

Planting Trees and Shrubs for Wildlife



All wild animals have the same basic needs for survival: water, food, and shelter. These are all necessary elements of an animal's habitat. In Ohio, water is normally available in sufficient amounts for wildlife through natural sources. However, in many parts of the state the food and shelter requirements of many animal species are not being met. Changing land uses such as industrialization, urbanization, and intensive farming have reduced the quantity and quality of wildlife habitat.

One way to reverse these trends is for landowners to reestablish wildlife habitat on their properties. Food and shelter requirements of many wildlife species can be provided by planting trees, shrubs, and vines.

Planting for wildlife may be as simple as a backyard wildlife landscaping scheme (refer to the *Urban Landscape Management for Wildlife* publication) or as extensive as a habitat development plan covering hundreds of acres. No matter what the size of the property, the goal is the same – to provide habitat for wildlife.

To ensure that all habitat needs are met and that the plantings will provide maximum benefits to wildlife, proper planning, planting, and maintenance are necessary. These steps will also lead to a landscape that provides years of satisfaction to the landowner.

PLANNING THE PLANTINGS

A well planned planting of woody species can fulfill the needs of wildlife while meeting other goals (e.g., recreational opportunities such as bird watching or hunting). Wildlife plantings can also serve as windbreaks, hedgerows, sight and sound barriers, shade producers, erosion controls, and components of a reforestation plan.

What to Plant

When choosing plants for a habitat planting project, you must consider several things: (1) which animals you want to attract, (2) which animals normally occur in the area and what their specific habitat requirements are, (3) what purposes, other than wildlife habitat, the plantings are to serve, and (4) which plants will do well on the property.

The type of wildlife you can attract will depend on two factors: which animals are native to the area and the current land uses in the vicinity. For example, bluebirds may be plentiful in a county and rural landowners may be able to attract them easily. City lot owners in the same county, however, should not expect to see bluebirds in their yards because bluebirds prefer open habitats.

To attract and hold the desired animals, you must provide food and shelter year-round. In general, the greater the habitat diversity, the greater the variety of wildlife that will be attracted to a property. A diverse habitat is more likely to provide the needs of wildlife year-round. Table 1 shows trees, shrubs, and vines that can be planted in Ohio to benefit wildlife. Included is information on food and shelter value, soil and light requirements, and origin of the plant (native or nonnative).

When selecting plants, consider what other uses the planting might serve. Evergreen trees that furnish year-round cover for wildlife are also useful in windbreaks and screen plantings. Some berry producing shrubs have attractive flowers and can be planted singly or in hedgerows. Various nut producing hardwood trees provide shade and have timber value. Shrubs with extensive root systems help hold soil in place. Fruit producing vines grow in areas of limited space.

You must also decide whether to use native or nonnative plant species in the planting. Each type has its advantages and disadvantages. Native plants are best adapted to Ohio conditions and usually require less maintenance. Unfortunately, native plants may be difficult to find and expensive. Nonnative plants are easy to find but may not survive as well if they are not adapted to this region. Some introduced plants have become problem weeds. Many common weeds are nonnative species.

Both native and nonnative plants can provide good food and cover for wildlife if properly used. The choice is up to you. A general rule to follow is: Use only native plants when planting a large acreage, especially if the area is not going to be intensively maintained. Nonnative plants should be reserved for planting smaller lots and lawn areas that are regularly maintained.

Table 1. Plants used by wildlife, and the plant's requirements.

