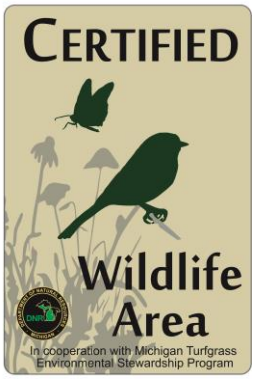
Certified Wildlife Area Program Module for Golf Courses and Park and Campus Grounds.

Introduction

The Certified Wildlife Area Program challenges golf courses, university and college grounds departments and park and other grounds maintenance operations to create and improve habitats to benefit wildlife. With over 800 golf courses in Michigan, over 100 colleges and universities and many park and other grounds maintenance operations there is significant potential to work in cooperation with the Michigan Department of Natural Resources to promote wildlife habitat management. Enhancing existing or developing new habitat areas can provide a safe haven for migratory birds, mammals, amphibians, and beneficial pollinating insects. This program recognizes those facilities that go above and beyond to make their property wildlife-friendly.



The goal of this wildlife module is to engage these facilities across Michigan to become more wildlife-friendly. This document provides guidance for evaluating existing wildlife habitat conditions, establishing goals for wildlife conservation, implementing management activities to enhance wildlife habitat, and providing conservation education to the public. Quality habitat is designed to meet the three basic needs of wildlife: food, shelter and water. Providing these basic habitat elements will not only help wildlife, but will enhance the aesthetic value of the property.

Becoming a Certified Wildlife Area

There are 3 steps to becoming a certified wildlife area:

1) Inventory all existing wildlife habitat using aerial photos and on-site ground evaluation. Survey resident wildlife to determine existing species and help identify potential species that habitat management activities would likely benefit or attract to the property.
2) Develop a habitat management plan that specifically includes wildlife habitat goals for the property and how these goals will be accomplished. Plans should include objectives and goals for existing forest, grassland, wetland and invasive species management. Plans must include a map identifying existing wildlife habitat and priority areas identified for enhancement.
    - Use this Wildlife Module to help identify missing habitat elements and determine potential habitat improvement projects. The Reference Page provides links to a number of useful tools for planning and habitat development.
3) Provide a copy of the habitat management plan, the completed Wildlife Module below (fill out all questions), and photographs of your wildlife habitat areas to MTESP and the DNR Wildlife Division's Private Lands Specialist.
    - Facilities that complete all Wildlife Module requirements, including implementing at least three new habitat management activities, will receive a DNR Certified Wildlife Area sign to display to the public, showing your commitment to wildlife conservation.

Wildlife Module

I. Habitat Planning and Goal Setting:

A wildlife habitat management plan is an important component of becoming a certified wildlife area. A strong plan will provide the basis for the work you do and will help you better meet your goals.

The first step in developing a high-quality wildlife habitat plan is taking an inventory of wildlife that currently use the area and existing available habitat. Local conservation volunteer groups, such as bird watching groups, can often help document wildlife present on the property. Inventory all existing habitats (woods, wetlands, grasslands, brush, idle areas, etc.) and sketch a map of the different habitats on the property. Once the habitat and wildlife have been identified, consider your wildlife goals – are you interested in attracting particular wildlife, are you interested in increasing wildflowers for pollinators, or are you interested in controlling invasive species? Develop specific goals for wildlife and/or habitat management, and consider what habitat components are missing and how you might add them. Whenever possible, include management goals that enhance existing habitat, connect habitat areas (i.e. develop corridors), and expand habitat to new areas. The plan should also include details on how you will implement the plan, timeframe for implementation and future maintenance to maintain habitat quality.

For additional information about habitat planning and setting goals, please visit: www.michigan.gov/landownersguide.

Please answer these questions about your planning:

Wildlife Habitat Inventory	Number of Areas	Total Current Acres	Total Acres After Restoration
Deciduous Forest			
Coniferous Forest			
Native Brush			
Native Grassland			
Introduced Grassland (not mowed)			
Pollinator Habitat (gardens, wildflower plantings)			
Emergent Marsh			
Swamp			
Ponds & Lakes (deep water)			
Rivers & Streams			
Total:			

1. Conducting an inventory of resident wildlife is important to developing a wildlife habitat management plan for these facilities. Understanding what wildlife already use the area allows land managers to identify missing habitat components, address these with habitat management activities, and target enhancement for new desirable wildlife. Has a survey of current wildlife been completed?

