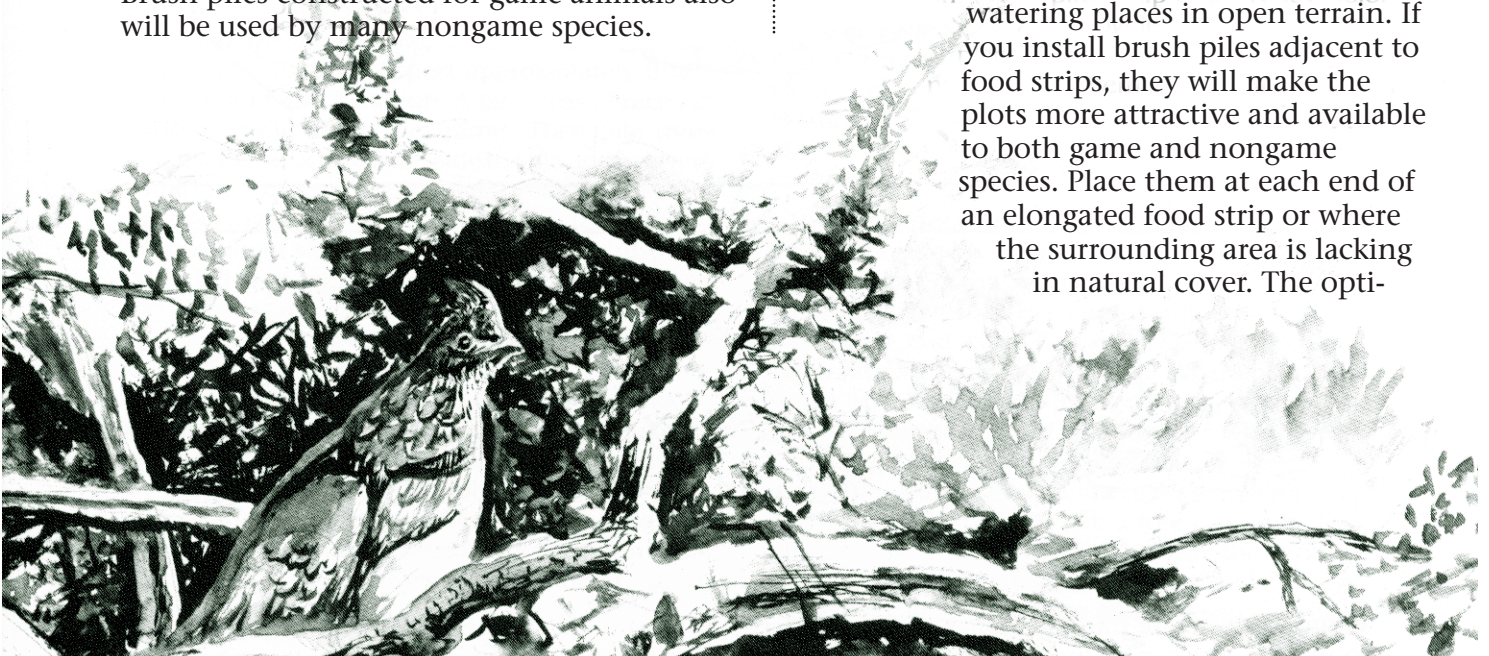


## Wildlife Management: Brush Piles

Adequate resting and escape cover is critical to proper management of ground-nesting birds, rabbits, and other small game. Although living brush is preferable, in most cases you can build artificial brush piles to supply immediate shelter for many species where natural cover is limited. Artificial brush piles conceal and protect wildlife from predators and the weather, and they establish a medium for seed germination and plant growth. Construction of brush piles has most often been recommended for management of the bobwhite quail and cottontail rabbit. Brush piles constructed for game animals also will be used by many nongame species.

### Where Should You Build a Brush Pile?

Suitable locations for brush piles include open fields and rangeland, fence corners, field edges and shoulders, gullies, woodland borders, clearings, and other sites adjoining feeding and nesting cover. Brush piles help to prevent erosion and provide wildlife cover when placed along the head of a gully, but never place them in the middle of an eroding wash. They may also be appropriate near impoundments, stock ponds, potholes, and other watering places in open terrain. If you install brush piles adjacent to food strips, they will make the plots more attractive and available to both game and nongame species. Place them at each end of an elongated food strip or where the surrounding area is lacking in natural cover. The opti-



mum distance between brush piles, or between existing quail cover and brush piles, should be from 200 to 300 feet, but will vary according to site characteristics and target species. When properly constructed and located, brush piles can serve as a versatile management technique for wildlife in a variety of farm settings.