Plant Species	Use by Wildlife ¹	Type of Food	Time Available	Food for				Soil Moisture ²	Light Tolerance ³	Native to Midwest
				Game Birds	Nongame Birds	Deer	Small Mammals			
TALL TREES										
Oak (red, white)	F	Nut	Sept-Nov	●		●	●	M-D	LSd-Sn	Yes
Beech	F,S	Nut	Sept-Oct	●	●	●	●	M	LSd-Sn	Yes
Black locust	F,S	Pod	Sept-Apr				●	M-W	Sn	Yes
Hickory (shagbark)	F	Nut	Sept-Dec				●	W-D	LSd-Sn	Yes
Black walnut	F	Nut	Sept-Mar				●	W	Sn	Yes
Chinese chestnut	F	Nut	Sept-Oct		●		●	W-D	Sn	No
Norway spruce	S							M	Sn	No
Pine, white	S							W-D	LSd-Sn	Yes
Pine, red	S							W-D	Sn	Yes
Pine, Austrian	S							M-W	LSd-Sn	No
SMALL TREES										
Flowering dogwood	F	Fruit	Aug-Dec	●	●		●	W-D	LSd-Sn	Yes
Apple & crabapple	F	Fruit,browse	Sept-Mar	●	●	●	●	M-D	Sn	No
Plum (wild, others)	F	Fruit	Jun-Aug		●		●	W-D	Sn	Yes
Mountain ash	F	Fruit	Aug-Mar		●			M-D	Sd-LSd	No
Hawthorn (Washington)	F,S	Fruit	Oct-Mar		●			M-D	Sn	No
Mulberry (red, white)	F	Fruit	Jun-Jul	●	●		●	M	Sn	*
Holly (American, others)	F,S	Fruit	Sept-Apr		●		●	W	LSd-Sn	Some
Blackhaw	F	Fruit	Sept-Nov	●	●			W-D	LSd-Sn	Yes
TALL SHRUBS										
Common juniper	F,S	Fruit	Aug-Mar	●	●			D	Sn	No
Canada yew	S							D	Sn	Yes
Dogwoods (gray, silky, red-osier)	F,S	Fruit,browse	Aug-Oct	●	●	●		M-D	Sn	Yes
Viburnums (cranberry, others)	F,S	Fruit	Sept-May	●	●			M-W	LSd-Sn	Some
Sumac (smooth, staghorn)	F	Seed,browse	Aug-Mar	●	●	●	●	W-D	Sn	Yes
Hazelnut	F,S	Nut	Sept-Nov	●		●	●	M	Sn	Yes
Common alder	F,S	Seed,browse	Sept-May	●		●		M	LSd-Sn	Yes
Chokeberry	F,S	Fruit	Sept-Jan		●		●	M-D	Sn	Yes
Elderberry	F	Fruit	Jul-Aug	●	●			M-W	Sn	Yes
LOW SHRUBS										
Blackberry	F,S	Fruit	Jun-Aug		●		●	M-D	LSd-Sn	Yes
Raspberry	F,S	Fruit	May-Jun		●		●	M-D	LSd-Sn	Yes
Rhododendron (several varieties)	F,S	Fruit,nectar	Jul-Sept		●			M	Sd	Some
VINES										
Bittersweet	F	Fruit	Sept-Mar	●	●			W-D	LSd-Sn	Yes
Grape (wild, cultivated)	F,S	Fruit	Aug-Oct	●	●		●	M-D	LSd-Sn	Yes
Virginia creeper	F,S	Fruit	Sept-Jan	●	●		●	M-D	Sd-Sn	Yes
Greenbrier	F,S	Fruit,browse	Sept-Jan	●	●	●	●	W-D	Sd-Sn	Yes
Trumpet creeper	F,S	Nectar	Jul-Sept		●			M-D	Sn	No

¹ F=Food, S=Shelter² M=Moist, D=Dry, W=Well drained³ Sn=Sun, Sd=Shade, LSd=Light Shade

* Mulberry: red-native; white-nonnative

Where to Plant

Where plants are located can be as important as what species are planted. In general, it is best to have food and shelter plants next to one another. A shrub that is loaded with berries is more likely to be used by wild animals if it is near protective cover such as evergreen trees.

Other considerations in choosing the planting site are: (1) mature size of the plants – widespreading plants should not be located too close to buildings, driveways, or other plants; (2) shade tolerance – sun loving plants shouldn't be planted in partially wooded lots; (3) utility easements – do not plant under or over wires, cables, or pipelines; (4) soil conditions – if soils are wet and low in fertility, don't plant species that require well drained fertile sites; (5) plant compatibility – the plants chosen should look good and grow well together.

The general layout of the plantings will depend on your own preferences. Random plantings are more natural looking, but straight row plantings may be easier to maintain.

Mapping out intended plantings will enable you to visualize the finished project. Any necessary alterations will become apparent and can be made before you start to plant.

When to Plant

Time of planting depends on the plant species chosen and the size of stock used. The size of stock will depend on the amount of time and money you wish to invest and how anxious you are to see results.

