

Habitat Needs and Developments for Cottontail Rabbits

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The cottontail rabbit, Sylvilagus sp., remains one of Wyoming's most popular small game animals, utilized for a variety of recreational activities including hunting, observation, and nature study. Its popularity is due, in part, to the cottontail's statewide distribution and ability to survive in a variety of habitats and adapt to human land use changes. The cottontail's adaptability allows it to survive in both rural and urban settings.

Cottontail Classification

The cottontail rabbit belongs to the family Leporidae, which includes both the rabbits and the hares. Rabbits differ from hares in a number of ways, including their smaller size, and shorter legs and ears than their larger bodied cousins. Rabbits give birth to helpless, blind, naked young, while hares give birth to fully furred, open-eyed offspring. And while hares rarely dig burrows or live in any type of shelter, rabbits will often dig burrows or utilize the burrows of other animals for shelter.

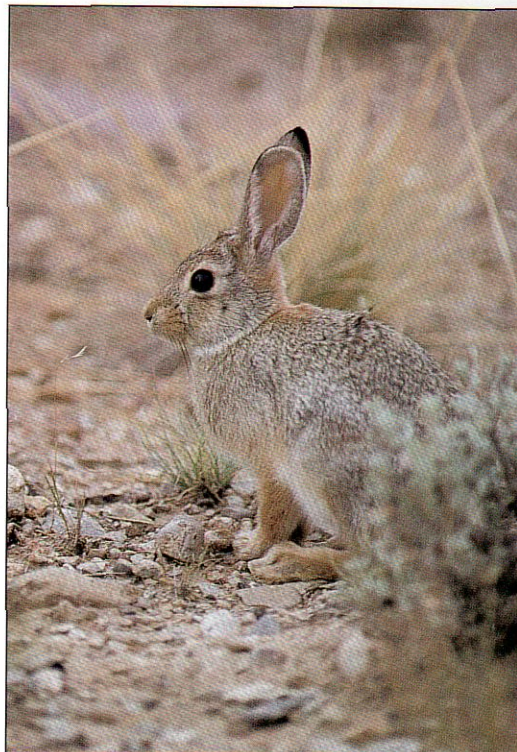
Cottontail Natural History

Cottontails are polygamous; one-male mates with several females during the breeding season. Rabbits breed throughout the summer, and each female is capable of bearing a litter every month. Prior to giving birth, the female may build a nest in a burrow, brush pile, or other shelter, lining the nest with grasses, forbs, and hair. Following a gestation period of 27 to 30 days, the female will give birth to a litter of two to ten young rabbits. The tiny offspring weigh

only three-quarters to one-and one-half ounces at birth, but grow rapidly. Their eyes open by the seventh day, and they leave the nest after their second week. The female may nurse the young for 15 to 18 days, at which time the young rabbits are weaned, and begin their adult

life. Young rabbits become sexually mature at three months (females) or six months (males), and quickly become part of the reproductive segment of the population. Immediately following birth, the female may breed again, giving birth to another litter of young rabbits within a month's time.

Mature cottontails weigh from one to four pounds, have an average life span of less than one year, and remain in a relatively small area throughout their life. Females tend to have home ranges of two to four acres, while males range over a four- to ten-acre area. Home range size is directly tied to the quality of the habitat in which the rabbit population lives; the better the habitat, the smaller the home range.



Cottontail Food Habits/Foraging Behavior

Because cottontails inhabit a wide variety of habitats, their diet is quite varied. And, because they live in areas of seasonal change, rabbits are opportunists, consuming a variety of food items when those items are available. Spring and summer rabbit diets consist primarily of grasses, including wheatgrasses, needle-and-thread, Indian ricegrass, cheatgrass brome, a number of the bluegrasses, and squirreltail.

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Like grasses, forbs (broadleaf plants) make up a significant proportion of cottontail spring and summer diets. Forbs consumed include clovers, dandelions, vetches, globemallow, and ragweed. Studies indicate that young rabbits select forbs as their primary forage item during their first weeks of adult life. Their survival (and reproductive contribution to the rabbit population) may be enhanced if adequate amounts of forbs are available during the spring and summer.



Sagebrush is an important food item for cottontails in the West. Research suggests it may be the most important regional food item for rabbits year-long. Other items of dietary importance include sedges, willows, and timothy. Farm crops such as alfalfa, soybeans, corn, and wheat are also consumed if they are available.

In winter months, cottontail diets shift somewhat. While dry grasses are consumed, rabbits also select the tender shoots of shrubs, tree bark, waste grain from cultivated fields, and hay.

Cottontails prefer to forage in areas bordered by resting/escape cover (windbreaks, thickets, brushy areas, and other natural or man-made features). Windbreaks, in combination with adequate food supplies, provide ideal rabbit habitat. During the growing season (May thru September), rabbits will also use waste areas, fence rows, road sides, and other areas not under cultivation for forage and feeding cover. These areas are normally avoided by rabbits during fall and winter when snow minimizes the cover benefits of these sites and makes rabbits more conspicuous to predators. Still, these areas can be valuable year-long rabbit habitat if they are located near permanent resting/escape cover.

Cottontail rabbits are prey for a number of other species—eagles, hawks, owls, coyotes, foxes and bobcats to name a few. Because of their susceptibility to predation, cottontails rarely forage during daylight hours, choosing instead to seek resting/escape cover during this

time. Early morning and late evening hours offer the best security from predators and are preferred foraging periods.

Cottontail Habitat Requirements

Water

Water does not normally limit rabbit reproduction or numbers. Most of the cottontail's water requirements are obtained from the food it eats, so standing water is probably not important for rabbits.

