Preserving Natural Habitat in Iowa

Extension to Communities
College of Design

The Challenge

Iowa's landscape is unique not only for its fertile soil and its ability to produce abundant crops, but also for the consequences of this productivity. With a relatively small population and no mega-urban centers, Iowa has the smallest percentage of its original natural habitat remaining of all the fifty states.

This habitat loss is the natural result of Iowa's stature as one of the highest-producing agricultural states. For decades, it was accepted as the unavoidable "cost" of maximum agricultural productivity. But with the growing diversification of the state's economy, and the growing demands for outdoor recreation and the solace of nature, this situation can no longer be taken for granted.

People increasingly recognize that the preservation of natural areas and habitat adds value to built communities and private property, to both agricultural and industrial enterprises. Many of the benefits are indirect; however, direct benefits such as soil retention and improved water quality, and opportunities for outdoor recreation and aesthetic appreciation, accrue no matter what the size of the natural area preserved.

Clustered development with permanently protected natural areas is an increasingly popular form of residential construction in areas of the country where sprawl and habitat loss have led to a heightened awareness of their costs. The challenge is to balance growth and development with the preservation and restoration of important natural habitats.

Which Habitats are Most Important to Conserve?

Every natural habitat type in Iowa has value due to its relative rarity, but some hold greater importance based on a variety of factors. Before settlement, tallgrass prairie was the most widespread natural community in Iowa, covering approximately 30 million of the state's 35 million acres. But because of the needs of another tallgrass—corn—it has become one of the rarest natural communities in the state with only 1 percent now remaining. Thus, it is one of the most important habitats to protect.

Similarly, no more than 1 percent of the state's original wetlands still exist. Particular types of small wetlands, such as fens and algific talus slopes (seeps), are also among the rarest of Iowa's remaining natural areas. The latter are indeed among the rarest in the country, and only a few hundred sites exist in the entire world, mainly in northeast Iowa.

Certain sub-types of prairie, such as high-quality black soil mesic (semi-wet) prairie, also are quite rare, with fewer than 10,000 acres remaining in the entire state out of the millions of acres that existed 150 years ago.

While small wetlands and prairie are two of the most important types of natural communities we need to preserve, high-quality examples of other habitat types (e.g., upland wooded areas, riparian areas) also must be carefully protected if they are to remain a part of the Iowa landscape.

Disappearance has a Price Tag

Growing recognition of the benefits of preserving biodiversity is a result of dramatic stories and discoveries such as the use of the bark of a disappearing Northwest American yew tree in the treatment of cancer. These stories are supported by the hard scientific and economic fact that many of our most effective medicines are produced from the resources of biological diversity (mainly plant species). Natural substances are being discovered every day that hold great potential value in the biotechnology-based economy of the future.

In a state like Iowa where agriculture will likely always play a dominant economic role, the value of genetic raw materials cannot be overemphasized. The more that the possible uses of the thousands of unknown plant species and other organisms are considered, the more we realize that the disappearance of biological diversity is robbing the future of an immensely valuable resource.

Even in Iowa's intensely cultivated landscape, new species of plants and animals have been discovered in the past twenty-five years. As in so many things, Iowa has the potential to set an example disproportionate to its size. As population growth continues around the world, the conditions created in Iowa by intensive

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agriculture are becoming more common. Iowa has the opportunity to provide creative illustrations of how biological diversity can be maintained and enhanced even in a highly transformed landscape.

Strategies and Programs for Iowa

Perhaps the most altered landscape in the country, Iowa also is one of the states with the least publicly owned land, which hinders opportunities for large-scale conservation projects. Thus, conservation of natural habitat is of greater concern in Iowa to private landowners and the organizations that work with them.

Public agencies and conservation organizations have a number of programs adapted for small, privately owned parcels of land. Some of the most familiar have been around for a long time. The best example is the United States Department of Agriculture's (USDA) Conservation Reserve Program (CRP). This annual rent and cost-share assistance for restoration can be of great help in a natural habitat conservation project.

In July 2000, the Iowa Department of Natural Resources (IDNR) received funding to start a private lands conservation assistance program. The Wildlife Division of IDNR traditionally has provided technical assistance to landowners, as have the District Foresters of the DNR Forestry Division, which has recently become the Forestry and Prairie Division with the addition of prairie conservation to its mission.

