



Extension FactSheet

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Enhancing Wildlife Habitat on Farmlands

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Introduction

Ohio is losing approximately 90,000 acres of farmland a year, primarily to urban sprawl. Between 1992 and 1997, Ohio lost 2,120 farms—more than a farm a day. Ohio farmlands can provide important habitat for wildlife. Managing a productive farm can be compatible with the needs of wildlife. For example, animals that can live in agricultural areas include barn owls, eastern meadowlarks, fox, turkeys, bobwhite quail, and deer.

Management for wildlife can provide several benefits to landowners. Abundant wildlife populations and natural areas provide recreational opportunities, such as bird watching, fishing and hunting. Management practices for improving wildlife habitat often provide ecological benefits such as reduced soil erosion, higher water quality, and increased soil moisture. Some wildlife habitat improvements (like windbreaks) can reduce costs of home energy, cattle feed and equipment fuel. Creating habitat for bats and certain birds that consume insects might reduce the need for costly insecticides. Some landowners can receive additional income by establishing private or public wildlife recreation preserves on their land. In addition, many habitats intended to protect wildlife can serve as outdoor classrooms for children, who can learn to identify plants and animals as well as learn how human and environmental needs can be balanced.

If you want to manage your farm in a way that is sensitive to wildlife needs, you first need to decide which wildlife species you want to attract. For example, are you

interested in game species (like deer) or grassland birds? Each wildlife species has different habitat requirements. All wildlife need 4 basic habitat components for healthy communities: food, water, shelter, and space. Food and water are necessary for nourishment. Shelter is needed for protection against weather and predators. Space is essential for activities such as gathering food, attracting mates and raising young. Each wildlife species requires a unique blend of these elements.

Next, identify key areas that could be used by wildlife. These areas may

include old orchards or house sites, bottomland and streamside areas, fencelines and hedgerows, snags and fallen logs, rock outcrops and caves. Once key wildlife areas are protected, you can determine which food and cover components need to be provided or enhanced.

Key Areas Used by Wildlife

Several different types of valuable wildlife habitats are found on farmlands:

Odd Areas

Odd areas are sites not well adapted for cultivation, such as seeps, bogs, caves, roadsides and ditches. Allow these areas to grow to provide habitat to a variety of animals. Permanent trees, shrubs and grasses can protect areas of shallow water near or within crop fields. Generally, exclusion of livestock from some areas provides the best vegetation diversity and structure for wildlife habitat. In addition, consider reducing your mowing frequency (especially roadside ditches) to once every 3-5 years. These are

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- 1) food***
- 2) water***
- 3) shelter***
- 4) space***

excellent locations to plant native wildflowers and grasses. Old building structures such as barns are another good place to attract wildlife, such as barn owls.

Abandoned Fields and Edges

Field borders containing trees, shrubs or grasses provide food for birds, small mammals, fox and deer, and provide nesting cover for many animals. Field borders adjacent to woodlots may be particularly productive for wildlife. Retaining a more natural or gradual field border will encourage use by different animals.

Orchards

Orchards of fruit trees with grassy herbaceous understory attract wildlife by providing food, cover, and nesting areas. Birds, such as bobwhite quail, might nest in grassy understories, while songbirds and mourning doves nest in fruit trees. In addition, fruit allowed to fall to the ground is an excellent food source.

Riparian Buffer Strips

Riparian buffers are strips of permanent vegetation along waterways designated to intercept pollutants, reduce erosion, improve water quality, and provide habitat for wildlife. Streamside forests, in particular, help to maintain aquatic habitat for fish by providing shade, food, and in-stream woody structure for fish species. The width of the buffer zone and the plant species used will depend on the type of wildlife desired. A minimum width of 100-150 feet on both sides of the stream is often recommended to provide significant ecological and wildlife value.

Farm Ponds

Farm ponds can be managed to attract diverse wildlife. Encourage vegetation growth around the shoreline to stabilize the edge and provide food and cover for wildlife. Herons, egrets, ducks and kingfishers may be attracted to these ponds for food resources. Floating logs or rafts allow loafing and sunning areas for salamanders, turtles and ducks. Be sure to keep livestock out of the pond or away from the banks to reduce soil erosion and sedimentation. If livestock must use the pond, restrict them to a small portion of the shoreline.

