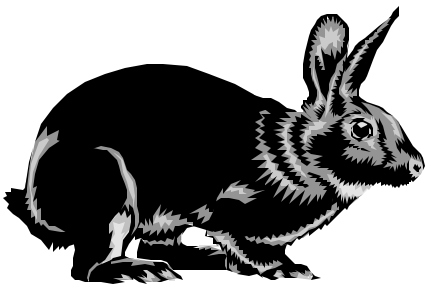
Cottontail Rabbits

The cottontail rabbit is the most prolific of our southern Michigan small game mammals, often producing three or four litters of four to five bunnies per season. Consequently, a spring population of two can become a population of up to 22 by late summer.



Cottontails are strictly plant eaters changing their diet as the year progresses, consuming a wide variety of grasses, weeds, legumes, seeds, fruits, and garden vegetables. Managing land to increase cottontail numbers is one of our easiest land management tasks.

If not for the annual losses of young rabbits to disease, parasites, and predators, we would be overrun with rabbits by the year's end. Although we cannot eliminate all three causes for loss, habitat changes can be made which will likely reduce their effects. Disease and parasites become a greater factor when nutrition is poor. Predation is a factor of the quality and quantity of escape cover. Both must be addressed in our management prescriptions.

Year-round habitat needs must be addressed if we are to create secure habitats with abundant high quality food supplies. In order to achieve the best quality habitat the cottontails' needs during each season of the year must be addressed.

Spring and Summer

The first litter of cottontails is likely to be born in early April. Placed in a small shallow depression, lined with fine grasses and fur, four or five blind, helpless bunnies will be produced in each litter. They will be fed only under the cover of darkness by their mother. This activity continues for only 10-12 days until the young grow too large for the tiny depression. They are now forced to survive on their own, changing their diet from milk to spring grasses, new clover, and weeds, and trying to avoid other animals who would like to eat them. In about 30 days the female goes through the same cycle again.

The number of times the mother rabbit renests is a function of her health and the weather. The number of young which survive is a function of habitat quality, habitat which will provide high quality food and protection areas. High quality spring-summer food and nesting sites are provided by a mixed legume-grass area, 30 to 50 yards wide, bordered on at least one side by brush cover. A planting of orchard grass, timothy, medium red clover and white blossom sweet clover can provide this habitat need.

High quality protection or escape areas are provided by shrub/brush areas adjacent to the legume/grass field. Low height, less than ten feet, woody cover provided by brambles, wild rose, dogwood, honeysuckle, forsythia, autumn olive or thornapples is ideal for this cover. A grass mixture which contains taller stiffer stemmed grasses such as switchgrass, intermediate wheat grass, big blue stem or Indian grass provides

high quality cover for escape from predators. Common rabbit predators include red fox, coyote, mink, red-tailed hawks, great-horned owl, and house cats.

Autumn

Food and cover changes dramatically in autumn as the growing season comes to an end, cultivated grains ripen, and trees and bushes lose their leaves. Once lush grasses have turned brown and have become less palatable, however, the corn, soybeans and apples are ripe and available. Menus have changed from nearly all grasses and non-woody plants in the spring to fruits of fall. It's time to fatten up in preparation for the rigors of winter.

This is also the time when the breeding season ends and dispersal of the young-of-the-year begins. When the snow left in the spring, only two rabbits were left, now the area may be the home for a tenfold increase in population. Limited roost cover makes some animals very vulnerable to predation, but if tall grass cover is available, it and the abundance of fall food will keep them going until snowfall. Cover planted for winter will also begin to become important, especially those species which provide fall/winter fruit.

Winter

Winter is the most critical period for rabbits. During this period food resources are most difficult to find, and the amount and variety of cover has been reduced by compacting snow. The rabbits normal grassy brown camouflage does not work against the background of white snow. During the winter months the rabbits will spend much time searching for food and will be much more vulnerable to predation.

If snowfall is persistent, covering most herbaceous foods, woody foods and agricultural crops may be the only foods available. Raspberry twigs and sumac bark become important food times in winter. Planted shrubs such as multi-flora rose, autumn olive, high-bush cranberry, silky dogwood, and the fruit-bearing trees like Siberian crab can supplement native species. Tall grasses or sorghum-sudan will provide good herbaceous cover in winter. Brush, as fence rows, along ditch banks or as planted strips will provide overhead cover and food. Food patches of corn and grain sorghum provide high energy winter food.