The Iowa Department of Agriculture and Land Stewardship (IDALS) is working with USDA on a new initiative called the Conservation Reserve Enhancement Program, which will be administered through Soil and Water Conservation District offices. It expands CRP qualification to a larger number of potential program recipients and is targeted at specific watersheds in north central Iowa.

Among the programs of the USDA's Natural Resources Conservation Service Wetlands Reserve Program are the Wildlife Habitat Improvement Program and the new Backyard Conservation campaign, which are designed to help property owners protect and enhance natural habitat.

The Partners for Wildlife Program of the U.S. Fish and Wildlife Service provides assistance to private landowners who want to conserve habitat for wildlife and selected rare natural areas. It focuses mainly on wetlands and prairie, with some projects in stream habitats. The Northern Tallgrass Habitat Conservation Program protects prairie remnants in Iowa and Minnesota through the "willing seller" purchase of conservation easements.

A number of private organizations also offer programs. Pheasants Forever provides prairie seed to landowners for restoration efforts, Ducks Unlimited funds wetland habitat restoration in conjunction with state and federal conservation programs, and the Iowa Natural Heritage Foundation encourages conservation easements.

Where Can People Get More Information on Conservation?

Information on natural habitat conservation can be obtained from many sources. The organizations mentioned previously, in connection with their programs, are all good resources.

The county conservation boards in each Iowa county also can provide good information on private natural habitat conservation. Apart from government agencies, several private organizations can provide owners with practical information on conservation programs. Of particular note in Iowa are the Iowa Natural Heritage Foundation, Trees Forever, Pheasants Forever, Ducks Unlimited, the Audubon Society, the Nature Conservancy, the National Wildlife Federation, the Iowa Prairie Network, and the Iowa Native Plant Society.

How Much Does It Cost to Set Aside Land as Natural Habitat?

This is a difficult question to answer, as it depends so much on the specific circumstances of each parcel of land. The costs typically fall into a few broad categories:

1. Opportunity cost. When the land is being removed from production for conversion back to natural habitat, this is the cost of losing valuable income-producing land.
2. Reconstruction cost. When the land has been in row crop production, a greater number of native plant species and significantly more preparation will be required to produce the natural habitat.
3. Restoration cost. When the land has not been completely altered by production and there is some remnant of the original natural community, it can be restored by augmenting the natural species that are already present, while at the same time removing non-native species that are competitive.

The costs associated with each situation can vary tremendously, but some potential financial benefits must be factored in. Direct government agency or private organization financial assistance (e.g., CRP payments, conservation organization assistance grants) would lower the costs. Some approaches (e.g., conservation easements, forest reserve status) may result in a lower tax assessment, and thus tax savings over time.

In some cases, the restored land may generate greater revenue than before for the owner. For example, prairie seed harvested from natural habitat areas can be sold. Heavily grazed (and nonproductive) pasture that is restored to native tallgrass prairie can then be grazed by cattle as a management activity.

How Long Does it Take to Restore Land to a More Natural State?

The length of time required to return land to a more natural condition depends on the type of habitat and how close the landowner wants to get to the original makeup of the habitat. The growth rates of various plants also help determine how long it will take to restore natural habitat.

The main species of a tallgrass prairie will mature much faster than the trees of an oak-hickory woodland. On the other hand, a higher proportion of the plants needed for an oak-hickory woodland can be established more quickly than a complete tallgrass prairie, which can contain upwards of 250 species of plants. And although the ten to fifteen main species in a tallgrass prairie can be developed fairly quickly, reconstructed prairies throughout the Midwest have taken decades to achieve a significant level of species diversity.

Some wetlands typically can be restored to a high percentage of the previous hydrologic condition (i.e., wetness) rather easily. However, the establishment of all the wetland functions (e.g., plant and animal diversity, nutrient exchange, recharge/discharge) is more difficult and may not yield immediate results.

Conclusion

Iowa is a state blessed with high quality soil and a climate made for modern agriculture. However, this blessing has translated into the loss of much of our natural habitat. The growing awareness of the need for habitat conservation by private landowners is being matched by an increasing number of programs designed to provide assistance to these owners.

Regardless of what people choose to pursue—an extensive conservation program or a modest investment of time and effort—they will gain satisfaction by watching native flora and fauna return to the natural rhythms that shaped them over hundreds of millennia.

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