A big vision for a broad landscape

An expansive 15,000 acres of grasslands, wetlands, river bottoms and forest between Wisconsin Dells and Portage are managed to maintain the natural riches of birds, wildlife and people who live there.

Steve Swenson, Yoyi Steele and Michael Mossman

The view east and south along the Leopold-Pine Island Important Bird Area shows the meandering Wisconsin River, sandbars, lowland forests, grasslands, savannas, marshes and uplands that provide a rich mix of habitats for birds, mammals, insects, fish and people!

COURTESY OF MICHAEL MOSSMAN

Abundant wildlife has always been part of Wisconsin's identity. From the earliest accounts to present times, we know that wildlife can thrive here. However, the face of wildlife has changed over time. For instance, if asked today to pick an animal that represents the pride of Wisconsin wildlife, you might choose white-tailed deer. Some 250 years ago, it might have been elk.

It's similar with birds. Previous generations of Wisconsinites identified with huge flocks of passenger pigeons, prairie chickens and sharp-tailed grouse. Today we might think of sandhill cranes, wild turkeys, eastern bluebirds or bald eagles. These differences come about from changing land uses, hunting practices, chemical usage and specific efforts to conserve wildlife. They reflect changes in our relationships to wild things.

Conservationist Aldo Leopold, author of the celebrated *A Sand County Almanac*, said, "There are two things that interest me: people's relationship to land and people's relationship to each other." He understood the importance of these relationships and their profound effect on wildlife. For example, in Wisconsin our grassland birds first depended on native prairies. With the coming of widespread agriculture,

KEVIN BOLTON

The indigo bunting, which inhabits open fields and woodlands, is one of the common species that also benefits from this broad landscape management plan.

these birds survived in grassy hayfields and pastures. But, with more recent trends toward row crops and succession of many fields to woods, grassland bird populations have plummeted. They depend more and more on fewer acres of prairie restorations and "idle" or specially managed grasslands such as those enrolled in the Conservation Reserve Program.

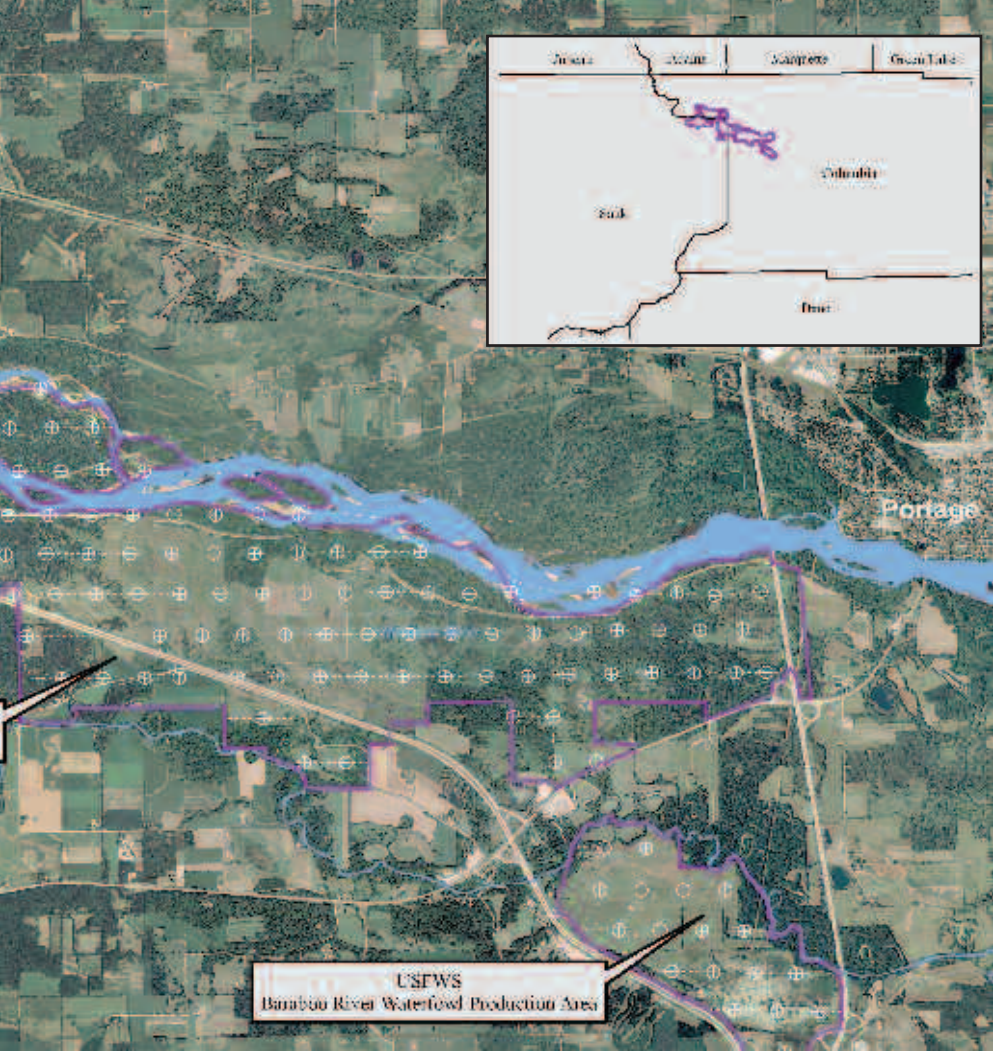
Leopold advocated for a "land ethic," a set of values that would unite people in a common bond with public and private lands. He practiced this ethic on his own property along the Wisconsin River north of Baraboo, site of the now-famous "shack," which he purchased in 1935. The Leopold family enjoyed the property for its modest beauty and peace and quiet, but mostly because it connected them to the land. They spent 13 years transforming it (and themselves) by planting thousands of pines, hardwoods, shrubs and wildflowers until Leopold's death in 1948. Today, that "worn-out farm" has yielded several timber harvests and hosts spectacular prairies and abundant wildlife; it's the heart of the 1,700-acre Leopold Memorial Reserve.

