



WISCONSIN

Introduction and General Description

*When the glacier came down out of the north, crunching hills and gouging valleys, some adventuring rampart of the ice climbed the Baraboo Hills and fell back into the outlet gorge of the Wisconsin River. The swollen waters backed up and formed a lake half as long as the state, bordered on the east by cliffs of ice, and fed by torrents that fell from melting mountains. The shorelines of this old lake are still visible; its bottom is the bottom of the great marsh. -- Aldo Leopold, Marshland Elegy from **A Sand County Almanac***

Wisconsin's own Aldo Leopold in this passage from Marshland Elegy describes two important aspects of Wisconsin; one the formative effects of the glacial period on the State's land resources, and Wisconsin's significant water resources.



Numerous glacial events are responsible for the formation of Lakes Superior and Michigan, as well as the over 15,000 other inland lakes in the State, and most of the over 10 million acres of wetlands that once covered 25 percent of Wisconsin's land area.

The State is divided into the Great Lakes and Mississippi River

case of the unglaciated Driftless Area the lack of glaciation, along with climate and natural disturbance factors, are responsible for the vegetation zones that range from boreal forest in the north, grading through oak savanna further south, to scattered treeless prairie in southern and southwestern areas of the State. A vegetative dividing line that stretches from northwest to southeast across the State, known as the tension zone, separates the northern coniferous forests, bogs, and forested wetlands from the grassland and emergent wetlands south of the line. The hilly, naturally well-drained Driftless Area contains both forest and grassland communities, many miles of nationally famous trout streams and relict plant communities that pre-date glaciation and often occur nowhere else in the State. Distributed throughout northern and central areas of the State are pine and oak barrens which also include rare plant and animal communities that



drainages. Glaciation, or in the

are home to the largest population of federally endangered Karner blue butterflies in existence.



Karner blue butterfly

Today, Wisconsin is known as “America’s Dairyland” ranking second nationally in milk production, and first in production of cheese. Cranberries are also an important crop, and production of corn, soybeans, hogs and cattle, are important agricultural commodities.

Most of the State’s agricultural production occurs south of the tension zone. As a result of converting land to agricultural production, over 50 percent of the State’s wetlands and 99 percent of its grassland areas no longer exist.

Six national wildlife refuges are located in the State ranging from the several hundred mile long Upper Mississippi Refuge to the 1,000 acre Fox River Refuge. Also included are Horicon, Necedah, and Trempeleau refuges. Whittlesey Creek is the newest addition to the National Wildlife Refuge system in the State.

The Partners for Fish and Wildlife Program in Wisconsin operates through nine field stations and is coordinated through the Wisconsin Private Lands Office located in Madison.

Habitats of Special Concern

Prairies and oak savannas once covered 7.6 million acres in Wisconsin. Since European settlement, almost all the State’s prairie and savanna has been converted for agricultural, silvicultural, or development purposes. Today, these grassland communities occur on less than 0.1 percent of their former land area.

Remnant prairies and savannas are isolated relics, usually occurring on steep slopes or unproductive shallow soils. The wildlife associated with these ecosystems is also imperiled. Migratory grassland and savanna bird species have shown declines in the last 30 years including species such as the bobolink, Eastern and Western meadowlark, upland sandpiper, and red-headed woodpecker.

The Karner blue butterfly, a grassland species, is federally endangered, and has declined to 1 percent of its former population levels. It is extinct in numerous areas of its historic range. The largest population of Karners occurs in Wisconsin. Similar to bluebirds, sharp-tailed grouse and other species, the decline in Karner blue populations is closely related to modification, destruction, and fragmentation of habitat. In Wisconsin, fire suppression, agriculture and development have reduced Karner habitat to less than 0.02 percent of its pre-settlement area.

Wetlands play a vital role in maintaining Wisconsin’s diverse

plant and animal communities. Thirty-nine percent of the State’s 370 species of birds use wetlands. No other Wisconsin habitat type approaches this avian occupancy rate. Wetlands are important habitat for endangered species also, with 32 percent of State threatened and endangered species dependent on wetlands.