Seedlings are often only 6-24 inches tall and are usually sold as bare-root stock (i.e., the packaging doesn't include soil). Plantings are made as soon as the ground thaws in spring. In Ohio this is usually during the first part of March. Most seedling stock can be planted through May.

You should preserve bare-root stock that can't be planted immediately by a technique known as "heeling in." Heeling in means digging a shallow ditch and placing the planting stock in it, in small bundles or a single layer. The roots are then entirely covered with soil and moistened to prevent them from becoming dry. During the next few weeks, as time permits, the stock can be removed and planted in a permanent location. Do not leave plants heeled in until the following year. The root systems will become so entangled the young plants can't be separated without damaging the roots.

Larger stock is usually obtained with the root system surrounded by the soil in which it grew. It is often wrapped in burlap or placed in a container. This more mature stock can be planted in spring or fall. Fall plantings can be made as soon as the weather starts to cool and/or the plants become dormant (late September). Planting time continues until the ground freezes. Spring plantings should be done as soon as the ground thaws.

Where to Get Planting Stock

Trees, shrubs, and vines can be obtained from a variety of sources. Several government agencies make planting stock available to landowners. The Ohio Department of Natural Resources, Division of Forestry, annually provides trees and shrubs. The Division of Forestry carries evergreen and hardwood trees which can be purchased in mass quantities. Contact the Division of Forestry office at 1855 Fountain Square Ct., Bldg. H-1, Columbus, OH 43224. The Soil and Water Conservation Districts in some counties sell planting stock. Many carry packages for use in wildlife plantings. Look in the telephone book under county government offices for the number of your Soil and Water Conservation District.

Plants and seeds can be purchased from local nurseries or ordered by mail from commercial growers all over the country. Refer to Division of Wildlife Publication 308, *Wildlife Habitat Planting Stock Sources*. Local department stores with garden shops may carry woody plants suitable for wildlife plantings.

Transplanting from wild sources is another way to get the desired plants. However, this can be time consuming and you must first obtain permission from the owner of the plants.

Some landowners prefer to start their own planting stock nursery, using seed or bare-root stock. The plants are transplanted to a permanent site a year or more later, once they are larger. This works well for plant species that are typically hard to establish due to grass or weed competition. It is not recommended for large numbers of plants because of the time required for transplanting.

HOW TO PLANT WOODY PLANTS

Proper planting technique will help to ensure the survival of young planting stock. Plants must be spaced far enough apart to prevent overcrowding but close enough to create the desired effects. Twine or rope that has been calibrated with the appropriate spacing can be used for making straight row plantings. The following chart shows recommended spacings for various woody plants.

Type of Tree or Shrub	Spacing (in feet)	Number per acre
Tall deciduous trees	10 x 10 to 12 x 12	436 to 302
Evergreen trees	8 x 8 to 12 x 12	681 to 302
Small deciduous trees	6 x 6	1,225
Evergreen shrubs	4 x 4 to 6 x 6	
Deciduous shrubs	3 x 3 to 6 x 6	

*Shrubs should be planted in hedgerows or in small, scattered clumps, not by the acre.

Once the site and spacing have been decided upon, it is time to put the plants in the ground. Tools needed include a bucket with water and either a shovel, a mattock, or a specialized planting tool called a dibble bar. Tractor operated planters can be used for planting large numbers of trees or shrubs. Such planters are available through the Division of Wildlife, the Division of For-

estry, and through some Soil and Water Conservation Districts and farm implement dealers. Here are the steps for planting bare-root stock by hand:

1. Carry seedling stock in a bucket of water, not in bare hands. Drying of the roots will kill the seedlings.
2. Make an opening that will readily accommodate the root system of each plant.
3. Place the seedling in the ground at the same depth that it grew in the nursery or 1/2 inch deeper).
4. Cover with soil.
5. Firm soil with foot.

Figure 1 shows how to use a dibble bar. Bars can be purchased at some nurseries and garden stores.

Once the plants are in the ground, mark their locations. Many young seedlings die every year from lawn mower cuts; well marked plants are less likely to be accidentally mown. Individual plants can be marked with flagging tape; rows of plants can be designated by using wooden stakes with the tops brightly painted. Commercially made marking flags (small squares of plastic on 30-inch wires) are available from some of the same sources as the planting stock.

