Cropfield Management For Wildlife

Ohio farmers have been providing food and cover for wildlife since they planted their first crops on Ohio soils. Today over 11 million acres (45%) of Ohio's 26.2 million acres of land are actively farmed. An additional five to six million acres of uncropped farmlands are under the control of Ohio farmers. Farmers therefore have a tremendous potential to benefit wildlife through their farming practices.

Farming today bears little resemblance to the farming practiced by our ancestors. Advances in farm technology and improvements in crop varieties have helped to intensify farming, much to the detriment of farm wildlife. Farmers who do not include wildlife in their farm plan often eliminate food and cover for wildlife with their farming practices. Farmers interested in raising wildlife can do so simply by making wildlife one of the goals of their overall farm plan. Cropfields can then be managed so that food and cover remain available for wildlife throughout the year. Often, only slight modifications to farming practices – that in no way disrupt farm operations – are required.

The following techniques will help to manage farm wildlife. Incorporating one or more of them into the overall farm plan will provide the necessary habitat (food and cover) to maintain and possibly even increase populations of wildlife.

TILLAGE OPERATIONS

Tillage operations can vary from fall plowing to no-till systems. The tillage method chosen will affect wildlife tremendously by changing the amount of cover and food available. Pesticide applications used with various tillage methods also affect wildlife.

Fall Plowing

For farmland wildlife, fall plowing is the most devastating method of soil tillage. Not only does it eliminate all wildlife cover and food, it drastically increases soil loss to wind and water erosion. Agricultural research has shown that most Ohio soils do not need to be fall plowed in preparation for spring planting. Cultivation in the fall should be used only as a last resort; even then, it is strongly recommend that alternative cultivation techniques such as chisel plowing or disking be substituted for moldboard plowing.

In fields that require fall cultivation, a minimum of 30 feet around the field edge should be left uncultivated until spring. Crop residues and waste grain in this uncultivated area will provide food and cover to help sustain wildlife through the winter.

Reduced Tillage

Reduced tillage is the collective name for several tillage techniques that vary in their degree of soil disturbance (e.g., chisel plowing, ridge tillage, disking, and no-till). Any of these techniques will retain crop residues and waste grain on the ground, thus providing food and cover for wildlife. The more residue and waste grain available, the more benefits to farmland wildlife. Any of these reduced tillage techniques are preferable to fall plowing in terms of leaving habitat for wildlife.

Of all the tillage practices, no-till farming offers the greatest benefit to wildlife because it causes the least disturbance of residual vegetation. It leaves waste grain available through winter and spring and into the following summer, and some birds will use last year's crop residues as nesting cover. However, excessive use of pesticides (herbicides and/or insecticides) in no-till farming can have negative effects on wildlife in addition to increasing expenses. Use only recommended amounts of pesticides to ensure a successful crop.

CROP ROTATIONS

The value of cropfields for wildlife can be greatly influenced by the type of crop rotations chosen. Proper crop rotations help to reduce soil erosion, improve soil fertility, control noxious weeds, reduce susceptibility of crops to natural disasters, and provide diversity in food and cover for wildlife.

Monoculture vs. Diversity

Farmers who plant large fields to the same crop (e.g., corn or soybeans) year after year provide little diversity of food and cover for wildlife. This

monoculture farming often makes cropfields more susceptible to soil erosion, weather disasters, and outbreaks of disease and pests, all of which ultimately reduce yields and increase the expense of farming. Farmers who plant a variety of crops can improve their cropland productivity while increasing the carrying capacity of their farms for wildlife. Incorporating small grains and grass and/or clover plantings into crop rotations can reduce soil erosion, improve soil fertility and texture, and provide wildlife habitat.

The Natural Resource Conservation Service (NRCS) offers assistance to farmers in designing crop rotations to reduce soil loss from wind and water erosion. Farmers interested in wildlife should request crop rotations that also benefit wildlife.

Strip and Contour Cropping

Strip cropping is often used to reduce soil erosion. Strips of row crops (corn, soybeans, etc.) are alternated with strips of small grains (oats, wheat, etc.) or meadow crops (alfalfa, clover, or grass). Breaking up large fields into strips planted to a variety of crops not only saves soil but also increases the amount of edge available for wildlife within the fields. Edge is the area where different types of vegetation meet; it provides the greatest variety of food and cover for wildlife. The more edge a field contains, the greater variety of wildlife the field can support.

