

Managing Habitat for Eastern Cottontails

Many wildlife species are secretive and elusive, and seeing them requires time and effort. Not so for the eastern cottontail. From suburban yards to farm hedgerows to forest edges, cottontails are a common sight. A popular small game species, they also appeal to nonhunters.

Pennsylvania's cottontail rabbit population was relatively small prior to European settlement, when forests covered much of the state. By the early 1900s, most of Pennsylvania's forests had been cleared. During the 1920s to 1930s cottontail populations peaked, as cleared areas grew into brush and young forests; and small farms with fencerows, brushy areas, and old fields were common.

Today, more intensive agricultural practices have produced larger fields and fewer fencerows, hedgerows, and other "wild" areas. Urban sprawl with the associated increase in highways and roads has eaten up habitat, and young forest habitat has declined as forests have matured. As a result, cottontail populations have fallen.

This fact sheet gives you information on how to improve habitat quality for cottontail rabbits by providing them with the necessary food and cover.

General Biology

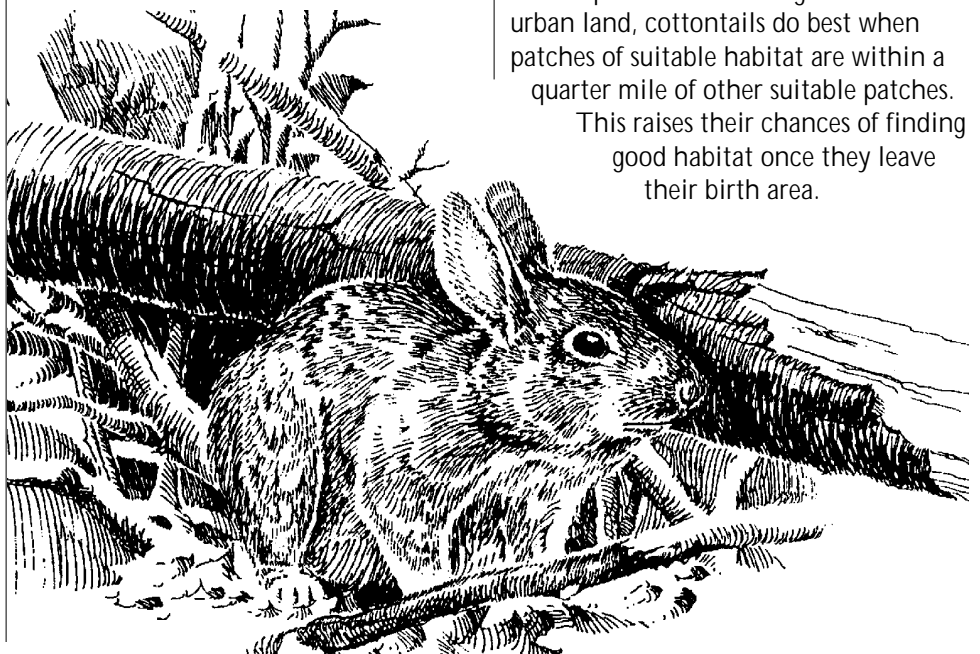
Cottontail rabbits are year-round residents in Pennsylvania. Most active at dusk and dawn, they often remain hidden during the day. They are active year-round and do not hibernate. True to their reputation, cottontails have a high reproductive rate, with some females raising up to seven litters per year. More typically, a female will raise four litters between March and September, with an average of five young per litter. The young are weaned when they are around five weeks old.

Although rabbits have a high reproductive rate, they also have a high mortality rate. Many die from adverse weather

conditions ranging from spring floods to ice storms. Predators of rabbits include domestic dogs, house cats, owls, skunks, foxes, and snakes. In suburban areas, mowing and automobiles kill many cottontails, and in agricultural communities farm machinery takes its toll. Rabbits also are an important game animal in Pennsylvania.

The cottontail's home range is less than 15 acres and usually between 2.5 and 7 acres. In fall and winter, young cottontails move out of the areas where they were born. They rarely move more than one mile from their birthplace. Because cottontails do not move long distances, their numbers are highest where areas of suitable habitat are at least 40 acres to allow for this movement. In patchwork landscapes of forest and agriculture or urban land, cottontails do best when patches of suitable habitat are within a quarter mile of other suitable patches.