Some 60 years after the publication of the *Almanac*, it is perhaps fitting that

A closer look shows a patchwork of public and private landownership in the project area as well as the transects where data on bird use were gathered. Several area projects have restored smaller parcels of wildlife habitat, but this ambitious plan aims to restore conditions for species that use larger tracts of adjoining land to meet their habitat needs.

STEVE SWENSON

(left to right) Yoyi Steele and Mike Mossman discuss grassland habitat restoration with landowner Phill Pines on his property.



STEVE SWENSON

we — a land manager, a researcher and a planner — would find ourselves on Leopold's home ground, working to apply that land ethic to a new opportunity and to a wealth of scientific knowledge that have developed since his time. Our goal: to bring together a team of landowners, managers and volunteers to create a conservation future for even larger landscapes of public and private properties. Our work demonstrates a way to help citizens and professionals collectively manage landscapes in a mosaic of ownership.

The Leopold-Pine Island IBA

Our project began five years ago as part of Wisconsin's new Important Bird Areas (IBA) Program, an effort to gather the expertise of ecologists, land managers and birders to take stock of Wisconsin's rich bird life and identify the places most critical to sustaining those birds. Of the 88 sites identified, many were already set aside as federal or state properties such as Horicon Marsh and the Chequamegon-Nicolet National Forest. Others included regions composed of both public and private lands such as the Baraboo Hills and Lower Chippewa River. After all, private landowners own roughly 85 percent of Wisconsin, and those lands harbor the majority of Wisconsin's wildlife.

Among these valued properties was the 15,000-acre Leopold-Pine Island Important Bird Area (LPI IBA) situated along the Wisconsin River between Wisconsin Dells and Portage. Land ownership in the project area is diverse, including DNR's Pine Island Wildlife Area, the federally-owned Lower Baraboo River Waterfowl Production Area, the Leopold Memorial Reserve (owned by the Aldo Leopold Foundation, the Sand County Foundation, and other landowners including Frank and Colleen Terbilcox), and many private properties, the largest being a 2,100-acre farm owned by Phill and Joan Pines.

The landscape here is as diverse as the ownership. It's located at the juncture of three ecological regions: the ancient, sandy bed of Glacial Lake Wisconsin to the north; the marshy, lightly rolling glaciated territory to the east; and the older hills of the Driftless Area to the south and west. It is a landscape shaped by ice and water. Thousands of years ago, glaciers smoothed the land and then melted away, leaving hills of sand and gravel. The Wisconsin River developed, draining the glacial lake and depositing thick beds of sand. These dramatic forces, along with the influence of fire over the landscape, gave rise to many different plant communities including upland and lowland forests, marshes, savannas and grasslands. More recently, the land has been shaped by cultivation, grazing, timber harvesting, changes in surface and groundwater flow, reduced flooding, development and fire control. Several projects in the area have restored smaller parcels of native and non-native wildlife habitats. For example, a patchwork of projects has filled old ditches, planted fields to prairie and other grasses, and restored former savannas through prescribed fire and cutting.

