United States Department of Agriculture

NRCS Natural Resources Conservation Service

Structures for Wildlife (649): Job Sheet

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Wildlife Brush Piles

Landowner:			County:
Farm:	Tract:	Field(s):	Date:

SPECIFIC RECOMMENDATIONS
✓ **Species to be benefited:**
✓ **Purpose of brush pile:**
✓ **Number and spacing of Brush Piles:**
☐ **Preparation:**
☐ **Additional Operation and Maintenance:**
☐ **Site/Sketch map attached**
Comments:

WHAT IS A BRUSH PILE?

Photos: US Fish&Wildlife Service

The term "brush pile" describes a mound of woody vegetative material constructed to furnish additional wildlife cover. Brush piles can be fashioned in many different ways to meet various cover needs for particular wildlife species.

Loosely formed brush piles can provide nesting habitat, resting areas, concealment, and protection from predators. Brush piles that are relatively open at ground level, but tightly compacted above, can provide good protective cover against harsh weather conditions. Densely packed piles of logs, rocks, or boulders can provide den sites for additional species of wildlife such as reptiles.

Constructing brush piles on your land can provide cover for ground-nesting birds such as quail, songbirds, rabbits, and other small mammals. Landowners should determine their target wildlife species, assess what cover types are needed, and specifically design brush piles to meet those needs.

PLANNING CONSIDERATIONS

- Place brush piles near wildlife food sources. Good locations include: along forest roads and edges; in woodland openings; along field edges and corners; and beside streams and wetlands. Isolated piles are not as beneficial, nor as likely to be used.
- Brush piles can be developed in woodland habitats with the material left from timber harvesting, woodland edge development, forest stand improvement, forest opening development, or firewood cutting.
- Several strategically placed medium-size piles, roughly 10 feet in diameter and six (6) feet high, are better than one large one.
- Plant native vines such as Virginia Creeper as an attractive cover for the brush pile; border with wildflowers; or screen with shrubs. Shrubs can provide additional food and cover.
- Keep brush piles away from houses and lawns to avoid problems with nuisance wildlife.
- Brush piles are flammable. Keep them away from buildings.
- Consider requesting technical assistance from the NRCS State Biologist.

BRUSH PILES AS NESTING, RESTING AND ESCAPE COVER

Predators such as owls, hawks, foxes, coyotes, and domestic pets, can significantly impact wildlife populations including rabbits and quail when thick, brushy cover is lacking or not well distributed. The well-planned creation and placement of brush piles can often supplement naturally occurring escape cover for these and other wildlife species.

A loosely formed brush pile will encourage plant growth by allowing sunlight penetration. The tangled network of dead branches will eventually be intertwined by a thin to moderately dense stand of grasses and forbs. The end result is excellent resting and escape cover. These same types of brush piles may also be used as nesting sites by songbirds such as the White-throated Sparrow, Song Sparrow, Fox Sparrow, and Brown Thrasher.

The key to forming this type of habitat is to lightly pile branches in such a fashion so that plenty of sunlight reaches the ground. The branches can be sparingly piled in a teepee-type fashion or laid against an elevated object, such as a tree stump or fallen log.

Discarded Christmas trees (without the tinsel!) can be used in a similar manner.

An old, discarded section of woven wire fencing, rolled up to an inner diameter of 1½ to 2 feet and laid on its side, will also afford rabbits considerable protection from predators and at the same time allow grasses and forbs to grow up through the openings. Brush piles fashioned in this way take on the characteristics of the “old briar patch” that rabbits find attractive.

Living Shelters

A brush pile will last longer if constructed of living materials. In addition to providing cover and protection, living brush piles made from partially cut hardwood trees can supply buds, twigs, leaves, and seeds for animals to eat. Red cedar or locust trees can be used as well.

To make a living brush pile, find several (three to five) small hardwood saplings (4 to 8 inches in diameter) located within a few feet from one another. Cut each tree halfway through the trunk about 12 to 18 inches above the ground. Place the cuts on the outside, away from the other trees in the group. Fold the treetop over towards the other trees in the group so it rests on the ground or on top of the other half-cut trees. Since the tree is not cut all the way through, the tree will stay alive for some time. Pile limbs and brush to reduce any large entrances, particularly near the folded trunks. Avoid covering the tops of the cut trees so they will continue to grow.