This raises their chances of finding good habitat once they leave their birth area.



Habitat Requirements

Cottontails are generalists; they like a variety of habitat types, including old fields, abandoned farmlands, hedgerows, shrubby cover at forest edges, and young forests. They also are common in urban and suburban areas, where they feed on garden plants and ornamental shrubs.

Areas in early stages of succession, dominated by grasses, forbs (herbaceous annuals and perennials), and dense, young woody vegetation, make good habitat for cottontails. They require thick escape cover interspersed with grass and forb habitats for feeding. High numbers of cottontails are found on reverting farmland, recently harvested forest habitat, and young conifer plantations. Fewer cottontails are found in intensively farmed or heavily grazed areas, and areas covered with mature forest.

Cover

The best habitat for cottontails combines grass, grassy openings, and low dense brush that provides plenty of nesting sites and escape cover. Rabbits generally do not feed more than 300 feet from protective woody cover. In optimal habitat, herbaceous vegetation that does not die back completely in winter covers 50 to 100 percent of the ground layer, and shrubs cover 20 to 50 percent of the area.

Thorny shrubs with a low, dense growth form, such as raspberry and blackberry, make the best cover, although nonthorny shrubs also are commonly used. Winter cover is afforded by dense grasses and other vegetation growing as edge habitat; hedgerows; and thickets of low-growing brush, shrubs, vines, and deciduous trees.

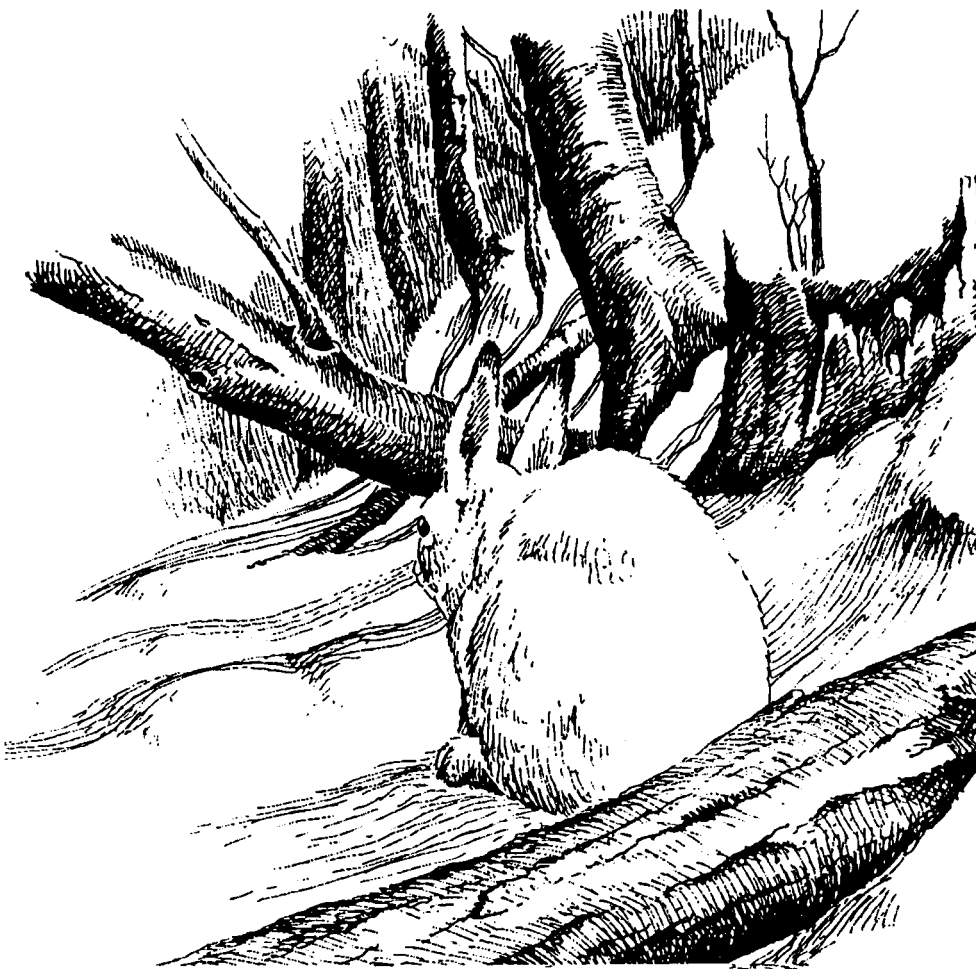
As herbaceous cover dies back at the growing season's end, cottontails grow more dependent on dense woody cover, and on holes, woodpiles, and abandoned woodchuck burrows for shelter. Shrubby fencerows and hedgerows act as travel corridors in farmland. Cottontails nest in small depressions or "forms" that they make on the ground and line with fur. Forms are dug under cover of fallen trees, shrubs, woodpiles, brush piles, thickets, and hedgerows, or within tall grass along field edges. Nests usually are within 150 feet of field edges.

