



# Structures for Wildlife (Brush Piles)

## Conservation Practice WV Job Sheet

Code 649



### Definition

Habitat structures in the form of brush piles, typically created by piling tree limbs or branches or by felling trees.

### Purpose

To create nesting and escape cover for small mammals, reptiles, and birds.

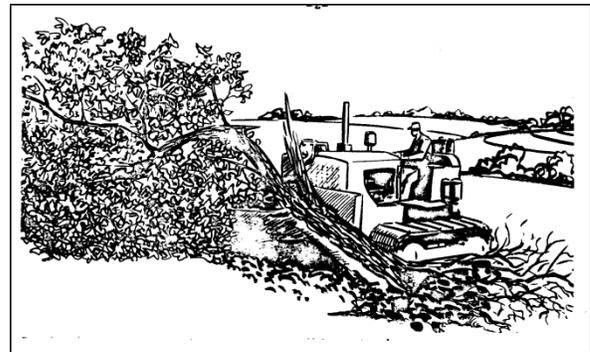
### Conditions Where Practice Applies

This job sheet pertains to the creation and establishment of brush piles for wildlife. Brush piles may be constructed as supplemental habitat where the establishment of woody shrubby thickets is not practical; or temporary habitat until permanent shrubby vegetation may become established.

Conservation and maintenance of nesting and escape cover is an important element of habitat management. Preserving existing hedgerows, dense grasslands, low-growing shrub and briar thickets, field borders and brushy cover along open field habitat is essential for an area to support small game and early successional stage specie populations. Disturbances to these areas such as mowing, disking or clearing of vegetation should be kept to a minimum. Where possible, allow vegetation to grow freely and avoid agricultural activities during the peak nesting season (February to September). Occasional mowing, disking, and burning are beneficial management practices as they promote regeneration of

succulent grasses and other preferred forage vegetation. However, such disturbance should be conducted on a rotational basis and be implemented outside the nesting season when possible. Refer to other appropriate job sheets for more specific information.

When natural cover is limited in wildlife habitat, brush piles may be provided. For cost efficiency, brush piles may be a by-product of other land management activities, rather than a specific practice. Timber harvest, timber stand improvements, pasture or cropland clearing, and firewood cutting all provide woody limbs suitable for brush piles.



Brush piles are frequently constructed as a byproduct of other land management activities.

In addition to the existing vegetation, brush piles can also improve and supplement an area's habitat composition by providing nesting and escape cover especially for rabbits and small mammals.

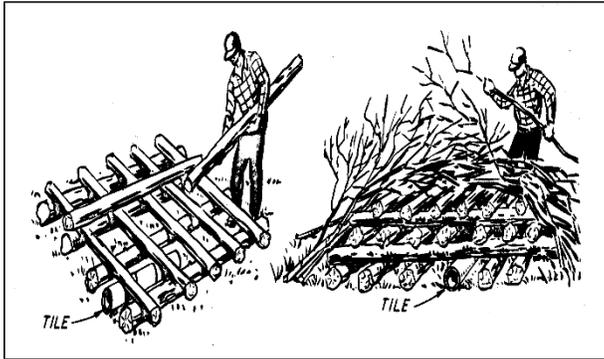
In some instances brush piles can provide nesting sites for insects such as bumble bees. Bumble bees are the native species usually considered to be social. They will



also nest in small cavities, such as abandoned rodent nests under grass tussocks or in the ground.

## Construction

Brush piles are constructed by piling brush and loose branches on top of a base frame comprised of larger logs or tree trunks (See Figure 1).



**Figure 1 – Brush Pile Construction**

The base of the pile is constructed by stacking logs perpendicular to and on top of one another to create a sturdy crisscross log cabin-like structure with a height of 12 to 20 inches. Some of the base logs can be as close as 3 inches apart. Old and discarded fence posts serve as good base materials. The largest diameter boughs should be on the bottom. Cinder blocks, stumps, pallets or similar materials can be used to elevate the base up to eight inches off the ground to prevent the acceleration of weather rot and enable larger mammals like cottontails to enter the pile. The crown is constructed by piling loose branches on top of the base to create a tangled pile of brush.