Placement

Rabbits and quail rarely stray far from good protective cover. This often limits the use of large open spaces that might otherwise serve as important nesting and feeding habitat. By placing brush piles along the edge or scattered throughout large open areas, rabbits and quail are more likely to utilize all available habitat.

General Recommendations

- Good locations to place brush piles include:
  - ✔ Adjacent to edges of gullies, woodlands, and pastures or hay fields
  - ✔ Within shrub thickets, fencerows or shelterbelts
  - ✔ In field corners or other odd areas
- For edge habitats, such as along woodland, fence rows, or gullies, one (1) brush pile every 200 to 300 feet will provide adequate cover and travel lanes between food sources.
- In abandoned fields and other early successional habitat, create at least two (2) piles per acre.
- On properties with little natural cover, create three (3) or four (4) brush piles per acre.
- Avoid the bottoms of drainage ways and low spots where standing water or flooding will reduce the usefulness of brush pile for upland wildlife species.

BRUSH PILES FOR HARSH WEATHER COVER

Brush piles can help ground dwelling wildlife escape the effects of harsh weather (bitterly cold or extremely hot), snow, and ice. A well-constructed, properly maintained, brush pile can supplement natural cover for 10 to 15 years.

Generally, brush piles of this type should range between 10 to 15 feet in diameter, and 5 to 8 feet in height. The most common design is built using logs (arranged in a tic-tac-toe pattern) for the foundation and covered with brush. Start with the largest material on the bottom to provide hiding space under the pile. Shallow depressions can also be dug before beginning the brush pile to provide more space.

Foundation

Use the largest available materials when constructing the foundation. Logs at least six (6) to 10 inches in diameter and 10 to 15 feet in length are recommended. The larger materials at the bottom keep the smaller limbs off the ground, helping to prevent decay.

Start construction by laying logs parallel and six (6) to 12 inches apart. Next, place a second layer of logs on top of, and perpendicular to, the first layer (again about six (6) to 12 inches apart - see Figure 1). Large, flat rocks can be substituted for the second layer of logs. Repeat this process one or two more times to complete the final tiers. The intent is to make a pyramid-type structure that has a hollow core. Note that old and discarded fence posts can also serve this purpose.

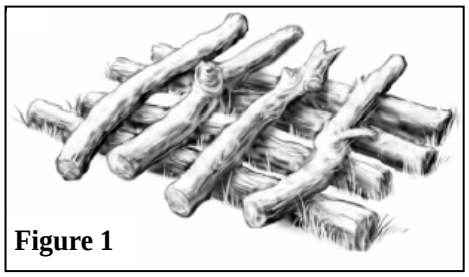

Figure 1

Many other options for building brush pile foundations are possible depending upon the materials available:

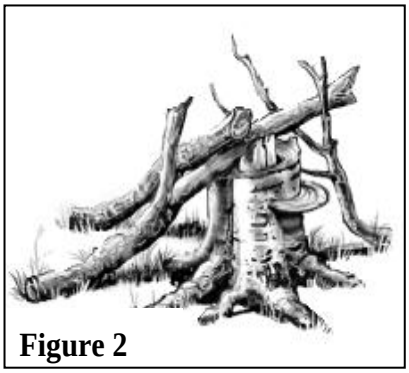

Figure 2

A tree stump that is still in place can create an adequate foundation (see Figure 2). Place several logs (6 to 10 inches in diameter and 5 to 6 feet long) on top of the stump so that the logs are radiating out from the center.

Discarded wooden pallets can also make a suitable base. Pallets should be arranged in four (4) to six (6) layers (and elevated from the ground using concrete blocks, stones, etc., if available) to form the foundation. Consider utilizing six (6) to eight (8) inch diameter old clay tiles to create small wildlife tunnels within the foundation.

Small rock piles can be substituted as foundation material. Create rock piles approximately 12 inches apart with each pile about 10 inches high and 12 inches across. Stagger the piles so that they are capable of supporting the next layer of limbs (see Figure 3).