Snags

Snags are standing dead trees left for wildlife to use for food, shelter, and nesting. Cavity-nesting birds often comprise 20-40% of the birds in the forest, but a variety of mammals, amphibians and reptiles regularly use cavities too. Snags and dead limbs also are an important source of perches for birds. Red-tailed hawks, kestrels

and other raptors that forage or nest in the open country use high perches to survey the land for prey. Low perches, less than 10 feet high, can provide sites for singing and catching insects by songbirds such as eastern phoebe, eastern meadowlarks and northern mockingbirds. If leaving dead trees is not an option, artificial nest cavities can be created. For example, nest boxes are commonly used by bluebirds and tree swallows in open fields.

Brush Pile

Brush piles can provide dense cover for ground-nesting birds, rabbits and other small mammals. Stack layers of logs at right angles to each other to make a base for the pile. Place treetops, old Christmas trees, limbs, stones or stumps on top of the base to complete the pile. Ideal piles are 4 to 8 feet tall and from 10 to 20 feet in diameter. Place piles close to other food and cover sources, preferably along forest edges, field corners or along streams and marshes. Isolated piles may receive little use or could be detrimental if long distances between piles and suitable habitat make animals vulnerable to predators.

Fencerow/Hedgerow

Fencerows and hedgerows are important to wildlife for traveling, nesting, roosting and for cover from weather and predators. To improve suitability for wildlife, fencerows should be at least 30 feet wide and contain a variety of native plant species. This type of habitat can be easily created by modifying mowing practices or by planting soft mast-producing shrubs.

Reducing or eliminating mowing or tilling areas adjacent to fences also can create hedgerow habitat. Briars and seedlings often naturally establish themselves along this border. Once these areas have become established, they can be placed on rotational burning or mowing patterns so that they do not become too large for the mowing equipment. In any given year, one-quarter of the fence may be treated. If shrubs and trees are to be planted in a fencerow, plant species like sumac, wild plum, dogwoods, crab apples, hawthorns, chokecherry, and sassafras in dense clumps to provide food and escape cover for wildlife. The Ohio Department of Natural Resources Division of Forestry provides resources and advice for planting fencerows.

Habitat Improvement Practices

There are many simple ways to improve farmland habitat for wildlife. The benefits of attracting wildlife can often outweigh any damage through economic loss. Hawks, owls and fox feed on rodents that destroy grains and crops, while bats and birds consume copious amounts

of nuisance insects. For example, one bat may eat up to 3,000 insects in a night.

Fallow Fielding and Crop Rotation

A good way to create cover for wildlife is to incorporate a crop-rotation practice that leaves recently cropped lands to lie idle for a period of time. For example, plant corn for three years followed by a year of cover crop. Turn the cover crop over each fall and plant winter rye to reduce erosion. Also, consider a rotation of corn or milo followed by three years of fallow field and then back to the row crop. No matter what crop you plant, including a year or two of fallow fielding or legume cover will benefit wildlife species.

Haying

Harvesting techniques often coincide with peak nesting of grassland songbirds such as bobolink, eastern meadowlark and grasshopper sparrow. Many bird nests, young birds and deer fawn are lost each spring with farmers mowing hay or brush-hogging fields. Most grassland songbirds nest from May to August and must be free of disturbance to produce a successful clutch of young. If possible, avoid mowing or clearing thick, brushy areas from April to August. For ground-nesting birds the best time to mow is late March or early April and mid-August and September. Place the cutting blade to a height of six inches to prevent further loss of wildlife. Also areas of grass left standing during the winter can provide habitat for early nesting the following spring.

In areas where fields are maintained as open areas without grazing or haying, strip mowing or mosaic mowing can increase habitat diversity for songbirds and small game. Strip mowing should be done in long strips 30-50 feet wide. The mosaic technique involves mowing small patches in an irregular pattern and allows clusters of blackberry, buckbrush and tree seedlings to grow. Be sure to mow these clusters before saplings and shrubs are too big for your tractor or mower.

Fire and Controlled Burns

If done properly on a periodic basis, burning can improve the quality of grass and brushland habitats. Fires remove accumulated dead material and encourage the growth of valuable seed-producing plants and herbs and stimulate legume germination. The abundant herbaceous growth that follows a burn provides browse and cover for deer, grouse and rabbits and attracts insects and the songbirds that feed on them. Small controlled burns are recommended for areas too steep for tillage or mowing. Burns should be kept small and controlled with fire-breaks plowed around the perimeters.

BE CAREFUL! Not only is fire dangerous, but also it does more harm than good if done incorrectly or in the wrong season. See a professional forester, biologist or natural resource manager before implementing plans, and be sure to obtain the proper permits first.

