



Managing Habitats for Migrating Land Birds in Wisconsin's Lake Michigan Basin

A Guide to Landscaping and Land Management



Photo courtesy V. Piaskowski

“Private landowners can have a big impact on bird conservation by providing bird-friendly habitat. This habitat is especially important to birds during migration, when they must stop to rest and feed many times. Even small areas like yards can help if they contain native plants that provide insects, fruits and seeds for birds. By providing these plants for birds during migration, you can help to increase their chances of survival.”

--Vicki Piaskowski, retired international coordinator,
Birds Without Borders – Aves Sin Fronteras® project,
Foundation for Wildlife Conservation, Inc. and
Zoological Society of Milwaukee

Managing Habitat for Migratory Birds

This is a practical guide describing how private landowners and managers of corporate lands, city parks, and other public areas can manage habitats to assist birds as they migrate through the Great Lakes region, especially around Lake Michigan. Protecting habitat in the Lake Michigan watershed will fill critical stopover needs of migratory birds because little of the natural landscape remains in this region.

This guide focuses on land birds because populations of many species are declining, yet millions of these birds travel through Wisconsin during spring and fall. We encourage you to adopt these landscaping and land management suggestions so that the birds have safe harbor and can pass successfully through the Lake Michigan region.



White-throated Sparrow © Thomas Schultz

This information complements existing bird habitat management guidelines:

- Waterfowl Management Handbook (U.S. Geological Survey publications) (nwr.usgs.gov/wdb/pub/wmh/contents.html),
- Shorebirds—Management for breeding and migrating shorebirds in the Midwest (U.S. Fish and Wildlife Service) (nwr.usgs.gov/wdb/pub/wmh/13_2_14.pdf),
- Species Management Abstract—North American shorebirds (The Nature Conservancy) (conserveonline.org/2001/07/m/en/noamshor.doc),
- Recommendation for landowners: How to manage your land to help birds (Birds Without Borders-Aves Sin Fronteras® project) (zoosociety.org/Conservation/BWB-ASF/WiLandowner.php)

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Scarlet Tanager © Thomas Schultz

Common Questions about Bird Migration and Land Management

What is a Migratory Bird?

Migratory land birds, which include birds as diverse as hawks, owls, hummingbirds, flycatchers, warblers and finches, regularly migrate between summer breeding grounds and non-breeding wintering areas. During migration, they must stop to feed and rest at what are known as *stopover sites*, the bird equivalent of overnight stays at motels on long road trips. Migratory birds, many weighing less than half an ounce, travel hundreds to thousands of miles between breeding and wintering areas and must use several stopover sites along the way. Scientists estimate that it takes birds 20-40 days or more, depending on weather, to travel 1,500 miles during spring migration. Peak spring movement of land birds in the Lake Michigan watershed is April and May. In the fall, large numbers of migrating birds pass through from late August through October.

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Migration is a stressful and hazardous undertaking. Many birds die during storms, collide with buildings or towers, are lost to predators, or even starve during abnormally cold weather. Some scientists have suggested that many more birds die during migration than during the breeding or wintering seasons. Yet, in spite of the great difficulties of long-distance travel, birds must migrate south to escape winters in the Great Lakes when food is scarce or covered by ice and snow. If a bird survives until spring migration, it will once again expose itself to the hazards of migration and fly north to breed where there is a flush of food in spring and summer to raise its young.

Which Bird Species Migrate through the Great Lakes Region?

The Great Lakes region, and particularly the Lake Michigan basin, is an important stopover area for all groups of migratory birds—millions of waterfowl, shorebirds, water birds (i.e. herons, rails, and cranes) and land birds on both their northbound and southbound journeys. The high diversity of migrating birds can be attributed to the area's many different habitats, ranging from open waters of the Great Lakes to mudflats and marshes to grasslands and forests. These habitats

produce many different types of food, and provide cover and roosting areas, thus attracting a wide variety of migrant birds in abundance. Indeed, the Great Lakes region hosts some of the most spectacular concentrations of migrating birds in North America. Approximately 140 species of land birds regularly use the Wisconsin's Lake Michigan region during migration, including 15 species of raptors, 34 species of warblers, and 19 species of sparrows. A complete list of land bird species occurring in this region can be found on the Wisconsin Stopover Initiative Web site (wisconsinbirds.org/Migratory).