Yes or No (please circle)

Describe how wildlife was surveyed and what wildlife were surveyed (birds, mammals, amphibians, etc.).

2. Wildlife habitat management plans are important tools to identify habitat goals and required management activities to achieve the stated goals. Describe how the plan was developed and a brief description of the wildlife / habitat management goals:

What is the timeframe for implementing new habitat management activities on the property?

4. Does the management plan clearly identify staff, volunteers or conservation organizations responsible for managing wildlife habitat areas on the property?

Yes or No (please circle)

5. Identify at least three NEW wildlife habitat improvement activities that will occur on the property. Please describe the habitat projects and timeline for implementation:

Activity 1:

Activity 2:

Activity 3:

II. Forest Management:

Wildlife is an integral part of the forested lands of Michigan. Forests offer food and shelter to a diversity of wildlife species including deer, wild turkey, songbirds, reptiles and amphibians. Other wildlife species such as rabbits, quail, and raptors use the edge of forests and benefit from management of these areas. Well managed forest lands provide a variety of food not found in other landscapes, such as acorns, hickory nuts, fruits, leaves and twigs for browse. Forests also provide habitat for nesting, refuge from predators, and protection from harsh weather. Leaving dead trees up provides food sources (insects) and shelter for a variety of birds. For these facilities, woodlands offer aesthetic beauty, improve water and air quality, wildlife habitat, and potential income opportunities from timber management.

Native plants naturally occur in the region in which they evolved. They are well suited to local soils and climate conditions, require less watering, and are often more resistant to insects and disease. Wildlife evolved with native plant species to provide food and shelter. When planting trees and shrubs it is highly recommend that native species be selected. Clump plantings provide more beneficial shelter and hiding areas to wildlife than individual scattered trees or shrubs.

For additional information about forest management, please visit: www.michigan.gov/landownersguide.

Please answer these questions about your forest management:

1. Does the wildlife management plan include forest management goals or does the property have a separate forest management plan that is being implemented?

Yes or No (please circle)

2. Does the forest management plan identify wildlife habitat as a priority? For example, protecting snags and mast producing understory trees and shrubs or invasive species control.

Yes or No (please circle)

3. Snags (standing dead trees) provide homes for a diversity of wildlife including cavity nesting birds, mammals and important pollinating insects. Does the property contain snags?

No Up to 3 snags per acre More than 3 snags per acre

If no, are plans in place to create snags?

4. Downed logs, limbs and other woody debris on the forest floor provide shelter and food (insects) for many amphibians, reptiles and other wildlife. Are these items allowed to remain on the forest floor?

Yes or No (please circle)

5. Invasive species can significantly impact the quality of a woodlot and decrease the available food and cover for wildlife. Does the management plan include monitoring and controlling invasive species within forested lands?

Yes or No (please circle)

If yes, describe the plan for controlling invasive species:

6. Structural diversity (diversity of heights from tall trees to understory shrubs and ground cover) within a woodlot is important to create habitat for the greatest diversity of wildlife. Do the forested lands on the property contain both overstory and understory plant species?

Yes or No (please circle)

7. Habitat fragmentation, when larger habitats are cut into smaller pieces, is one of the most significant threats to forests and forest dependent wildlife in Michigan. Expanding stand size or connecting the stand to other forest stands can significantly improve the value of the woodland for wildlife. Does the forest or wildlife management plan identify ways to increase the size of existing woodlots or connect them to other woodlots, including neighboring properties, to minimize fragmentation?

Yes or No (please circle)

If yes, describe the plan for minimizing habitat fragmentation of the forested lands.

8. Are native trees that provide fruit, nuts, acorns or other food sources (mast) selected when planting new trees or shrubs?