Food

Cottontails feed by grazing and browsing. During the growing season, they consume mainly grasses, forbs, and garden plants. Woody plant foods dominate in winter, although rabbits will eat dried herbaceous vegetation when snow cover is sparse. Rabbits consume bark, branch tips, and buds of woody plants; when feeding on twigs, they leave a characteristic clean, diagonal cut. In agricultural areas cottontails feed on many crops, including oats, alfalfa, and soybeans.

Water

Cottontails get most of the water they need from the food they eat.



Management Practices

In managing habitat for cottontails, the goal is to create and maintain suitable food and cover resources in close proximity to one another. Rabbits require grass, forb, and shrub habitat types.

Maintain Existing Suitable Habitats

Maintain existing grass- and forb-dominated habitats by mowing annually to prevent succession to dense shrub and forest habitats. As trees become established in open and shrubby habitats, periodic brush chopping (with a heavy-duty rotary mower towed behind a tractor) or disking (plowing with a conventional, heavy-duty, disk plow)

may be necessary to maintain the mix of shrubs and herbaceous vegetation that cottontails prefer.

All vegetation management should be carried out late in the growing season to limit disturbance to cottontails and other wildlife species using the open habitats. In young forest sites, cutting should be done at five- to eight-year intervals to maintain quality habitat for cottontails. Disking can improve herbaceous plant growth in these places.

In areas being managed for timber harvests, old clear-cuts can be allowed to grow into forests and new ones made every 10 years or so to ensure that cottontail habitat is continuously available. Making the new clear-cuts adjacent to the old allows cottontails to move into and use them more easily. It also serves to retain some large blocks of forest for wildlife species that prefer mature forest habitats.

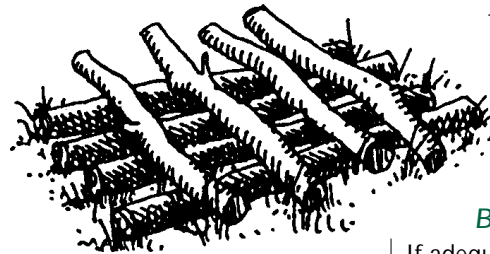
Where vegetation is sparse, allow the natural vegetation to grow into thickets along fencerows, ditch banks, roadsides, and field edges. This will improve nesting and feeding cover while providing escape cover from predators.

Manage Grazing

Cottontails depend on herbaceous plants for food and cover. Livestock grazing reduces or eliminates this important resource. In addition, grazing in forests kills trees; both direct grazing and soil compaction virtually eliminate all forest regeneration. Ideally, grazing animals should be kept out of woodlots by fencing. Where animals are grazed, a strip of ungrazed grassy and herbaceous vegetation can be left between the pasture fence and the adjacent shrub or forest habitat. This will create feeding habitat along the edge where there is woody cover.

Plant Food Plots

Where croplands are not present, small patches of crops like wheat or soybeans can be planted to supplement local food resources. In places with few grasslands,



plant patches of grasses and legumes to supplement the food supply. Suggested species include bluegrass, timothy, orchardgrass, clovers, lespedezas, and alfalfa. All food plots should be planted near suitable resting and escape cover.