Why is the Great Lakes Region so Important to Migrating Land Birds?

The Great Lakes present an obstacle to migratory birds, forcing many to concentrate in near-shore habitats. During migration and especially in spring, land birds, many of which migrate at night, accumulate in habitat patches along the shores of Lake Michigan, in riparian corridors and in isolated patches of habitat, including woodlots (small patches of forest), fields and wetlands. The few remaining near-shore forests, shrublands, grasslands, and marshes of the Wisconsin's Lake

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Michigan region, as well as coastal waters, provide a rich bounty of food that sustains migrating birds. It is here where some of the largest numbers of land birds can be found during migration. They find whatever food they can and prefer a diverse set of native plant species that provide shelter from weather and predators and a menu of foods, such as insects, fruits, and seeds. Because habitats are in limited supply in the Wisconsin's Lake Michigan region, open spaces, including everything from small yards, large parks, forests, or corporate lands, can help the birds on their migratory journey.



Henslow's Sparrow © Thomas Schultz

Migratory Land Bird Species of Greatest Conservation Need in Wisconsin's Lake Michigan Basin

Grasslands:

Northern Harrier, Short-eared Owl, Henslow's Sparrow, Dickcissel, Lark Sparrow, Grasshopper Sparrow, Le Conte's Sparrow, Sharp-tailed Sparrow, Bobolink, Eastern Meadowlark, Western Meadowlark, Upland Sandpiper

Shrublands With Scattered Trees:

Willow Flycatcher, Brown Thrasher, Blue-winged Warbler, Golden-winged Warbler, Kirtland's Warbler, Field Sparrow, Vesper Sparrow, American Woodcock

Forests:

Bald Eagle, Northern Goshawk, Red-shouldered Hawk, Peregrine Falcon, Black-billed Cuckoo, Yellow-billed Cuckoo, Whip-poor-will, Red-headed Woodpecker, Olive-sided Flycatcher, Least Flycatcher, Acadian Flycatcher, Wood Thrush, Veery, Black-throated Blue Warbler, Yellow-throated Warbler, Cerulean Warbler, Prothonotary Warbler, Worm-eating Warbler, Louisiana Waterthrush, Connecticut Warbler, Hooded Warbler, Canada Warbler, Rusty Blackbird, Red Crossbill

Why Protect or Create Stopover Habitat?

Migratory birds need food-rich stopover sites with adequate shelter. Thus, providing good resting and refueling stops for migrating birds should improve their chances for a successful migration. That means more birds controlling insect populations, better bird-watching opportunities, greater potential for tourism, and the satisfaction of knowing that landscaping for migratory birds benefits our environment as a whole.

What's good for the birds is good for us!



Connecticut Warbler © Dan Jackson

“Plants, birds, and insects have been, and continue to be, compromised by our development of the land. We need the flora and fauna for our mental and physical well-being, so we are all responsible for doing our part to help them survive and thrive. People and nature can successfully coexist if we simply make the effort to do so. We shouldn't wait until more species are extinct to learn this lesson.”

--Lynn Christiansen, landscape horticulture student and participant in 2011 Grosbeaks Galore backyard habitat workshop

How to Create, Enhance or Protect Stopover Habitats

Because each group of birds, and indeed, each species, may have different habitat requirements during migration, no single prescription fits all. Here we provide recommendations for managing habitats that will benefit the greatest number of land birds during migration. Managing habitats on your land can benefit birds regardless of where you live, but managing for land birds will be especially important for landowners whose properties are: 1) within five miles of Michigan or Green Bay, 2) along rivers and streams, or near lakes and marshes, and 3) in urban or agricultural areas. The birds will benefit from your habitat management efforts and you will be rewarded by visits from a wide array of fine-feathered travelers.

