lively and vital curiosity” about the workings of ecology. He points out the hope and the potential of conservation in farm country, where most of the losses of species and ecosystem services have been avoidable mistakes, not born of necessity (Leopold 1991).

Although prescient in most respects, Leopold could not have predicted the changes in the global food system, from field to belly. He believed that “the



landscape of any farm is the farmer's portrait of himself." Today the landscape of the farm is more like a portrait of Archer Daniels Midland, the global grain processor whose motto is "supermarket to the world." A small group of agricultural suppliers and processors have a huge influence on what farmers can grow and market—and their political power is enormous. Although change in the hearts of landowners is important, even more important is change in the national policy regarding food, agriculture and the environment. The aim of this book is to encourage policy change by providing examples of agriculture that could produce not only healthful food, but also ecosystem services and viable populations of almost all of the native species that once made this area home. No, we will not be able to sustain free-ranging herds of large herbivores and packs of wolves given current demands for food, but we can do better than the sacrifice area we see today.

Another goal of the book is to engage diverse groups of people, including those who work for conservation of biological diversity, and those who farm or work with farmers. The Wildlands Project's published goal (Noss 1992) to convert half of the continental United States, including half of the food-growing prairie states, back to wilderness reflected little concern for the livelihoods of farmers living there. People promoting sustainable agriculture have not made common cause with endangered wildflowers or freshwater mussels. This too can change. In 2000, wildlands proponents and sustainable agriculture activists founded the Wild Farm Alliance to forge a new coalition based on common interests. This organization hopes to build a network of farmers, conservationists, and consumers all promoting a kind of farming that helps protect and restore wild nature.

### **Sustainable Agriculture, Agroecological Restoration, and Ecosystem Management**

Many farmers, environmentalists, and social activists called for a reform of industrial agriculture in the early 1980s. This started the sustainable agriculture movement, which began with a strong critique of the farming practices used by industrial agriculture that caused soil erosion and water contamination. The movement complained that large farms, big equipment, and livestock confinement grew larger at the expense of family farms, good stewardship, and animal husbandry. The land grant colleges of agriculture were indifferent to the plight of family farmers going bankrupt but fascinated with improvements in technology to create higher yield and serve large farming operations. Initially, they were uninterested in low-cost practices based on alternatives to purchased inputs. So farmers and nonprofit organizations began experimenting with alternative systems of farming on their own, and in