This mix of landscapes and activities has provided for fantastic birdlife by enhancing areas that breeding birds use. Owners are managing floodplain forests for red-shouldered hawks and yellow-billed cuckoos; restoring shrub and savanna used by willow flycatchers and red-headed woodpeckers; maintaining the grasslands that are home to Henslow's sparrows, bobolinks and eastern meadowlarks; and improving marshes that hold swamp sparrows, rails and blue-winged teal. On the Pines property, 10-15 percent of Wisconsin's sandhill crane population gathers on the river sandbars each fall forming migration flocks, with a few whooping cranes now among them.

The mix of habitats and birds challenges conservation planning. It's not just a matter of "managing habitat." Strategy is important. What's good for one species is not always good for another. Some wildlife species are in greater need of help than others. Many need large tracts of habitat because they have large territories or do not breed successfully near habitat boundaries, while others thrive at these edges. Some live in ephemeral habitats such as young forest, or marshes invaded by a few shrubs. So connecting habitats across different ownerships, and ensuring that all important habitats are present in sufficient abundance takes some planning and cooperation among nearby landowners, all of whom have their own property goals to meet as well. Developing practical approaches that can benefit wildlife, land and landowners is a balancing act.

Yet, increasingly, this sort of challenge represents the future of wildlife conservation.

In this regard, birds can be an "ace in the hole" for managers. Since they move freely across the landscape and use habitat without regard to ownership, they unify properties. People readily understand that birds have well-defined habitat requirements, and their presence indicates quality breeding sites. Birds are also easier to collect information on than most other animals because their unique songs and colors make them easy to identify quickly, so bird surveyors can cover a large area in a short amount of time. Beyond that, a diversity of birds usually goes hand-in-hand with an overall richness of wildlife. Like any good indicator, understanding the bird community allows us to understand so much more.

We began by conducting a basic inventory — a systematic breeding-bird survey where we set up 234 count-stations along 67 miles of transects across the area. We recorded all the stations with a GPS unit so we could map bird locations and repeat the survey in the future. We also recorded bird habitats so we could link bird species with specific habitat features across each property. Volunteers collected additional information on both breeding and migrant birds. This resulted in a list of 117 breeding species and at least 40 migrant species.

However, planning land management for 117 breeding bird species would send even a bird expert's head spinning. We wanted to focus on those that really need the help and for which this IBA can make a difference. In other words, we wanted to "think globally, act locally." Using the survey's bird habitat data, and national and regional conservation plans such as Partners in Flight and DNR's Wildlife Action Plan, we narrowed the list to 24 priority species that would help guide management on the IBA. These priority birds serve as "ambassadors" for hundreds of other common birds, and for other animals and plants that depend on these same habitats. We also built in the goals of local landowners for their property so we could develop a plan that was mutually beneficial for people, wildlife and the land.

With those draft ideas in hand, we met with individual partners and groups to form plans for each landowner. For example, we agreed on pasture, hay and retired grassland on the Pines' farm, while proposing a natural mix of marsh, prairie and savanna on the Leopold Memorial Reserve. We consolidated similar habitats wherever possible for ease of management and because many priority bird species need large tracts of habitat for successful breeding. The resulting report set a common vision for the whole Important Bird Area.

The report identified the IBA as an important landscape for birds of open and semi-open habitats like prairies, marshes, shrublands, savannas, and working agricultural lands such as hayfields and pastures. To maintain their openness, these habitats need regular disturbance such as prescribed burning, mowing and cutting of trees and shrubs.

The extensive floodplain forest of the Lower Baraboo River is the IBA's significant opportunity for forest-loving birds. The plan encourages sustainable forestry practices, some no-cut areas and some reforestation to benefit birds that thrive in floodplain forest. Many small tracts that serve as transitions between larger areas of open and

The team met with each landowner to discuss field results, set plans for the land and explain what will happen over time on adjoining parcels beyond their property borders.