Forest Habitats

In Wisconsin's Lake Michigan basin, the landscape is dominated by agricultural land and urban areas, with forest habitats accounting for 5 percent of the land area in the south and 30 percent in the north. Forest habitats fall into four main categories: beach ridge forest, wet forest, upland forest, and shrub-sapling habitat. In most mature wet forests and upland forests, canopies are dense with occasional canopy gaps and less shrubby vegetation. Beach ridge forests have more canopy gaps and a well-developed understory.

Common Species of Native Trees and Shrubs in Wisconsin's Lake Michigan Basin Include:

Northern red oak	Hackberry	Pin cherry	Sugar maple	Hawthorn
White oak	Slippery elm	Eastern red cedar	Red maple	Dogwood shrubs
Bur oak	Ash	White spruce	Paper birch	Nannyberry
Hickory	Black cherry	Boxelder	Yellow birch	Willow

Latin and common names of plant species are listed on page 16.

The Importance of Forests and Forest Succession to Migratory Land Birds

Forests provide birds with the food, water, and cover they need to rest and replenish their resources prior to the next leg of their journey. Much of the difference seen in bird use of different woodlots relates to the successional stage of the woodlot.

As a general rule, shrub-sapling and mature forests will harbor the highest diversity and abundance of migrating (and breeding) birds. It is worth noting, however, that different species are often found in these two forest types. Thus, managing for a variety of habitats on your property will likely support the highest diversity of migrating (and breeding) birds. For migrating birds, it is best to encourage habitat diversity—both habitat structure (height and density of vegetation) and the variety of plant species present.

Succession refers to a change in the plant species and structure (height and density) of vegetation in a habitat over time. For example, in forest succession, a weedy field or cut forest slowly changes to become a mature forest. Following farm abandonment or forest cutting activities, grasses and herbaceous plants proliferate and provide land birds such as sparrows with insects, seeds and shelter. As succession continues, shrubs and tree seedlings colonize by seed or resprout from tree stumps. These areas provide shelter and food—insects, seeds and berries that songbirds such as catbirds, thrushes, vireos and warblers often consume.

The shrub-sapling forests develop into dense stands of small trees that shade out other plants, creating an open understory layer. These young forest stands generally have fewer species and lower abundance of birds because they lack many features found in mature forests. As a forest matures, and becomes more diverse, it will receive heavier use by migratory and resident birds, due in part to the variety of available resources. Mature forests have a more diverse forest understory and canopy, high diversity of native trees, trees that produce edible fruits (late summer and fall) and nuts, trees with cavities, and openings created by dying, old trees.

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Creating Habitat Diversity in Forests and Stream Corridors

Important Trees and Shrubs

Certain tree species are especially attractive to migrant forest birds. In spring migration, oaks, willows, hickories, elms, and ashes are favored by migratory birds foraging for insect prey. During southbound migration in late summer and fall, trees and shrubs that bear small fruits, including dogwood shrubs, black cherry, eastern red cedar, and vines, such as wild grape and Virginia creeper, are especially important for many migratory songbirds. Large fruiting trees along woodland edges have high potential for fruit production. These trees are especially valuable because migrating birds are often concentrated at habitat edges. Trees that produce acorns and nuts, such as oaks and hickories, provide an important fall and winter food source for many birds such as Blue Jays and Red-headed Woodpeckers.



Eastern Bluebird © Thomas Schultz

Enhancements to Layering Within Forests

Pay attention to the sizes of trees and shrubs and retain individuals in a variety of size classes for each species of native trees and shrubs in your forest. This will tend to produce a multilayered forest with understory trees and shrubs, pole-sized trees that reach midstory or subcanopy layers, and mature large diameter trees that form the forest canopy. Increasing the number of layers in the forest should attract more species because some bird species prefer to feed in low shrubs (Gray Catbirds) or on the ground (thrushes, Ovenbirds), while others, such as Blackburnian and Tennessee Warblers, may prefer to forage high in the forest canopy during migration.