MAINTAINING YOUR PLANTINGS

A properly maintained wildlife planting will increase plant growth and produce optimum food and shelter for wildlife. Watering is usually not necessary or practical for bare-root stock planted early in the spring.

Young plants can be protected from unwanted plant competition by mulching, mowing, and using herbicides. Mulching is practical only for plants put out in small numbers. Commercial mulches such as peat, bark, straw, wood chips, and plastic can be used. Home mulches such as leaves, grass clippings, and garden compost can be used as well.

Mowing around individual plants is time consuming but can be beneficial to plant growth during the first year or two. The decision to mow will depend on the time available and the number of trees planted. Care must be taken not to damage young plants. Remember, well marked plants are less likely to be mown accidentally.

Several chemical herbicides are listed for use with woody plants. Some are applied prior to planting, others after the plants are in the ground. Chemicals should be used with extreme care. Improperly used, they can be harmful to the woody plants, pets, livestock, wildlife, and people. Container labels should be read entirely and followed strictly. The Cooperative Extension Service can be of further assistance on the proper use of herbicides.

Fertilizing young plants is not recommended. If not properly applied, fertilizers can burn the plants. They also may encourage the growth of competing vegetation. An increase in plant growth will seldom justify the cost of fertilizers.

As plants mature, especially those around a house, their size and shape may become less than desirable. Pruning may be required. Be careful not to overdo – some plants produce fruit from the prior year's growth. Don't remove the lower branches of evergreen trees; ground dwellers such as rabbits, quail, and chipmunks find protection there. Heavy pruning should be done only to regenerate the growth of older shrub plantings such as those in a woodland border, fencerow, or hedge.

SUMMARY

When making plantings for wildlife, keep the basic needs of food and shelter in mind. Plan the habitat development project well and don't take on too much at one time. Develop a planting plan to cover a period of several years. Do a little each year. Then spend the rest of the time enjoying the wild animals that are attracted to your property.

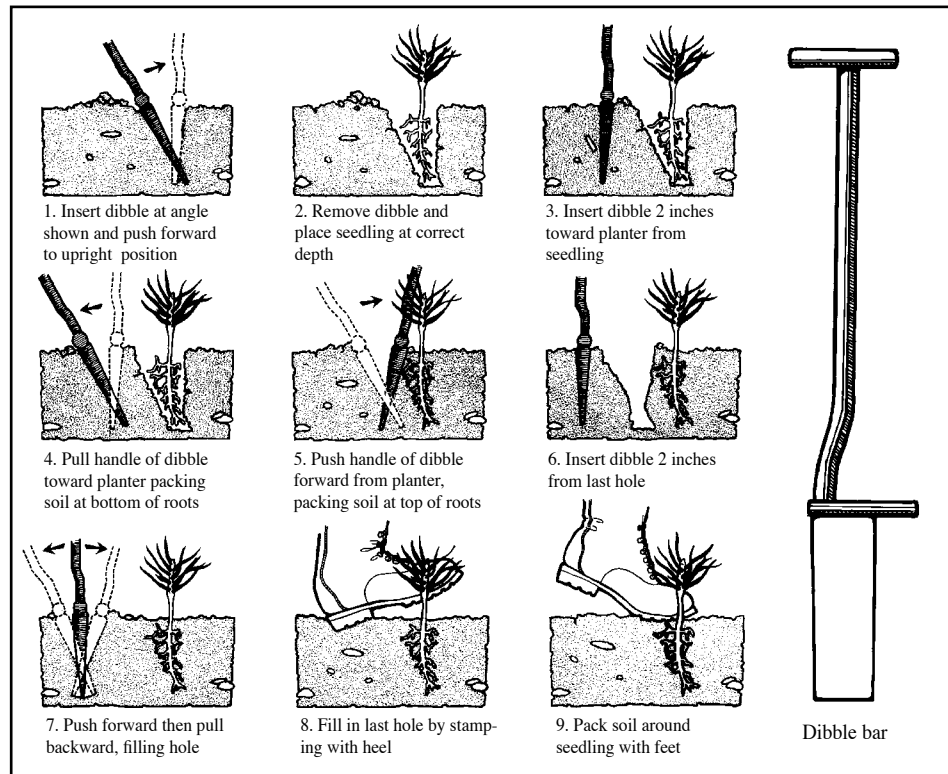


Figure 1. Planting with dibble bar