If utilizing wooden pallets as a base, place five pallets in a “cross” shape and cover with woody material as described above.

Using freshly cut stumps as the base and the tree tops for brush piles can have the added benefit of increasing coppice sprout survival if the pile is placed over the cut stumps. This prevents deer damage to the new sprouts.

A four-foot long piece of drainage tile or PVC pipe may be placed under the base to enable cottontails or other small mammals to easily enter the pile. The diameter of the tile or pipe should not exceed six inches (6”) to preclude foxes and other predators from entering the pile.

## Size

Brush piles can be constructed of various sizes according to the habitats in which they are placed. However, piles 12 to 18 feet in diameter and three to six feet in height are best in order to enable multiple

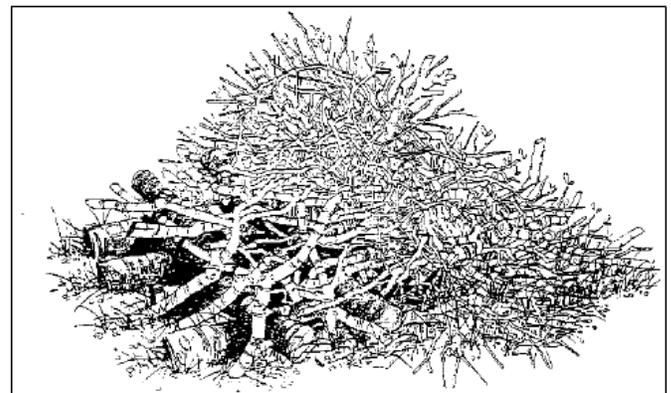
individuals and species to occupy a single pile. Smaller brush piles are acceptable when moderate use is expected. Small brush piles can always be enlarged later as use increases.

## Placement

Properly locating brush piles within an area is important. They should allow relatively safe access to food sources and permit wildlife to forage over a larger area. Brush piles should be placed at intervals near feeding areas, along field borders and within idle fields or abandoned areas.

Avoid the bottoms of drainages and low spots where standing water might render the brush pile useless.

Well constructed brush piles can have a life span of as much as 10 years, and proper placement can promote use by eastern cottontails as well as many different species of songbirds, insects, and other animals.



**Illustration of a properly constructed brush pile.**

Brush piles should be placed along hedgerows, briar thickets, windbreaks, and within dense grasslands when additional brushy cover is nearby. Improper placement of a brush pile (e.g., isolated and distant from tall grass and other forms of escape cover) can potentially create a “predator trap” for cottontails and other prey species due to increased access by predators. Brush piles help to establish a balance between predator and prey species within an area, but improper placement can cause a brush pile project to be counterproductive.

Lands managed for timber can benefit rabbits, small mammals and birds when slash from harvested trees is left as brush piles. Tree tops and branches assembled into windrowed piles following harvest or the creation of forest openings can provide excellent cottontail cover for several years.

Windrowed piles should to the extent possible be constructed in the same manner as standard brush piles with the log cabin-like base and loose material piled as the canopy. If windrowed brush piles for rabbits are to



be constructed they should be at least 25-50 ft long, 5 ft wide and 4 ft high.

### Living Brush Piles/Green-Tree Cuts

A simple, convenient brush pile needed in field borders, woodland edges, and odd areas may be created by cutting a larger diameter wolf or edge tree and leaving it where it falls. This will allow vines, weeds, and briar tangles to grow up in and around the felled crown and create cover and shelter for a variety of animals. Quail, rabbits, and many species of songbirds will make use of this type of cover.

Another method of creation is know as the "Living" brush pile. Evergreen trees such as Eastern red cedar, American holly or even deciduous trees may be used. Choose wide-crowned trees that are 6 to 8 feet tall.

In the spring of the year, make a cut in the tree with a hand or chainsaw 3-4 feet above the ground opposite the intended location of the pile. Cut deep enough so that you can push the top over, leaving a connecting strip of bark and wood (hinge) to nourish the tree. Use a stake or stone to tie the top of the tree to the ground.

Select trees with grape or honeysuckle vines nearby that will grow and cover the pile. If the trees are cut to fall in a crisscross pattern over each other, a living brush pile is created.