Yes or No (please circle)

9. Large stands or clump plantings of native conifers (white pine, hemlock, spruce) provide important thermal, escape, and nesting habitat for wildlife. Are native conifers available for wildlife on the property?

Yes or No (please circle)

III. Wetlands:

Wetland ecosystems are often undervalued. These complex habitats are the most biologically diverse ecosystems on Earth and provide critical environmental benefits including wildlife habitat, filter runoff from the land, water purification, flood protection, shoreline stabilization and groundwater recharge. Marshes, swamps and ponds are often what we consider wetlands, but smaller seasonally wet areas are also critical for wildlife, particularly for amphibians and other rare species. Many species of birds, fish, mammals, reptiles, and amphibians rely on wetland habitat for breeding, foraging and cover. Wetlands provide a unique habitat for many species that cannot survive elsewhere. The high rate of wetland loss to human activity has contributed to the decline of many important wildlife and plant species. Wetland protection and enhancement provides a tremendous opportunity for these facilities in Michigan to provide critical wildlife habitat and environmental protection.

Seasonal wetlands, often called vernal ponds or ephemeral pools, are temporary pools of water that provide habitat for many unique and important plants and animals. Seasonal wetlands typically are full in the spring and provide critical breeding habitat for frogs, toads, and salamanders. By late summer, vernal ponds are generally, but not always, dry which prevents fish from inhabiting them. A lack of fish is critical for the development of many young amphibian species unable to withstand predation by fish. Identifying and protecting seasonal wetlands is a high priority for providing critical wildlife habitat.

For additional information about wetlands and wetland enhancements, please visit: www.michigan.gov/landownersguide.

Please answer these questions about your wetland management:

1. Have all permanent wetlands been identified and users kept out to prevent disturbing wildlife?

   Yes or No (please circle)

2. Have seasonal wetlands been identified and protected from drainage or disturbance from users?

   Yes or No (please circle)

3. Invasive species, such as phragmites or Eurasian watermilfoil, can significantly impact the value of wetlands for wildlife. Is invasive species management part of your wildlife habitat management plan?

   Yes or No (please circle)

If yes, describe the plan for monitoring and controlling invasive species in the wetland areas:

5. Amphibians and reptiles use logs, woody debris, rocks or other partially submerged items for basking in the sun and escaping predators. When absent, logs or rocks can be added to enhance wetland habitat for wildlife. Are logs, snags, and other woody debris left in and around wetland edges?

   Yes or No (please circle)

6. Do wetlands and other bodies have vegetative buffers (unmowed grass, trees, or aquatic plants) to provide travel corridors for wildlife and help minimize excess nutrients and sedimentation from entering wetlands?

Yes or No (please circle) If yes, what is the average buffer width?

Up to 20 feet 21 to 50 feet Greater than 50 feet

What percentage of shoreline areas are protected by buffers?

Less than 10% 11 to 30% 31 to 50% 50 to 75% More than 75%

7. Disturbing buffers with mowing or spraying can have detrimental impacts on wildlife. Are wetland buffers mowed or sprayed with herbicides, pesticides or fertilizers?

Yes or No (please circle)

IV. Grasslands:

Grasslands, including prairie, savanna and barrens, are among the most threatened ecosystems in North America. Many wildlife species depend on diverse grassland habitat for nesting, brood rearing, protection from predators and harsh weather. Michigan has lost approximately 99% of its original grassland habitat to human development. Consequently, populations of many grassland wildlife species have declined dramatically. Grassland birds have suffered the most severe population declines of any other North American birds due to the enormous loss and fragmentation of their required habitat. Today agricultural grasslands such as hay fields, pastures, fallow fields and old fields provide valuable habitat for a variety of wildlife, especially grassland birds.