On sloping terrain, strips of crops should be planted following the contour of the land. Contouring also helps to reduce the amount of soil eroding into streams and improves water quality.

Cover Crops

Thirty years ago, farmers commonly planted one-fourth of their cropfields to a cover crop, which was often referred to as a green manure or plow-down mixture. Grasses and legumes were seeded in many fields solely to be plowed back into the soil as a source of nutrients and organic matter. Fields of timothy or red clover were first harvested for seed and then plowed under to improve soil structure and provide nutrients.

Advances in farming technology have effectively eliminated the use of manure crops. Today's nutrients are synthetic and, on many farms, the only organic fibers entering the soil are the roots of last year's crops.

Cover crops of grasses and legumes in a crop rotation can provide nutrients (by nitrogen fixation) and organic matter to improve the soil quality. Left undisturbed, these same cover crops will give wildlife a place to roost, nest, and raise their young. A grass and/or legume cover should always be planted on crop ground that is temporarily or permanently out of production. The planted cover will suppress weeds, improve soil conditions, and furnish food and cover for wildlife.

HARVESTING TECHNIQUES

Crop harvesting techniques can directly affect the type and number of wild animals on the farm. Choosing the right time, methods, and equipment can help minimize negative impacts to wildlife.

Row Crops

Row crops such as corn and soybeans provide some of the most important foods for wildlife. Waste grain left after harvest is used throughout the winter by many species, although under ice or snow cover this grain may be unavailable to wildlife. One remedy is to leave 4-10 rows of crops unharvested adjacent to protective permanent cover such as fencerows, brushlands, woodlots, or wetlands. These outer rows are usually less productive, but they can be very productive for wildlife. Corn is especially good for this purpose since it will be held above winter snow and remain available all winter. Refer to the *Food Plots for Wildlife* publication for additional information.

Small Grains

Small grain fields are not as productive as hayfields, but may be used by ground nesting wildlife. The less you disturb fields of small grain during June, July, and August, the greater the likelihood that nests will hatch successfully. When harvesting grains, set combine blades high to retain as much stubble as possible. Fewer nests will be destroyed and cover will be left for renesting.

Wheat and oats are eaten by bobwhite quail and mourning doves. Coveys of quail often roost in small grain fields on warm summer nights. Don't harvest small grains after dark; birds rarely fly at night, and harvesting after dark will often destroy roosting birds.

Hay Crops

Alfalfa, clover, and grass fields are important in any crop rotation. They not only yield forage and reduce soil erosion, but also offer attractive areas for wildlife to nest and brood their young. Unfortunately, hay harvesting schedules coincide with the peak nesting period for pheasants, quail, and a variety of grassland nesting songbirds. Haying operations destroy tens of thousands of nests in Ohio each year. Alfalfa can be mown, regrow and be mown a second time before most grass nesting birds can produce young. Most hay management practices that benefit wildlife reduce the quantity or quality of hay, and are not well received by farmers. Landowners must often choose between management of a hayfield for wildlife or livestock. Most grassland birds nest from June to August and must be free from disturbances such as mowing to produce a successful clutch of young.

GRASS WATERWAYS AND TERRACES

Grass waterways and terraces were much more common years ago when farming was more of a small family operation. Today's farming is large agribusiness, meaning larger fields and equipment. The larger the equipment, the easier it is to plow through waterways and the harder it is to stay off terrace slopes. Ironically, on today's bigger cropfields, grass waterways and terraces are needed more than ever before. Large cropfields and increased row cropping have resulted in soil erosion which in some areas of the state exceeds 40 tons of soil per acre per year. Most Ohio soils should not exceed five tons of soil erosion per acre per year if they are to maintain their productivity. More than two-thirds of Ohio's cropland today needs some type of conservation tillage to reduce soil loss.

The value of grass waterways and terraces for wildlife is directly related to the type of grasses and legumes seeded. Fescue (Kentucky 31 Tall and Creeping Red) is frequently used on grass waterways because of its soil holding capacity and ability to withstand intermittent flowing water. However, fescue is an extremely poor grass for wildlife. If fescue is seeded on waterways or terraces, keep the seeding to only those areas where water flow will be heavy or slopes are steep (3:1). The remainder of the waterway or terrace should be seeded to grasses and/or legumes that provide better food and cover for wildlife (smooth brome grass, timothy, red clover, or alfalfa). Grass waterways and terraces should be mowed between August 1 and 15. This will allow most nests to hatch and permit enough regrowth to provide cover in fall and winter.