Enhancing Forest Edge Habitats

Forest edges are often associated with increased diversity and abundance of birds and other wildlife, but can have negative impacts on some breeding birds. Abrupt edges occur between very different habitats, such as between a mature forest and agricultural land, and may not be favored by birds. In contrast to straight edges, gradual edges are more structurally complex and seem to be

and trees between woodlands and other native habitats so migrants can safely feed as they travel from place to place in search of the best “restaurants.”

Forest Management and Migrant Birds

In some areas, landowners may have an interest in harvesting timber and this will affect the habitats available for migrating land birds. There are two main approaches to forest management: even-aged and uneven-aged management. Even-aged methods, such as clear-cutting, remove all or nearly all canopy trees resulting in forests dominated by trees of similar size and age. Uneven-aged management (cutting scattered individual trees or small groups of trees) creates forest stands with trees of a variety of sizes and ages.

Even-aged and uneven-aged approaches attract different birds because they promote either young shrub-sapling habitat or structurally diverse forest habitats, respectively. The best approach depends on the availability of nearby habitat and whether sensitive forest interior species occur in your area. For example, if you have one of the only large tracts of forest within several miles, which may be the case in Wisconsin's Lake Michigan basin, then forest birds may rely heavily on

favored by most migratory birds. Gradual forest edges can be made by allowing shrubs, saplings, and some canopy trees to remain at the boundary of a forest or woodlot, especially when adjacent to agricultural areas. Edges can be “feathered” by retaining more trees closer to the forest interior and gradually fewer trees closer to the edge. If your forest management includes harvesting trees, you can create these types of edges during forest cutting or by planting shrubs and small trees along existing edges.

Retaining Streamside Buffers and Habitat Corridors

Riparian habitats (habitat adjacent to streams and rivers) support a rich diversity of flora and fauna and serve important ecological functions. Harvesting trees in the near vicinity of streams reduces riparian habitat for migrant birds and can harm aquatic life by increasing water temperature and sedimentation. To reduce negative impacts, leave buffer strips (preferably at least 50 to 100 feet wide) of unharvested trees along both sides of streams. Keep roads at least 50 feet away from stream edges and ponds and minimize the number of stream crossings. Create or retain corridors of shrubs

your land to meet habitat needs, and an uneven-aged approach may be best. Uneven-aged management also may be appropriate within small woodlands if landowners want to sell some timber, but also maintain forest habitat for migrant land birds or other wildlife.

Forest Habitats and Their Distance from Lake Michigan

Migratory birds concentrate along the shoreline of Lake Michigan in both spring and fall. Recent research has shown that the occurrence of migratory land birds in mature forest patches is higher at habitats within 1 kilometer of the Lake Michigan shoreline than at interior habitats. As a result, lands that are located closest to Lake Michigan are likely to be most valuable for conserving migratory birds and therefore most important for habitat management and restoration. Beach ridge forests should be conserved, restored, or created to establish a forest corridor along the lake shore wherever possible. This should be coupled with connectivity via rows of trees or shrubs (ideally more than 50 feet wide) to forest habitats located just inland from the lakeshore. This would increase habitat for many migrant birds and enhance their ability to move within the landscape.

Corporate Lands, Backyards and other Urban Habitats



Backyard © Kim Grveles

Habitat restoration is important in urban landscapes, where development has eliminated most natural areas for migrating birds. Restored urban habitats provide important refuges for migrating birds. Landowners can play a key role by managing their properties in ways that benefit migrant birds. Whatever your interests and however large or small your property, you have the opportunity to attract migrating songbirds. Here are some ways that you can make your property more attractive to migratory birds.

Increase Habitat Structure

Convert as much of your property as possible to natural cover by creating patches of woody habitats. A 50 percent increase in the density of shrubs and trees creates a 50 percent increase in the number of land birds! Plant native tree and shrub species of different sizes to provide habitat for birds that feed at different heights. Cluster plantings to maximize cover and shelter and to promote natural reseeding in your bird haven. Leave the leaves—Hermit Thrushes, White-throated Sparrows, Ovenbirds and other ground-foraging species will search the leaf litter for insects (and you'll have less raking to do!).