Planting and managing native grasslands are great alternatives to manicured lawns and offer increased wildlife habitat and aesthetics. Grasses are often broken down into two categories, cool-season grasses (CSG) and warm-season grasses (WSG). CSG includes primarily introduced species such as orchard grass, timothy, fescue, and Kentucky bluegrass that grow best in cool weather of spring and early fall. CSG are commonly found in lawns and pastures. These non-native grasses require relatively high levels of maintenance and typically provide poor wildlife habitat. In contrast, WSG contain native species such as Indian grass, big and little bluestem, and switchgrass which grow best in mid-summer when hot days follow warm nights. Native grasslands are typically planted with a diverse blend of native wildflowers to enhance the wildlife habitat value, by providing nectar sources for important pollinator species and enhanced aesthetics. WSG provide numerous environmental benefits to land managers, including reduced maintenance, drought tolerance, soil improvement, and high-quality wildlife habitat. Converting existing low-quality CSG into a diverse blend of native grasses and wildflowers can greatly enhance a field for grassland birds, pollinators, and other wildlife.

All grasslands require periodic disturbance and must be maintained either by prescribed fire, light disking, animal grazing, or mowing to maintain species diversity and habitat quality. Without periodic disturbance, grasslands lose species diversity and are invaded by undesirable trees, shrubs or non-native invasive species. Grassland management plans should include information about future management to maintain high-quality grassland habitat.

For additional information about grasslands, including establishment and management techniques, please visit: www.michigan.gov/landownersguide.

Please answer these questions about your grassland management:

1. Have grassland wildlife and management been identified as property priorities?

Yes or No (please circle)

If yes, describe the goals for enhancing grassland habitat for wildlife including number of acres, type of grassland and any focus wildlife or plant species:

2. Does your plan include new native grassland establishment or enhancing existing low-quality grasslands for wildlife? For example, converting a 5 acre rough area dominated by introduced grasses into native prairie grasses and wildflowers.

Yes or No (please circle)

If yes, describe the plan for enhancing existing grassland habitat for wildlife:

3. Many grassland dependent species, particularly grassland birds, require large blocks of grassland habitat to meet their annual life cycles. Grasslands greater than 20 acres in size provide optimum benefits for the greatest diversity of species. Does the property have any large grasslands (greater than 10 acres) or plans to convert idle land into high-quality grassland habitat?

Yes or No (please circle)

If yes, describe the plan for enhancing and expanding large grassland acreage on the property:

4. Grassland habitat quality declines over time if grasslands are not properly managed. Does the wildlife habitat management plan detail how to maintain high-quality grasslands for wildlife?

Yes or No (please circle)

If yes, describe the plan for maintaining high-quality grassland habitat:

5. Protection of ground nesting wildlife from mowing, spraying and burning and human activities is critical during the primary nesting season. Are grasslands protected from disturbance April 15 to July 15?

Yes or No (please circle)

6. Native pollinating insects are an important part of a healthy wildlife ecosystem. Has pollinator habitat been identified as a priority? Examples include native prairie restoration, diverse wildflower plantings, saving snags and manmade nesting stations.

Yes or No (please circle)

If yes, describe the plan for enhancing native pollinator habitat for wildlife including the number of areas and acres enhanced for pollinators:

7. Native pollinators require a diversity of flowering species to complete their annual life cycle. High-quality pollinator habitat contains a diversity of wildflower species of different colors, heights with blossoms throughout the entire growing season (spring to fall). Have wildflower mixes been planted that provide quality habitat for native pollinators?

Yes or No (please circle)

If yes, describe the plan for ensuring quality habitat is being supplied for pollinators:

8. Monarch butterflies are often considered the "king" of butterflies and are famous for their seasonal migration across North America. Monarchs are dependent upon milkweed for laying eggs on and feeding caterpillars. Since the 1990's, monarchs have seen populations declines of more than 80% across North America due to habitat loss. Planting milkweed species such as common milkweed, swamp milkweed or butterfly weed offers a great opportunity to support monarchs and other pollinators that use milkweed. Have milkweed species been included in prairie plantings, butterfly gardens or pollinator plantings?