Plant Shrubs and Enhance Existing Hedgerows and Fencelines

Ideal cottontail habitat should have well-distributed cover throughout, because cottontails generally do not travel far from cover. Where natural cover is lacking, you can plant thorny shrubs like blackberry and raspberry, which make the best cover. Many thornless species with dense growth forms also provide good cover. These include willow, honeysuckle, and young conifers with branches close to the ground.

Some herbaceous species, including switchgrass and lespedeza, also afford good cover. Shelterbelts, hedgerows, and fencelines can supply cover in agricultural areas. Dense, woody vegetation three to six feet tall can be planted or encouraged by ceasing to mow. These strip habitats should be at least 15 feet wide to provide good protective cover.

Plant Conifers

Conifers or evergreens make excellent cover for cottontails. Plant conifers in clusters to create islands of cover. Recommended spacing between trees varies from four to ten feet. If the trees are close together, they will provide cover sooner but will also need to be thinned sooner. Wider spacing allows you to mow between the trees to maintain succulent green vegetation. Conifers lose their value for cottontails once the patch forms a solid canopy, which shades out the herbaceous growth below.

Build Brush Piles

If adequate natural cover is not available, you can make artificial cover with piles of logs and brush. Use rocks or logs to create a base for the brush pile, so that cottontails can get underneath. On top place smaller woody materials, such as tree limbs and shrub branches, to create a pile four to seven feet tall and six to twenty feet in diameter. Taller piles last longer than shorter piles. Situate brush piles near edges of woodlots, fields, pastures, or other sites where food is available, but where cover is limited. Space them at distances of 10 to 50 yards so cover is well dispersed.

As the brush settles and decays, piles lose their value as protective cover, usually within three to five years. As this occurs, rejuvenate old brush piles by adding new woody material. Maintain brush piles until more permanent natural cover can be established.

Manage Woodland Borders

Cutting a forest edge (the area where woods and field meet) to increase food and cover is one way to improve habitat along the edge. Two cutting methods may be used. One results in a layered or sloping effect in which the height of vegetation decreases gradually, rather than abruptly, from the tallest trees to the shortest plants at the very edge of the forest.

To use this method, carefully select particular plants to remove, while keeping the trees and shrubs that provide the best food and cover. As a rule of thumb, remove trees equal in height to their distance to the edge. For example, at a distance of two feet from the forest edge, deaden or remove each plant that is taller than two feet; at a distance of six feet, remove each plant taller than six feet; and so on until you reach the tallest trees. This will create a gradual transition in vegetation height from the forest to the adjacent habitat or land-use type, such as a field or lawn.

The second method is to cut all the edge vegetation for a width of 25 to 50 feet. This procedure is not intended to move the edge farther back into the forest; its purpose is to leave the cut area to regenerate and be colonized by naturally invading species that will provide food and cover at a variety of heights. You may also find it worthwhile to plant some trees and shrubs within the regenerating edge during the first few years after cutting, when the new growth is still small. Any cut material can be used to build brush piles, providing additional cover for rabbits.

For More Information

Managing Habitat for Cottontails and Other Wildlife

■ PENNSYLVANIA WILDLIFE No. 1, "Wildlife Habitat Relationships." Available free of charge from your county extension office or from the College of Agricultural Sciences Web site: <http://pubs.cas.psu.edu/Subject.html>

■ MANAGEMENT PRACTICES FOR ENHANCING WILDLIFE HABITAT. Available free of charge from your county extension office or from the College of Agricultural Sciences Web site (see above).

■ COTTONTAIL RABBIT WILDLIFE NOTES. Available from the Pennsylvania Game Commission Web site: http://sites.state.pa.us/PA_Exec/PGC/pubs/w_notes/cottonta.htm

Controlling Damage by Rabbits

■ WILDLIFE DAMAGE CONTROL No. 7, "Cottontail Rabbits." Available free of charge from your county extension office or from the College of Agricultural Sciences Web site (see above).

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Illustrations

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