Cover

Other than food, the most critical habitat component limiting cottontail rabbit numbers is cover. The threat of predation dictates that rabbits remain close to cover, whether feeding, resting or playing; areas of bare ground are avoided *altogether*. Cottontails use two cover types during their daily routine: feeding cover and resting/escape cover.

Feeding cover is located within forage areas and is used when rabbits are actively feeding. Scattered shrubs, tall bunch grasses, furrows, and fallen vegetation are examples of feeding cover.

Rabbits use resting/escape cover for shelter from environmental factors such as wind, heat, cold, rain and snow. Particularly during winter, resting/escape cover is critical for cottontail survival. Rabbits use this cover type during daylight (non-feeding) hours or when threatened by predators. Windbreaks, thickets, and woody draws all provide resting/escape cover for



rabbits. Structures, such as scrap wood piles, log piles, old building sites, and even old machinery, are additional examples of resting/escape cover.

Habitat Improvement for Cottontail Rabbits

If rabbits are present in an area, food is probably not a factor limiting the population. Rather, the lack of well-distributed resting/escape cover limits rabbit numbers. When

considering habitat improvement projects for rabbits, focus on those areas that will benefit the rabbit population. For instance, because waste areas and fence row/roadsides are not normally suitable for year-long rabbit use, these areas are probably not good choices for habitat improvement.

Here are some suggestions for improving feeding and resting/escape cover for rabbits.

Brush Piles

If resting/escape cover is lacking, it can be "instantly" created through the construction of brush piles. Studies indicate that cottontails, and other wildlife, are more numerous where these man-made structures are found. These factors, together with the ease of construction and low cost to the landowner, make brush piles a good first step toward rabbit habitat improvement.

Brush piles most utilized by rabbits are those located next to pastures or grain fields, near shrub stands, along weedy fence rows, adjacent to waterways, or anywhere that other cover and/or food resources are available. Brush piles should be 12 to 18 feet in diameter, three to six feet in height, and distributed 150 to 300 feet apart throughout the management area. Old tires, rock piles, stumps, and large branches can all serve as brush pile foundations, with trimmed branches used to complete the structure.

Brush piles remain useful to wildlife for about three to five years. Because they deteriorate with time, brush piles should be augmented with new materials to maintain their usefulness. Replace one third to one fourth of the pile each fall or as needed.

Brush piles can be made more attractive to human visitors by planting a combination of sunflowers, wild roses, raspberries, and climbing vines next to each brush pile. Doing so will also provide additional wildlife cover and food benefits. For more information regarding brush pile design and construction, refer to Wyoming



Game and Fish Department habitat extension bulletin number 11, "Brush Piles and Rows for Wildlife Management."

While brush piles can serve as valuable cottontail habitat, they are not the best long-term habitat solution. Other habitat enhancement methods should be explored and initiated.

Crop Production Practices

In addition to their obvious food benefits to rabbits, agricultural crops provide feeding and resting/escape cover during spring and summer and can greatly impact rabbit numbers during these periods. Changes in cottontail densities and movements appear to be related to planting, development, and harvest of agricultural crops surrounding areas of permanent resting/escape cover. With these factors in mind, the landowner may wish to consider establishing a variety of

grain crops in a localized area, preferably ones having different planting, maturation, and harvest dates. This will provide greater habitat diversity, which will benefit rabbits and other wildlife in the area.

Windbreaks/Cover Plots

If cover is lacking, or available only in the form of brush piles, consider creating a windbreak and/or a series of cover plots. Windbreaks and/or cover plots, distributed over a large area, will benefit rabbits and other wildlife more than a heavy concentration of these structures at one site.

Each windbreak or cover plot should contain a mixture of different plant species and growth forms to be most beneficial to rabbits and other wildlife. For additional benefits to rabbits, select some shrubs which develop a dense clump-type growth form. Thorny shrubs will provide additional protection.

Because rabbits enjoy feeding on the tender bark and shoots of young trees and shrubs, establishing a windbreak where rabbits are present may require special attention. The use of exclosures, wrappings, or other means to protect young plants during the first years of growth may be necessary to successfully establish a windbreak. For more information on windbreak design and establishment, refer to Wyoming Game and Fish Department habitat extension bulletin number 12, "Windbreak Habitats for Wildlife."

When designing a windbreak or cover plot, choose shrubs that provide both cover and food (edible leaves, seeds, or berries) for rabbits and other wildlife. For help in selecting plants for a windbreak and/or cover plot(s), refer to Wyoming Game and Fish Department habitat extension bulletin number 36, "Guidelines for Planting Trees and Shrubs for Wildlife," and number 37, "Guidelines for Planting Herbaceous Species for Wildlife."

Food Plots

If further cottontail habitat enhancement is desired, food plots can be developed to increase rabbit numbers. Where food plots are associated with adequate resting/escape cover, rabbit numbers will likely increase. Establish food plots such as alfalfa, wheat, corn, and other grain crops, or soybeans within 250 feet (maximum) of existing rabbit resting/escape cover. This association is critical; food plots established too far from adequate resting/escape cover will not be used by rabbits.

Re-seeding Practices

Fallow lands can be re-seeded to benefit rabbits and other wildlife. Plant a mixture of native warm and cool season grasses and forbs, those that possess the best survivability for your area and soil conditions. Additional benefits to cottontails will be realized if dense clump grasses are added to this seed mix. Clump grasses will serve as feeding cover for foraging rabbits. They will also stand up to winter snows and provide additional rabbit resting/escape cover.

Conclusion

The cottontail rabbit remains one of our most sought-after small game animals, whether for recreational hunting, viewing, photography, or nature study. With proper habitat management, lands that once lacked rabbits, or supported only a few, will begin to provide ample numbers of rabbits for all wildlife-related activities.

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This publication is one in a series of habitat extension bulletins produced by the Wyoming Game and Fish Department. Call 1-800-842-1934 for additional information or assistance.

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