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Cedarburg Bog State Natural Area © Wisconsin Department of Natural Resources

Reduce Lawn Area and Leave Corners Uncut

Lawns have little value to birds and are costly to maintain. Where possible, replace lawn with more natural habitats that include trees, shrubs, and native grasses. In addition to attracting wildlife, reducing the size of your lawn will accrue added benefits, including reduced maintenance costs (mowing less, conserving water, increasing energy efficiency), reduced air pollution, and decreased runoff of fertilizers and pesticides. Although less preferred, even uncut lawn

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grasses such as non-native fescue, bluegrass, and rye can provide meadow-like foraging habitat for birds such as sparrows. This will add habitat diversity to your land. Check with local officials to see whether regulations require maintaining mowed lawns in your area.

Plant Native Trees and Shrubs

Plants offer a wide variety of resources for migratory songbirds, including flowers (nectar), fleshy fruits, hard mast (acorns, nuts), seeds and the insects that are found on vegetation. Native plants that bear fleshy fruits are important to migratory birds, especially during late summer and fall, when birds use fruits to meet energy requirements necessary for migration. By offering a variety of fruiting plants, you will attract a wide variety of bird species. If possible, select plants that fruit at different times during the season to ensure that fruits and flowers are available throughout the migratory period. In addition, fruits that are available in winter months will be important for winter resident birds. Mariette Nowak's brochure, *Beyond the Birdfeeder: Creating a Bird-Friendly Yard with Native Wisconsin Plants*, provides a list of plants beneficial to migratory birds. (hoyaudubon.org/documents/birdscaping.pdf)

Forbs and Flowers

Many native flowering herbaceous plants attract birds. Wild columbine, cardinal flower, black currant, and beebalm provide nectar for migrating hummingbirds, while seed-eating birds will feast on the seeds of sunflowers, purple coneflower, goldenrods, and asters in fall.

Vines and Shrubs

Creating lush growth in a few places will simulate a natural environment. Birds prefer using areas of dense cover for nesting, perching and escaping from predators. You can plant or grow vines and shrubs along your house or a fence. Another benefit from the cover is additional privacy in your backyard. Vine and shrub species, especially those with small, fleshy fruits, are favored by migratory birds. These species include wild grape, hawthorn, blueberry, blackberry, serviceberry (eaten by thrushes, jays, waxwings); dogwoods such as red-osier and gray dogwoods (a favorite of thrushes, catbirds, robins, vireos, and even some warblers in the fall); common elderberry; maple leaved viburnum; arrowwood; Virginia creeper; nannyberry and sumacs. Species that fruit from August through October will be best as that is the principal time of land bird migration. This includes many species of dogwood, viburnum, hawthorn, and wild grape.

a structure or house. Avoid putting dense shrubs and trees near large windows—fewer birds will hit the windows and you will preserve your view.

Control Invasive Plants

Avoid planting pesky invasives such as autumn or Russian olive, glossy or common buckthorn, multiflora rose, non-native honeysuckles (Japanese, amur and bush honeysuckle), Oriental bittersweet, and porcelain berry, which may outcompete valued native species. Remember that it will take far more work to control their spread than the time it took to plant them. An excellent resource for more information on controlling and removing aggressive non-native plant species is *Invasive Plants of the Upper Midwest: An illustrated guide to their identification and control* by Elizabeth J. Czarapata (University of Wisconsin Press).

Reduce or Eliminate Use of Pesticides and Herbicides

Insecticides, fungicides, and herbicides can reduce soil and water quality on your property and can directly or indirectly harm migratory birds. Whenever possible, use organic techniques for gardening or lawn care.