Bobolink

Direct recreational benefits occur from wetlands through hunting, trapping, wildlife observation and photography. The Wolf River system in northeastern Wisconsin provides an important walleye fishery that is dependent on seasonally flooded wetlands along the river for walleye spawning habitat.

Threats

Wisconsin’s wetlands and grasslands are predominantly located on private lands. Federal agricultural policies and programs influence landowner’s decisions in land use and ultimately in habitat protection and restoration. Changes in farm programs have the potential to both benefit or

adversely affect these important habitats. Land development for housing and other facilities is increasing and encroaching on grassland and wetland communities. Fragmentation of habitats affects many species.

Threats exist, but opportunities abound to restore important habitats on private land in the state. That is what Partners for Fish and Wildlife is all about -- restoring wildlife habitat on private lands.

Conservation Strategies

Because most of Wisconsin's remaining prairies, oak savannas, and wetlands occur on private lands, likewise, bobolinks, meadowlarks, blue-winged teal, and Karner's occur on private lands. The restoration of grassland and wetland habitat on private lands will make a difference in the recovery of these ecosystems.

Prairie and oak savanna restoration consists of clearing invasive trees and shrubs that shade out herbaceous plants, mowing invasive or exotic plants to eliminate their spread, prescribed burning to reduce woody encroachment, grazing management to minimize impacts to the plants, and planting old fields or interseeding disturbed areas. Prairie and oak savanna restoration costs between \$400 - \$600/acre.

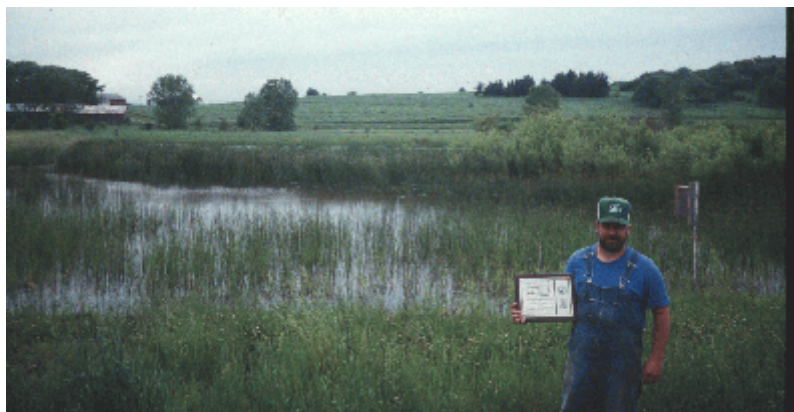
Management and restoration of habitat for the Karner (which also benefits the Federal candidate Eastern massasauga rattlesnake) consists of planting wild lupine (a larval host plant of the Karner), planting a variety of attractive nectar flowers, restoring remnant oak savanna, pine barrens, and prairie, and controlling invasive species. Most Karner restoration projects cost between \$200 - \$400 per acre.

Wetland restoration strategies include working with State, other Federal, and private partners to utilize all available programs to restore wetlands. The Wetlands Reserve Program of the Natural Resources Conservation Service has been extremely important in restoring wetlands as has the North American Wetland Conservation Act in providing funding for targeted areas.

Wetland restoration generally involves reversing the activities of drainage systems. This includes filling drainage ditches, removal of drainage tiles, and construction of water control structures. Wetland restoration costs average \$500/acre.

Partners

Wisconsin Department of Natural Resources
USDA Natural Resource Conservation Service
Ducks Unlimited
Wisconsin Waterfowl Association
Wisconsin Wetlands Association
Pheasants Forever
National Wild Turkey Federation
Waterfowl USA
Ho Chunk Nation
Sand County Foundation
The Prairie Enthusiasts
The Blue Mounds Project
Aldo Leopold Foundation
Ice Age Trail Foundation
National Park Service
Deerfield Alliance
The Nature Conservancy
Madison Audubon Society
Bay Lakes Council Boy Scouts of America
Waushara County Parks
Jackson County Forestry and Parks
Land Conservation Departments
Leopold Wetland Management District
Wisconsin Conservation Corp
University of Wisconsin at Stevens Point
Alliant Energy Inc.