STEVE SWENSON

PRIORITY SPECIES FOR MANAGEMENT ON THE LEOPOLD-PINE ISLAND IMPORTANT BIRD AREA

Grassland	Marsh	Shrub/Savanna	Forest
sedge wren	sandhill crane	willow flycatcher	yellow-billed cuckoo
field sparrow	marsh wren	black-billed cuckoo	red-shouldered hawk
grasshopper sparrow	swamp sparrow	red-headed woodpecker	veery
Henslow's sparrow	blue-winged teal	blue-winged warbler	wood thrush
bobolink	black tern		cerulean warbler
northern bobwhite			
vesper sparrow			
savannah sparrow			
dickcissel			
eastern meadowlark			

Where the lower Baraboo and Wisconsin rivers meet, a plan for the floodplain forest will include some sustainable harvests, some reforestation and some no-cut areas that are good for the woods and good for birds that thrive in forestlands.

MIKE MOSSMAN

A part of the Pines' property was burned in spring 2009 to stimulate growth of young prairie plants and provide food and cover for birds of the open fields.

ALANNA KOSHOLLEK, ALDO LEOPOLD FOUNDATION

forested parcels can be managed for young hardwood forest and shrubs to benefit birds like American woodcock and blue-winged warblers. In a few areas, simple protection from disturbance is all that is called for, notably the Wisconsin River sandbars where 3,000-5,000 sandhill cranes stage annually for migration.

Actions that support the whole

The management activities proposed in the plan include timber harvests, prescribed burning, prairie plantings, mowing, invasive species control, and wetland and stream restorations. Although these practices have been used in the past, our collective planning revealed new ways to modify where, when and how these techniques are applied on all the properties in order to further our common vision.

For example, several prairie restorations on the Leopold Memorial Reserve, while successful for plants, turned out to have little value for grassland birds because they are isolated and surrounded by woodland. Connecting them by removing or thinning the intervening woods and shrubs will make them much more valuable to birds and wildlife.

STEVE SWENSON

Thinning timber on part of the Leopold Memorial Reserve will help restore open savanna lands and provide a home for species that use these scattered copses of trees on a more open landscape.

"Seeing landscape design through the eyes of birds has helped us think more strategically about our management and our contribution to wildlife conservation," says Kevin McAleese, Programs Director for the Sand County Foundation. "Our upcoming wetland restoration will benefit greatly as we consider its connection to surrounding habitats."

The wetland restoration would be of little value unless some of the surrounding ag land was restored to grassland as well, Mossman added.

Birds and the bird community will benefit greatly if the restored plant community is viewed within and connected to the surrounding lands to create a land system rather than a small, isolated patch of habitat, Swenson added.

Likewise, for a property as large as the DNR's Pine Island Wildlife Area, decisions need to be prioritized. "We have a lot of different user groups and a lot of property to manage," says DNR Wildlife Biologist Sara Kehrli. "Knowing which parts of our property contribute the most to both wildlife conservation and the needs of our users helps us be most effective with time and money."

DENNIS MALUEG

The once-common and widespread field sparrow uses grassy areas with scattered tall shrubs and trees. Restoration work will open up the land for this species and similar birds like the brown thrasher, eastern towhee and orchard oriole that use the same habitat.

For other partners, unexpected opportunities came to light. For example, the U.S. Fish & Wildlife Service (USFWS) typically promotes grasslands and marshes on its Waterfowl Production Areas (WPAs). However, the plan recognized an opportunity to expand the forested corridor along the Baraboo River on the Lower Baraboo River WPA. "Seeing management options on our property in the context of the entire partnership gave us new insight," says USFWS Biologist Jim Lutes. "Areas that I typically don't concentrate on suddenly have value because they support similar habitat on partnering lands."

Not surprisingly, as trust and respect grew among the partnership, simple conversations created other opportunities. "Communication with the partners helped me see ways to be more active in my approach to management," says Phill Pines. "I removed the scattered trees in my grasslands, providing an immediate and significant benefit to our priority grassland birds."

Clearly, the IBA partnership has value: communication, data collection, recognition, purposeful action, trust and respect. Not only are these the hallmarks of excellent conservation, but of lasting relationships between people and land. "As neighbors, we always knew we were in this together, but this effort has made it more tangible," says Lutes. "It's like putting together a puzzle, challenging and revealing all at the same time." So, too, are relationships. In our increasingly complex landscape, understanding our relationship with the land and with one another is our best chance to create a whole that is greater than the sum of its parts.

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