This figure illustrates green tree cuts (living brush piles) where the stem is partially cut, allowing additional growth and surrounding vegetation to create a brush pile.

Brush piles of this type are loosely formed and do not give the best protection from severe weather. They can be made denser by using the bases of the cut trees as foundations and piling dead limbs and brush over them.

Old piles may need to be rebuilt or have additional material added every 5 or 6 years.

### Operation and Maintenance

When properly constructed brush piles may last for as long as 10 years with very little maintenance. The lifespan of brush piles depend on factors such as climate, composition and species of the brush used and the method and type of construction.

Periodic monitoring of brush piles to determine the amount of use and production should be performed at least annually during nesting seasons of small mammals such as rabbits (February – September).

Additional boughs, branches, and fine brush may need to be added to the structure each year to maintain the desired density.

If PVC pipe, tiles or similar devices are installed as escape routes in brush piles, periodically check these structures for obstructions that may inhibit wildlife use.

***Because of the risk of livestock poisoning, do not use the branches of mountain laurel, black cherry trees, cocklebur, or ornamental species to create brush piles accessible to livestock. If in doubt about identifying these species, place brush piles in an area that is not grazed by livestock. For further information, refer to the following web link from West Virginia University extension or contact the State Biologist for guidance.***

<http://www.wvu.edu/~agexten/pubnwsltr/TRIM/5934.pdf>



## Specifications

### 649 – Structures for Wildlife (Brush Piles) – WV Job Sheet

Site-specific requirements are listed on the following pages of this job sheet. Specifications are prepared in accordance with the WV NRCS Field Office Technical Guide.

<b>Client:</b>	<b>Farm #:</b>
<b>Field(s):</b>	<b>Tract #:</b>
<b>Designed By:</b>	<b>Date:</b>

Purpose (check all that apply)	
<input type="checkbox"/> Create habitat for cottontail rabbits	<input type="checkbox"/> Component of a wildlife management plan developed using the (649) Structures for Wildlife standard
<input type="checkbox"/> Create habitat for other small mammals	
<input type="checkbox"/> Create nesting areas for native insects and pollinators	<input type="checkbox"/> Supplemental habitat established in conjunction with, or as a result of, other practices. (e.g. forest opening slash piled adjacent to the openings)

#### Layout

Target Wildlife Specie(s):	Home Range: _____ acres
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Field	Number of Brush Piles	Type <sup>1</sup>	Living Brush Pile Tree Species to be Cut <sup>2</sup>	Entrance or Escape Pipe	Approx. Size <sup>3</sup> (ft)	Adjacent Cover Type <sup>4</sup>	Temp. or Perm. <sup>5</sup>	Activity <sup>6</sup>

<sup>1</sup> Identify whether this brush pile is a **STANDARD BP, WINDROWED BP, EDGE TREE BP** or **LIVING BP**.  
<sup>2</sup> For living brush piles identify the tree species to be used (e.g. red cedar)  
<sup>3</sup> Specify the approximate size of the brush pile after construction (e.g. 12 x12 x3).  
<sup>4</sup> Identify the surrounding cover type to the planned brush pile as **WOODLAND, SCRUB-SHRUB, GRASSLAND, FIELD EDGE/BORDER,** or **OTHER**.  
<sup>5</sup> Identify whether the brush pile is to be a permanent structure and maintained indefinitely (**PERM**); or if the brush pile is to be maintained only as needed until suitable vegetated cover becomes established (**TEMP**).  
<sup>6</sup> If the planned brush piles are being completed as a result of some other activity such as a timber harvest or creation of a permanent food plot, list the activity. Otherwise list as **N/A**.



## 649 Structures for Wildlife (Brush Piles) – WV Job Sheet

If needed, an aerial view, map or a sketch of the practice can be shown below. Other relevant information, practice location, complementary practices and measures, and additional specifications may be included.

**Questions regarding the establishment of this practice should be directed to:**

**Jason Randolph at (304) 284-7581 or [jason.randolph@wv.usda.gov](mailto:jason.randolph@wv.usda.gov)**

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