Trees

Native trees that are favored by birds as foraging sites often support many insects and other important bird food during migration, including fruits and nuts. Among the preferred deciduous species are oaks, hickories, elms, willows, northern hackberry, pin cherry, and black cherry. Conifers or evergreens, such as eastern red cedar, also attract migratory birds, as do white spruce and eastern hemlock, all of which are native to eastern Wisconsin. For deciduous trees and evergreens, both foliage and seeds (acorns, seeds in pine cones) are dinner plates and shelter for birds. Some tree species, such as black locust, basswood, and silver maple, do not attract birds and contribute only marginally to a bird-friendly yard. More subtly, the inconspicuous flowers and associated insects on trees, such as willows, oaks, elms, and birches can provide important food, especially when insects are scarce elsewhere due to cold weather or a late-arriving spring.

It is best to cluster plantings to maximize shelter. Trees that are tall at maturity, such as oaks, black cherry and white spruce, should be planted well away from homes and other structures, while trees that reach only short heights, such as gray dogwood, can be planted closer to

Encourage natural control agents such as native species and insects. If you must use pesticides, avoid highly toxic or broad-spectrum chemicals that kill a wide variety of invertebrates. Always follow the manufacturer's instructions on the product label for proper use and disposal of pesticides.

Retain Dead Trees or Dead Limbs Whenever Possible

Decaying trees and their cavities provide shelter, nest sites, and foraging sites for woodpeckers, nuthatches, chickadees, titmice, and other bird species. So if they aren't a threat to safety, you can leave dead trees or limbs for the birds.

Provide a Water Source

Water sources such as birdbaths, small ponds, and streams attract migrating and resident birds. Running water can be attractive, especially during drier periods. Locating the water near shrubs, trees, or other cover will encourage birds to use water resources.



Baltimore Oriole © Thomas Schultz

Benefits of a bird-friendly yard or woodlot:

- Cost savings on fertilizers, water, and air-conditioning
- Reduced flooding and soil erosion
- Improved quality of ground water, streams, and Lake Michigan
- Greater noise buffer
- Less yard work
- Knowing that you're doing your part to help migratory birds!

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Common and Latin Names of Plant Species Noted in the Text

Ash (<i>Fraxinus spp</i>)	Dogwood, red-osier (<i>Cornus stolonifera</i>)	Oak, northern red (<i>Quercus rubra</i>)
Aster (<i>Aster spp</i>)	Elderberry, common	Oak, white (<i>Quercus alba</i>)
Basswood (<i>Tilia americana</i>)	(<i>Sambucus canadensis</i>)	Olive*, autumn (<i>Elaeagnus umbellata</i>)
Beebalm (<i>Monarda fistulosa</i>)	Fescue (<i>Festuca spp</i>)	Olive*, Russian (<i>Elaeagnus angustifolia</i>)
Birch, paper (<i>Betula papyrifera</i>)	Goldenrod (<i>Solidago spp</i>)	Porcelain-berry*
Birch, yellow (<i>Betula alleghaniensis</i>)	Hackberry, northern (<i>Celtis occidentalis</i>)	(<i>Ampelopsis brevipedunculata</i>)
Blackberry (<i>Rubrus spp</i>)	Hawthorn (<i>Crataegus spp</i>)	Rose*, multiflora (<i>Rosa multiflora</i>)
Blueberry (<i>Vaccinium spp</i>)	Hemlock, eastern (<i>Tsuga canadensis</i>)	Ryegrass (<i>Lolium spp</i>)
Bluegrass (<i>Poa spp</i>)	Hickory (<i>Carya spp</i>)	Serviceberry (<i>Amelanchier spp</i>)
Boxelder (<i>Acer negundo</i>)	Honeysuckle*, amur (<i>Lonicera maackii</i>)	Spruce, white (<i>Picea glauca</i>)
Buckthorn*, common	Honeysuckle*, bush	Sumac (<i>Rhus spp</i>)
(<i>Rhamnus cathartica</i>)	(<i>Lonicera morrowii</i> , <i>Lonicera tatarica</i> ,	Sunflower (<i>Helianthus spp</i>)
Buckthorn*, glossy (<i>Rhamnus frangula</i>)	<i>Lonicera X bella</i>)	Viburnum, arrow-wood
Cardinal flower (<i>Lobelia cardinalis</i>)	Honeysuckle*, Japanese	(<i>Viburnum dentatum</i>)
Cedar, eastern red (<i>Juniperus virginiana</i>)	(<i>Lonicera japonica</i>)	Viburnum, maple-leaved
Cherry, black (<i>Prunus serotina</i>)	Locust*, black (<i>Robinia pseudoacacia</i>)	(<i>Viburnum acerifolium</i>)
Cherry, pin (<i>Prunus pennsylvanica</i>)	Maple, red (<i>Acer rubrum</i>)	Virginia creeper
Coneflower, purple	Maple, silver (<i>Acer saccharinum</i>)	(<i>Parthenocissus quinquefolia</i>)
(<i>Echinacea purpurea</i>)	Maple, sugar (<i>Acer saccharum</i>)	Wild columbine (<i>Aquilegia canadensis</i>)
Currant, wild black (<i>Ribes americanum</i>)	Nannyberry (<i>Viburnum lentago</i>)	Wild grape (<i>Vitis spp</i>)
Dogwood, gray (<i>Cornus racemosa</i>)	Oak, bur (<i>Quercus macrocarpa</i>)	Willow (<i>Salix spp</i>)