Wisconsin landowner with restored wetland

Accomplishments

Partners for Fish and Wildlife has been active in Wisconsin since 1987. Restoration efforts during that time include:

- Over 11,000 acres of wetland on 4,250 sites have been restored
- Over 800 grassland units totaling more than 8,600 acres have been restored on private lands.
- During FY 2000, 342 grassland projects totaling 3,150 acres and 230 wetland projects totaling 930 acres were restored.
- Over 2,300 acres of habitat have been restored in the 2 years that work has been conducted for Karner and massasauga rattlesnake restoration.

Future Needs

With the historic high losses of both grassland and wetland habitats, Wisconsin has virtually unlimited potential for restoration of these resources. Over 4.7 million acres of wetlands and 7 million acres of grassland have been lost or degraded since the European settlement of Wisconsin. Many of these acres could be voluntarily restored by private landowners in partnership with the Partners Program and/or other Federal, State or non-governmental agencies.

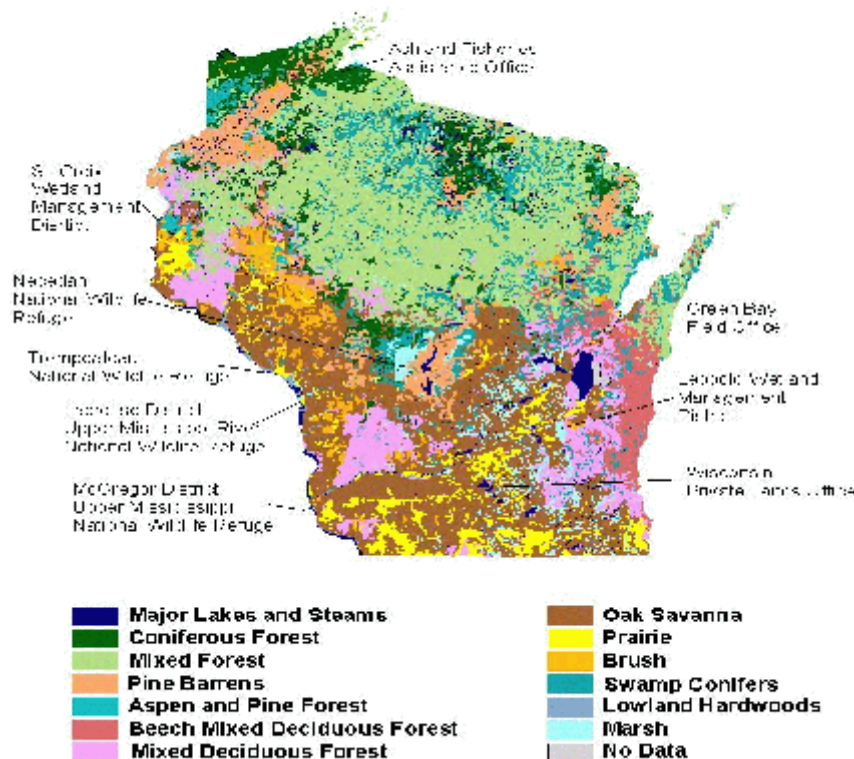
CONTACT



James Ruwaldt
Partners for Fish and Wildlife Program
U.S. Fish and Wildlife Service
4511 Helgesen Drive
Madison, WI 53718-6747
608 221-1206 ext. 14 (Fax) 608 221-1357

July 2001

**Historic Vegetation of Wisconsin
 and Fish & Wildlife Service Offices Delivering
 Partners for Fish and Wildlife Projects in Wisconsin**



Modified from Robert Whittley, 1996.