Yes or No (please circle)

If yes, describe how milkweed has been used to benefit monarchs and other pollinators:

V. Wildlife Corridors:

Habitat loss and fragmentation are primary threats to wildlife. Wildlife corridors, vegetated strips that connect different habitats together, help reduce the impacts of fragmentation and habitat loss. For example, a wide strip of native grasses or trees and shrubs can be planted to connect a seasonal wetland to a nearby woodlot allowing amphibians to safely travel seasonally to their breeding habitat to lay eggs. Corridors are crucial as they increase the effective amount of habitat that is available for species and help reduce habitat fragmentation. Larger habitat areas support enhanced biodiversity and provide a wider variety of food and shelter resources.

Wildlife corridors must be wide enough to allow safe movement for wildlife and prevent easy detection from predators or disturbance from humans. When planning wildlife corridors, the simple rule is that wider is better. Ideally corridors should be a minimum of 50 feet wide, with maximum wildlife benefits achieved in corridors over 100 feet wide. Since wildlife corridors are often narrow, they must be managed with caution to protect wildlife. For example, spraying herbicides and pesticides adjacent to a corridor can be devastating to pollinating insects and plant species diversity. Whenever possible, wildlife corridors should be protected from disturbance to protect wildlife.

Please answer these questions about your wildlife corridors:

1. Does your property currently have, or is it in your wildlife habitat plan to create, wildlife corridors to connect different wildlife habitats?

Yes or No (please circle)

If yes, describe how wildlife corridors are being utilized on the property:

2. What is the average width of wildlife corridors on the property?

Up to 30 feet wide 31 to 50 feet Greater than 50 feet wide

For corridors under 50 feet, is there a plan to increase the width to increase available wildlife? Yes or No

If yes, describe how corridor width will be increased:

3. Are wildlife corridors protected from disturbance from users with the use of signs or barriers?

Yes or No (please circle)

If yes, please describe how users are discouraged from entering wildlife corridors:

VI. Other Habitat Elements:

Wildlife habitat enhancements include a variety of management activities. While planting or restoring habitat provides the highest benefits for wildlife, in some cases habitat can be supplemented with man-made features. Beneficial management activities may include nest boxes or platforms, brush or rock piles, supplemental feeders and water sources. For example, nest boxes for blue birds or wood ducks can be installed when insufficient natural tree cavities are available on the property. Nest boxes are particularly beneficial to cavity nesting species that control pests, such as bats, bluebirds, and purple martins. Wildlife require water for drinking, bathing, and sometimes reproduction. When natural water sources are insufficient, man-made water features such as rain gardens, small ponds and puddling areas for butterflies can be created to enhance the area for wildlife.

Planting small clumps of native conifers, mast producing trees and fruit bearing shrubs can provide food and shelter for wildlife in open areas of the property. Locating food sources and shelter in close proximity to one another is important to protecting wildlife from predation and the elements when foraging for food. For example, the habitat value of an existing clump of conifers can be enhanced by an adjacent planting of native fruit-bearing shrubs. Planting a diversity of native shrubs will help ensure food is available throughout the year. When selecting shrubs it is important to consider the existing soil type, soil drainage, available sunlight and time of year fruit is produced. Shrubs like serviceberry or American elderberry produce fruit early in the summer; dogwoods, ninebark and most viburnums in the fall; crabapples, American highbush cranberry, American mountain ash and hawthorn provide persistent winter fruits.

For more information on building structures for wildlife, please visit: www.michigan.gov/landownersguide.

Please answer these questions about other wildlife elements:

1. Where insufficient natural habitat is available, are nesting boxes or platforms used to provide homes for cavity nesting birds or bats?

If yes, what species? (bluebirds, kestrel, swallows, wrens, chickadee, wood duck, bats, osprey, others)

Does your wildlife habitat plan ensure nest boxes are monitored and maintained appropriately?

Yes or No (please circle)

If yes, describe the monitoring and maintenance plan:

2. Are brush piles, rock piles or other structures used to provide habitat for wildlife?

Yes or No (please circle)

If yes, describe:

3. Does the habitat plan identify locations to plant clumps of native conifers, fruit-bearing shrubs or mast producing trees for wildlife?