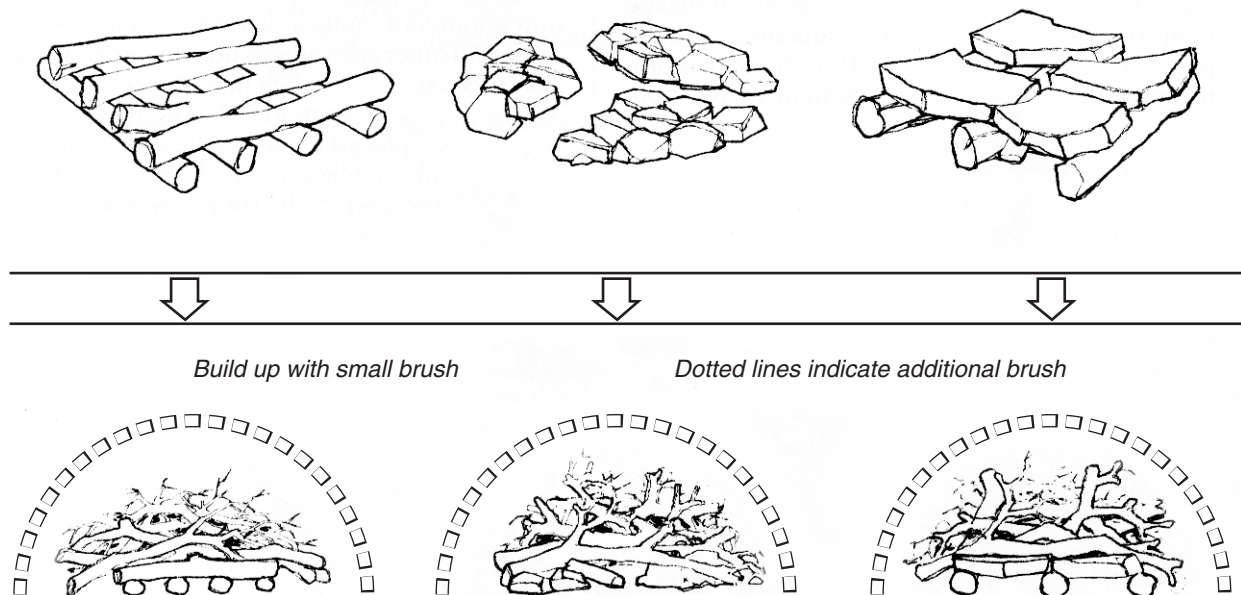
## What Materials Do You Need?

You can build brush piles from materials available in the vicinity of a site. Oaks, locust, and other rot-resistant trees make durable bases. Other suitable materials include large stumps, cull logs, old fence posts, large stones, metal grills supported by cinder blocks, and tractor tires. You may use small trees and limbs of almost any species as filler material.

## How Do You Build a Brush Pile?

Build your brush piles during the dormant growth season. If possible, the work should

accompany clearing or thinning operations to eliminate extra handling and travel costs. Land management practices that provide suitable material include timber-stand management, brush control, pasture or cropland clearing, release-cutting, pruning, fence repair, and clearing of fire lanes and openings. Brush piles are usually mound- or teepee-shaped, with the largest material forming the base and layers of smaller limbs and branches added as filler. When using woody material, the base should consist of sturdy trunks or limbs at least 6 inches in diameter. To make the base, place two to four layers of logs at right angles (logs should be about 4 to 6 inches apart on each layer), or bring the butt ends of four trees together so that the canopies form an outer circle. Brush clippings should cover the base and touch the ground and allow approximately 6 inches of clearance at several points along the base to admit quail (Figure 1). The size of brush piles depends on specific functional requirements for target species, such as headquarters for quail or emergency cover for small game in feeding areas. A headquarters should normally be from 6 to 7 feet tall and at least 15 feet in diameter (base); structures 24 to 36 feet in diameter provide the best headquarters. You



**Figure 1.** Here are three examples of different types of brush piles. Whatever type of material is used to make a brush pile, the most important step is to criss-cross the material as shown in each of the examples.

can also install smaller brush structures on quail range to provide escape cover while tree and shrub plantings are being established. Brush piles designed for escape cover should be from 4 to 5 feet tall and approximately 10 to 12 feet in diameter, but smaller piles may be built where woody cover is sparse. Brush piles designed for rabbits should be from 4 to 7 feet tall and approximately 10 to 20 feet wide.