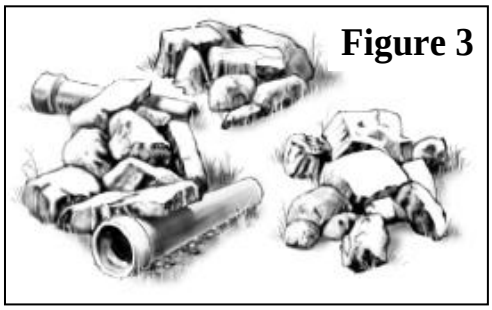

Figure 3

Brush Covering

Once completed, cover the foundation with larger branches and limbs, placing the smallest stock on top. The cover can consist of small limbs, saplings, old Christmas trees, stumps, or loose brush. Use leaves or pine boughs as a cap if available.

Ideally, the foundation should be covered with two (2) to four (4) feet of brush. Larger brush piles provide more security for wildlife and will receive more use than smaller piles. Leave six (6) to 12 inch openings in the sides at several places for easy wildlife access. Add to the brush pile as new brushy material is available. The older brush will settle as it decays, and new cover must be added as time passes.

When properly constructed, harsh weather brush piles will contain an easily accessible labyrinth of tunnels and cavities at ground level and at the same time provide good overhead shelter from harsh weather. Once again, brush piles should be established throughout the management area to meet wildlife needs.

OTHER CONSTRUCTION OPTIONS

A simple pile of logs, wood slabs, large rocks or boulders can be very attractive to amphibians, reptiles and small mammals, especially when located near or within woodland habitats. Piles of rotting logs or wood slabs not only provide shelter and produce an abundance of food items, but also maintain the moist conditions required by woodland amphibians.

Rock Piles

Amphibians and reptiles such as frogs, lizards, salamanders and snakes will benefit from rock piles. Besides providing shelter and basking areas, the rocks absorb heat during the day and radiate warmth at night.

Rock piles should start with the largest rocks (or boulders) on the bottom of the stack to create hiding places between rocks. Broken slabs of concrete can also be used for the foundation by arranging them loosely to form tunnels and cavities. Digging depressions under large flat rocks can create temporary pools for breeding frogs and salamanders (see Figure 4).

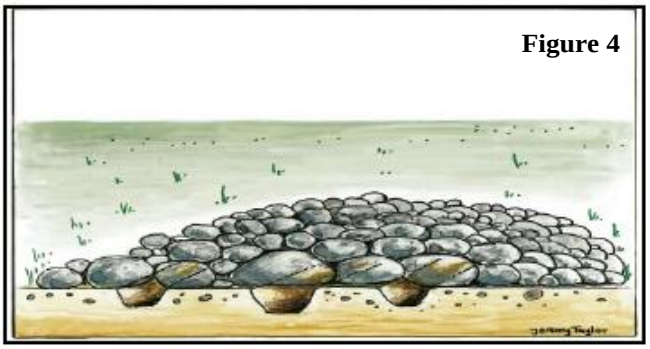

Figure 4

General Recommendations

- Build a mound of rocks and stones of different shapes and sizes, arranging the rock pile in a way that creates openings for shelter.
- Place pieces of chimney tile, old clay field tile or lengths of pipe at the base for entrances and tunnels.
- Add flat rocks on top for amphibians and reptiles.

OPERATION AND MAINTENANCE

Do not use materials that contain toxic substances (i.e. pressure treated lumber/posts, creosote railroad ties, lead painted surfaces, tires, etc.). These substances can cause wildlife mortality either through contact, consumption, or inhalation.

Brush piles are not permanent structures. Rot and decay are a normal process of brush piles. As brush piles rot, more insects are attracted, providing additional food for birds and other wildlife. The piles should be inspected yearly to see if the state of decay is such that additional brush is needed, or if a new brush pile should be constructed.

Site-specific recommendations are listed on the front page of this document. See the Rhode Island electronic Field Office Technical Guide Standard (649) *Structures for Wildlife* for additional wildlife guidance.

REFERENCES

Wildlife Management for Missouri Landowners (3rd Ed) http://mdc.mo.gov/landown/wild/landmgmt/practices.htm#brush

Outdoor California, CA Department of Fish & Game. http://www.dfg.ca.gov/ocal/