Organic Farming

Organic farming eliminates the use of fossil-based nitrogen fertilizers, and laboratory produced insecticides and herbicides. Organic farms can be highly commercialized operations, which, at first glance, are indistinguishable from neighboring conventional farms. Through planned crop rotations, organic farms use biological technology to replace chemical technology in fertility and pest control. As energy prices increase, yield per unit energy invested becomes a valuable measure of productivity. In some cases, organic farmers produce about twice as much per unit of energy as chemical farmers. In general, wildlife benefit from organic farming through an increase in diversity of plants and insects, reduced soil erosion, less nitrate pollution in streams, and reduced direct mortality or reproductive failure from insecticides and herbicides.

Integrated Pest Management

Integrated Pest Management (IPM) is the name given to the practice of using a combination of treatment methods to keep pests from ruining a crop. With IPM, the term “treatment” does not always imply the use of a chemical control. Non-chemical pest control strategies include cultural, mechanical, and biological controls as well as good sanitary practices. Natural enemies of farm pests include predators, parasites and diseases. These natural enemies are often species-specific and can reduce or eliminate pests without negative effects on the environment.

Examples of integrated pest management include crop rotation, use of pesticide resistant crops and livestock. Place fencing or guards around trees to stop rabbits, small mammals and deer from gnawing and browsing trees. Mow around the base of fruit or Christmas trees to discourage damage by small mammals, which avoid open areas that expose them to predators such as hawks and owls.

Pesticide Use

Pesticides can harm wildlife either directly by killing them or indirectly by poisoning their plant and animal food sources and, in turn, expose them to the chemicals or reduce their food supply. In the United States, approximately 282 million acres are treated with agricultural pesticides (herbicides and insecticides) annually. Wildlife within and adjacent to fields are most likely to

be exposed to these chemicals. Strong evidence exists that pesticides can have adverse effects on beneficial insects and birds. Pesticide exclusion strips approximately 30-60 feet wide at the edges of fields can increase the abundance of birds, small mammals and butterflies in these areas. If you must use a pesticide, be sure to understand its properties and apply it correctly. Organochlorines should be avoided because they persist in nature and become significant sources of mortality and reduced reproduction in wildlife. Members of this class (some of which are illegal) include benzene hexachloride, lindane, chlordane, heptachlor, aldrin, DDT, dieldrin, endrin, endosulfan, toxaphene, Keopone and mirex.

Food Plots

Food plots provide overwinter food for wildlife. Leave 10-12 rows of unharvested, standing crop along the entire length of field edges (especially sides that adjoin fencerows, woodlots or wetland areas). Corn is the most common forage plant for wildlife, but annual rye, millet and buckwheat are also beneficial. During harsh winters and low acorn production years, turkeys and deer will use corn heavily. Twelve 50-foot rows of standing corn will support 20 turkeys for 3 months. Perennial crops such as clover, alfalfa and other legumes can be planted to provide food for turkeys, songbirds, rabbits and deer in the summer. In addition, sunflower beds along field edges provide more food for birds and small animals. Of course, maintaining food plots may increase wildlife damage to nearby row crops, so carefully consider your primary objectives.

Key Points to Remember

- **Use native plant species** whenever possible. Native plants generally provide the best food and cover for wildlife.
- **Bigger is better.** Because little natural habitat remains in some areas of rural Ohio, providing as much natural area as possible is best.
- **Connect your natural areas** via hedgerows or buffer strips or patches of natural vegetation. Natural areas that are connected to one another allow animals to disperse and move between areas.

Programs to Consider

Several federal and state voluntary programs exist to aid farmers and landowners in improving and maintaining habitat to benefit wildlife. These community-based conservation programs provide a flexible design of conservation practices and financial incentives to address environmental issues.

- **Wildlife Habitat Incentives Program (WHIP):** This is a program for landowners who want to develop and improve fish and wildlife habitat on private land. WHIP helps landowners plan and cost-share wildlife habitat improvements in association with active farming operations.
- **The Pesticide Environmental Stewardship Program (PESP)** is a program that forms partnerships with pesticide users to reduce the health and environmental risks associated with pesticide use and implement pollution prevention strategies.
- **Conservation Reserve Program (CRP)** is a program which reduces soil erosion, protects the nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. Farmers are encouraged to convert highly erodible cropland or other environmentally-sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips or riparian buffers.
- **Conservation Reserve Enhancement Program (CREP)** is a program targeted to address water quality, soil erosion and wildlife habitat issues related to agricultural use. The program uses financial incentives to encourage farmers and ranchers to voluntarily enroll in contracts of 10 to 15 years in duration to remove lands from agricultural production.
- **The Wetlands Reserve Program (WRP)** is a program offering landowners the opportunity to protect, restore and enhance wetlands on their property. The WRP goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program.

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