## Constructing Christmas Tree Brush Piles

The basic structure for a Christmas tree brush pile is an A-frame built from available scrap lumber. Poles, logs, and branches can be used for A-frame construction just as effectively as milled lumber, as long as they can be secured together. To build the brush pile, wire and nail lumber together to form a support approximately 8 feet wide and 8 to 20 feet high. Attach cross braces at various levels along the frame. Then pile trees against the structure from side to side and in layers within the frame. This layering provides covering for many species. There is also greater freedom of movement within the pile for small birds, and the dried pine needles create a floor ideal for nesting by other animal species. These structures are pleasing to the eye year round because the trees remain green through the winter and into the early summer. Additionally, Christmas trees are readily available in January of each year. Time and cost for pickup will be reduced by publicizing a disposal point where local residents can take their trees; unsold trees also may be collected from Christmas tree lots. Be sure that all tinsel is removed from the trees before using them for brush piles.

## Constructing Living Brush Piles

You can provide supplemental cover for small game by half-cutting trees and shrubs so that their tops or branches touch the ground. The practice is also referred to as top-cutting, top-pruning, or cut-and-bend. The desired result is a living brush pile that can function as shelter for quail and other small game. Half-cutting is most appropriate on

sites where woody plants have lost their lower limbs and ground-level loafing and escape cover is sparse or absent. The technique is simple to apply and requires minimal cost and time commitment.

**Settings.** Appropriate settings for half-cuts include woodland edges, tree-lined fencerows, and stands of trees in open areas such as pastures. The technique should be considered also for edge improvement along rights-of-way, in forest openings, and adjacent to food plots and other plantings. Patterns can range from staggered cuts along an edge to a series of trees or limbs dropped in a checkerboard design. Individual oaks and elms often provide sufficient cover when only one is cut. Spacing should be a maximum distance of 300 feet from other half-cuts or suitable ground cover.

**Tree selection.** You can make half-cuts on a variety of trees that break off cleanly when the top is felled. Suitable species include hackberries, elms, hawthorns, oaks, willows, and tall shrubs. Many other species also may be candidates for half-cutting. When possible, select trees that harbor fruit-producing vines; this will increase the value of half-cuts by making additional food available at ground level. Make your half-cuts either on the main trunk or on the lower branches of a tree or shrub. The objective is to get cover on or near the ground without killing the plant being treated. Always make the cuts in the spring after the sap has risen and leaves have matured. If you use large trees, cut them when they are resilient but not too full of sap. When you top whole trees, cut the trunk with a chain saw or buck saw from 3 to 5 feet above the ground, opposite the desired direction of fall. Make the cut just deep enough so the top can be pushed over, leaving a connecting strip of living bark. These shelters have a functional life dependent on continued tree growth. If the half-cut results in tree death, the cover still has some value for screening the loafing activities of quail.

**Flat-topped shelters.** Flat-topped shelters may be constructed by top-cutting trees growing close together along an edge or fencerow. Cut the trees from 20 to 30 inches above the ground and lay them over each other so that trunks of earlier cuts support each later treatment. Scrubby species, such as



hackberry, are suitable for this treatment. On conifers too large and old for top-pruning, and on some deciduous trees, cut and bend the lower limbs to form an umbrella of cover. The use of living brush piles is a cost-effective technique for managing small-game species, especially bobwhite quail. These structures should not be used as the only management effort, but should always be used in conjunction with other practices designed to improve food, cover, and water resources.

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### Reviewed by:

Peter S. Jayne  
Eastern Region Manager  
Maryland Department of Natural Resources  
Forest, Park and Wildlife Service

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**Fact Sheet 597** Introduction to Wildlife Management

**Fact Sheet 598** Planting Crops for Wildlife

**Fact Sheet 599** Brush Piles for Wildlife

**Fact Sheet 600** Field Border Management

**Fact Sheet 601** Eastern Cottontail Rabbits

**Fact Sheet 602** Bobwhite Quail

**Fact Sheet 603** Ring-necked Pheasants

**Fact Sheet 604** Ruffed Grouse

**Fact Sheet 605** Mourning Doves

**Fact Sheet 606** Eastern Wild Turkeys

**Fact Sheet 607** Tree Squirrels

**Fact Sheet 608** Black Bears

**Fact Sheet 609** Wood Ducks

**Fact Sheet 610** Dabbling Ducks

**Fact Sheet 611** Diving Ducks

**Fact Sheet 612** Canada Geese

**Fact Sheet 613** Songbirds

## Wildlife Management: Brush Piles

by

Robert L. Tjaden

Assistant Director, Agriculture and Natural Resources

University of Maryland, College Park

Jonathan Kays

Extension Natural Resources Specialist

Western Maryland Research and Education Center

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