FIELD BORDERS AND WINDBREAKS

Some of the best wildlife habitat on your farm can be found along field edges. These areas often furnish food and cover for wildlife when the rest of the farm is cold and desolate. Field borders and windbreaks, if properly vegetated, reduce soil erosion, protect crops and livestock, conserve moisture, trap drifting snows, and act as travel lanes for both farm machinery and wildlife.

Field Borders

The best field borders for wildlife contain only a few individual trees, preferably mast producers such as apple, plum, walnut, oak, hickory, and hawthorn. The heart of a good field border should be a variety of berry producing shrubs ranging in height from a few feet to over 15 feet. The greater the variety of shrub species in the fencerow, the greater the diversity of food and cover for wildlife. On either side of this shrub corridor, a 5- to 20-foot area of mixed grasses and legumes should be seeded. In time, this area will be invaded by a variety of native annual and perennial plants. Thus, a good wildlife border containing all the above types of vegetation should be a minimum of 30 feet wide and can be 70 feet wide or more.

Songbirds, game birds, and mammals all utilize field borders for traveling, nesting, brooding young, roosting, and loafing, and for escape cover from predators and severe weather. Improving field borders can go a long way toward improving wildlife populations.

Field Windbreaks

Field windbreaks can serve a wide variety of purposes: reducing wind erosion, trapping drifting snow, conserving moisture, protecting crops, livestock, and houses, screening out undesirable sights and sounds, and providing cover and food for wildlife. A windbreak can be as simple as several strips of tall grass dividing a large cropfield. In Ohio, however, the most common type consists of two to five rows of conifers (pine and/or spruce) together with one or two rows of adjacent shrubs. See Figure 1.

Figure 1. Windbreak

Windbreak plantings benefit wildlife long before they attain their full capacity to reduce wind velocity. Wildlife will begin using a new windbreak the year it is planted and continue throughout the life of the windbreak. Conifers planted alone provide excellent winter and escape cover for wildlife, but do not provide much food. When managing for wildlife, always plant one or two rows of berry producing shrubs adjacent to the evergreens. For best results, select plants that are adapted to the planting site. Don't mow your windbreak beyond the one or two years it takes to establish the seedlings. The grasses and forbs that grow there will add to the effectiveness of your windbreak by reducing winds at ground level and providing additional food and cover for wildlife. Refer to the *Planting Trees and Shrubs for Wildlife* publication for additional information.

IDLE CROPLAND

All or portions of a cropfield may lay idle for one or more growing seasons for a variety of reasons. Federal farm programs administered by the U.S. Department of Agriculture (USDA) often include some type of cropland retirement. Retired acreage has averaged over 400,000 acres in Ohio in recent years and, if managed for wildlife, this program alone could dramatically increase wildlife populations. A landowner may choose to take land out of production due to the farming rotation, to reduce the size of the operation, or to manage specifically for wildlife habitat.

Federal Farm Programs

The USDA may or may not require that a cover be planted on crop ground idled as part of a federal farm program. It is to your benefit to establish a cover crop for erosion control and improve a soil quality. Small grains, grasses, and clovers can be used to enhance soil conditions, control weeds, and create wildlife habitat. Grass/clover mixtures are especially good for adding nutrients to the soil. They also furnish nesting and brood rearing cover for many species of birds and mammals. Wildlife benefits most if the cover is left undisturbed. If mowing (or plowing) is necessary, it should be delayed until August 1, when most grassland wildlife have completed their nesting cycle. It is best if some areas of grass are left standing during the winter and into the spring, to act as early nesting habitat for the following year.

The USDA requires that noxious weeds such as Canada thistle and Johnson grass be controlled on lands enrolled in federal farm programs. Spot mow or spot spray only the problem areas and leave the remainder of the field undisturbed for wildlife habitat.

Other Idle Cropland

Land taken out of production at the landowner's option can be managed in much the same way as land retired through a federal farm program. Permanent grass/clover cover can be established and maintained with a minimum of mowing.

For details on seeding grasses and clovers on cropland, refer to the publication *Grassland Habitat Management for Wildlife*. The NRCS can provide additional information on grass/clover seedings for soil erosion control and establishment of wildlife habitat.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE

OHIO DEPARTMENT OF NATURAL RESOURCES

www.ohiodnr.com

An Equal Opportunity Employer - M/F/H
Bob Taft, Governor • Samuel W. Speck, Director • Michael J. Budzik, Chief
Publication 391 (R402)