*These plant species are considered invasive.

For More Information on Creating Habitats for Birds

Bird City Wisconsin, birdcitywisconsin.org

Cats, Birds, and You. (American Bird Conservancy Brochure, 2004) abcbirds.org

Chicago, City of and Audubon Chicago Region. *A habitat guide for Chicago landowners: enhancing your property for birds.* (Department of Environment, City of Chicago and Audubon Chicago Region, 2007)

Cornell Lab of Ornithology, celebrateurbanbirds.org

Craven, S., D. Drake, and J. Nack. *Bird feeding: Tips for beginners & veterans.* (University of Wisconsin-Extension, Publ. G3176)

Cunningham, S. *Great garden companions.* (Rodale, 1998)

Czarapata, E.J. *Invasive plants of the Upper Midwest: An illustrated guide to their identification and control.* (University of Wisconsin Press, 2005)

Grveles, K. and S. Matteson. *Respite for migratory birds: Saving Great Lakes stopover sites.* (Wisconsin Natural Resources Magazine, 2011) <http://dnr.wi.gov/wnrmag/2011/08/birds.htm>

Messer, G. and C. Wagner. *Wisconsin native plant sources and restoration consultants.* (Wisconsin Department of Natural Resources, Publ. WT-802)

National Audubon Society, audubon.org

Natural Resources Conservation Service, nrcs.usda.gov

Provides conservation planning assistance to individuals, groups, and units of government who implement conservation plans to conserve natural resources (soil, water, air, plants, animals)

Nowak, M. *Beyond the Birdfeeder: Creating a Bird-Friendly Yard with Native Wisconsin Plants.* (The Wisconsin Society for Ornithology, Inc.) hoaudubon.org/documents/birdscaping.pdf

Nowak, M. *Birdscaping in the Midwest: A Guide to Gardening with Native Plants to Attract Birds.* (University of Wisconsin Press) uwpress.wisc.edu/Presskits/Nowak_Birdscaping.html

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Rodewald, A.D. and M.C. Brittingham. *Incorporating Wildlife Needs into Forest Management Plans.* (Ohio State University Extension 2001. Fact Sheet W-1-2001, Columbus, Ohio) ohioline.osu.edu/w-fact/0001.html

Tallamy, D.W. *Bringing nature home: How you can sustain wildlife with native plants.* (Timber Press, Inc., Portland, Oregon, 2007)

Unpave the Way for Wildlife: Create Habitat Along the Migration Trail! (Journey North, learner.org/jnorth/unpave/UnPaveResources.html#programs) This site has links to several good resources on backyard habitat management.

Western Great Lakes Bird and Bat Observatory, wglbbo.org

Wisconsin Stopover Initiative, wisconsinbirds.org/Migratory

You can save birds from flying into windows. (American Bird Conservancy Fact Sheet) abcbirds.org

Wisconsin Bird Conservation Initiative wisconsinbirds.org



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