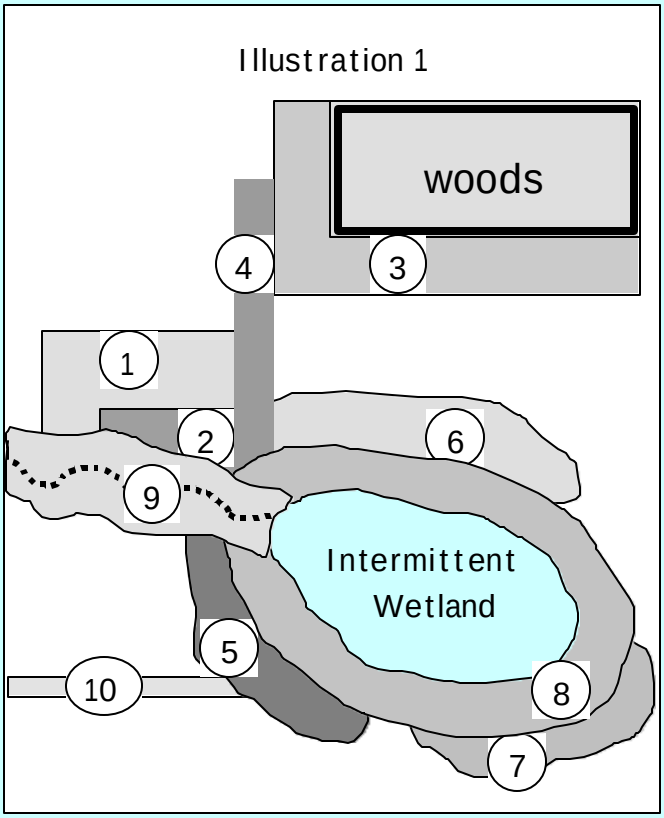
The winter range of a cottontail is normally confined to about ten acres. Therefore, all needs for food and cover should be present on any ten acre area. (See illustration 1) Natural fence rows or planted shrub rows free of trees greater than 15 feet tall should connect food patches and grassy cover. Food patches should not be planted adjacent to wood lots, a 40-yard buffer strip of brush and shrubs should separate all woodlot edges from rabbit food patches. The 40-yard brush strip also provides heavy close escape cover from predators. Brush piles along the edge of the grass or grain fields also offer extra cold weather or thermal cover as well as escape cover.

An excellent year-round cover/food complex for rabbits is the cut-back edge. This is a transition area between woodlot and open grass field or grain field where the woodlot border is harvested, creating both vertical and horizontal cover. Cut-back woodlot

Winter Habitat

1. Winter food plot (0.5 acre)
2. Winter food plot (0.5 acre) alternate years
3. Cut back border with brush piles 20 yards apart
4. Five rows olive and Roselow crab (mixed)
5. Two rows white spruce
6. Silky dogwood and high-bush cranberry
7. Silky dogwood
8. Filter strip around pond
9. Sod waterway
10. Natural fence line-trees removed

Illustration 1



borders interspersed with large brush piles will provide needed winter protective cover.

The regrowth vegetation of trees, shrubs, brambles, herbs, and grasses within the edge provide the security of close winter food and heavy winter escape cover. The thick overhead cover reduces the potential for avian predation, while the brush piles will protect the rabbits from ground based predators larger than themselves. Brush piles should be placed away from the tall edge of the woodlot, closer to the open field edge.

Brush piles are an important winter cover for rabbits, but in order to provide optimum protection they must be properly constructed. Brush piles with a single opening entrance/exit hole can be death traps to cottontails when mink or weasel are seeking winter food. Multi-opening entrance/exit routes must be available to provide the greatest benefit. Some examples of brush pile designs are presented as illustration 2. By placing larger logs or non-decaying materials into the base of the brush piles your work will last for several years. Jumping on the top of brush piles to extract rabbits while hunting crushes the brush pile to the ground and will greatly shorten its effective life. An added cover for brush piles is the placement of live-lopped trees on top of the pile. Live-lopping is the practice of cutting about ¾ through the tree, preferably on a 30 degree from horizontal angle to fell the tree without completely severing the tree from the stump. A two-to-three-foot-high cut is

recommended. The tree may continue to live for many years in a prone position, providing live horizontal and vertical cover. This practice is best completed during the early growing season when the felled trees are less likely to snap from the stump. Trees four to eight inches in diameter, and those with larger side branches, are best for this practice.

Older brush piles although not as effective for rabbits as newer ones will still provide important wildlife habitat to small ground dwelling creatures, such as chipmunks, salamanders, and snakes. The older brush piles should not be destroyed to create new ones. Older brush piles should be allowed to decay over time and new brush piles added as they are needed.

Illustration 2 – Brush Pile Construction

Base of Pile, Layer One	Concrete chunks, large stones, tires, stumps, or old culvert pieces
Layer Two	Criss-crossed 12" diameter log
Layer Three	Criss-crossed 6-10" logs and limbs
Layer Four	Stacked 2-6" limbs
Layer Five	Stacked 1-3" limbs
Layer Six	Live-lopped brush piled in teepee fashion

*To contact your nearest NRCS office, look in the telephone directory under U.S. Government, Department of Agriculture, Natural Resource Conservation Service. The NRCS technician or district conservationist will be happy to serve you, regardless if you manage less than one acre or more than a thousand. DNR phone numbers are listed under "Michigan-State of" and County Extension Offices are listed under "Michigan State University Extension". "**Working Together for Wildlife" – We can make a difference.***

Year-Round

Travel corridors are important to rabbits throughout the year. These narrow strips of cover, ideally five to 15 yards wide, consisting of either tall grasses of shrubs and conifers help to move wildlife from one cover complex to another without unnecessary exposure to their enemies. Large unconnected pieces of habitat support far fewer wildlife than do smaller units interconnected by secure travel lanes.

By learning about the basic needs of various wildlife species, our efforts to increase populations can be far more effective. The Natural Resource Conservation Service and Soil Conservation District personnel will be happy to assist you and you and your neighbors in implementing planning and habitat improvement projects for rabbits or any other species. Additional information is available from the Michigan DNR or through the Michigan State University County Extension Office.

USDA Natural Resources Conservation Service

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