Yes or No (please circle)

If yes, describe the plan for increasing available food and shelter with native tree and shrub plantings. Include information on species and location(s):

4. Does the habitat management plan include providing supplemental sources of water for wildlife?

Yes or No (please circle)

If yes, describe the plan for establishing supplemental water sources:

VII. Conservation Education:

Education is an important aspect of implementing a successful wildlife habitat program. Facility users may expect the property to have a certain manicured look and view a pollinator or prairie planting as little more than a weed patch to lose golf balls in. Proving outreach materials to inform users about the benefits of wildlife conservation and highlight wildlife management activities is highly encouraged. Property managers are encouraged to include educational outreach before, during and after a habitat management project. Involving members and the public with wildlife habitat management activities is encouraged to garner support for conservation programs. Interpretive signs, brochures, newsletters, membership or public meetings are all useful tools. Annual bird watching days, observation of unique habitat or species (i.e. viewing elk, osprey nesting platforms, heron rookery, etc.), habitat workshops, and volunteer work days offer great opportunities to create excitement about wildlife conservation and support of your golf course or property. Engaging youth in habitat management activities and/or permitting special youth hunts for geese or deer are also highly recommended. Engaging members and kids with educational materials and outdoor activities is critical to developing our next generation of wildlife conservationists.

Please answer these questions about other wildlife elements:

1. Disturbance from human activities can have a significant impact on wildlife nesting and raising their young or rare habitats. Are signs used to clearly identify unique wildlife areas and explain to users the need to avoid disturbing unique wildlife areas? Examples include known nest sites, nest boxes, nest platforms or unique wildlife habitats such as a prairie fen or known hibernaculum for snakes or bats.

Yes or No (please circle)

If yes, describe the plan for minimizing disturbance to important wildlife areas:

2. Installing signs to highlight a particular habitat management project or interesting wildlife and plants is a great way to educate users about wildlife conservation. Have signs, brochures or other educational materials been developed to

educate users about the facilities wildlife habitat management activities, wildlife species or unique natural features on the property?

Yes or No (please circle)

If yes, describe the how educational materials are utilized to educate users about wildlife and wildlife conservation:

3. Does your wildlife habitat management plan include educational activities to actively engage members or the public in wildlife conservation? For example, volunteer work days to plant habitat (trees, shrubs, butterfly gardens) or invasive species removal, habitat workshops, youth fishing or hunting (deer, goose) or organized wildlife viewing opportunities.

Yes or No (please circle)

If yes, describe how the public or members are involved with educational activities:

References:

Managing Michigan's Wildlife: A Landowner's Guide – Michigan Department of Natural Resources
www.michigan.gov/landownersguide

Agricultural Practices That Conserve Grassland Birds – Michigan Natural Features Inventory
http://mnfi.anr.msu.edu/education/ag-bird-booklet.pdf

Books:

Landscaping for Wildlife - Minnesota Department of Natural Resources
http://www.dnr.state.mn.us/publications/books/index.html

Woodworking for Wildlife: Homes for Birds and Mammals – Minnesota Department of Natural Resources
http://www.dnr.state.mn.us/publications/books/index.html

Managing Wildlife Habitat on Golf Courses, by Ron Dodson
www.usgapubs.com

Managing Wetlands on Golf Courses, by Gary Libby, Donald F. Harker, Kay Harker and Jean Mackay
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471472735.html

Bird Conservation on Golf Courses, by Scott Gillihan
http://www.wiley.com/WileyCDA/WileyTitle/productCd-1575041138.html

Forest Management:

Association of Consulting Foresters of America, Inc.:

http://www.acf-foresters.org/

Michigan Forest Association:
http://www.michiganforests.com/forester.htm

Forestry Assistance Program – Michigan Department of Agriculture and Rural Development:
www.michigan.gov/forestryassistanceprogram

Invasive Species:

Michigan Department of Natural Resources:
www.michigan.gov/invasivespecies

Michigan Invasive Species Information Network:
www.misin.msu.edu/

Pollinators:

Pollinator Habitat Assessment Form and Guide – The Xerces Society:
http://www.xerces.org/wp-content/uploads/2009/11/PollinatorHabitatAssessment.pdf

USDA Natural Resource Conservation Service:
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate/
http://plants.usda.gov/pollinators/butterflies.pdf