

Minnesota is

# Hopping with Hares and Rabbits

A white-tailed jackrabbit in winter camouflage makes a getaway across the snow. To escape danger, jackrabbits run fast in short bursts—up to 40 miles per hour.

By Todd Whitesel

**I**f you were a magician and pulled a rabbit out of your hat, would you be sure it's a rabbit and not a hare? Would you know the difference? It's not just splitting hairs to call a hare a hare and a rabbit a rabbit.

They are technically different. Hares have larger ears and larger hind limbs than rabbits, but hares and rabbits have more similarities than differences.

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# Minnesota: A bunny crossroads

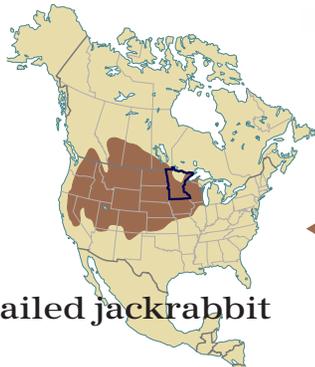
Minnesota has three native bunnies: one rabbit species—**eastern cottontail**—and two hare species—**snowshoe hare** and **white-tailed**

**jackrabbit.** Rabbits and hares belong to an order of mammals called *lagomorphs*. They are most active from dusk to after dawn.

Colored areas on maps show where each species lives.



Snowshoe hare



White-tailed jackrabbit



Eastern cottontail

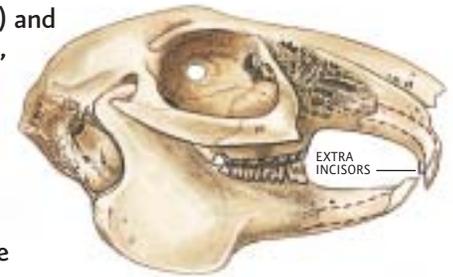


ILLUSTRATIONS BY JULIE MARTINEZ.  
MAPS BY MATT KANIA. SOURCE:  
MAMMALS OF MINNESOTA

# Special traits in common

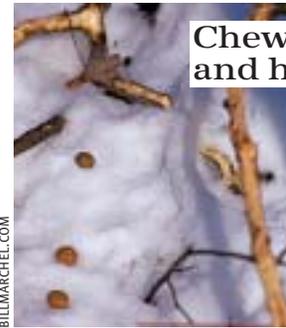
Lagomorphs are plant eaters (herbivores) and have **strong front teeth**, called *incisors*, used to cut and chew vegetation. Like the teeth of beavers and other rodents, these incisors grow continuously from the roots and are kept in check by gnawing on plants.

Unlike rodents, lagomorphs have an **extra pair of peglike teeth** behind the big upper incisors. Lagomorphs can chew in a side-to-side motion.



Specialized teeth

Hares and rabbits have the unusual habit of **eating their own droppings**. They do this because much of their food goes through their system partially digested. In order to obtain all of the nutrients, they must cycle some of their food through a second time. The animal passes and eats soft pellets, usually at night. It does not eat the hard droppings you might find on a rabbit trail.



Chewed twigs and hard pellets

Called *coprophagy*, or reingestion, this method of feeding allows the animal to spend less time exposed to predators in open areas. It can quickly nibble food and return to cover, where it can reingest and digest the nutritious pellets in greater safety.

Rabbits and hares are **very important food for many animals**. Their predators include bobcats, coyotes, foxes, lynx, owls, hawks, and weasels. Humans also hunt them for meat. To avoid predators, rabbits and hares have several special traits including long ears to detect distant sounds and long hind legs to hop and bound away.



Coyotes, hawks, owls, and bobcats are natural enemies of hares and rabbits.



**Snowshoe hare (*Lepus americanus*)**

The snowshoe hare is also called *varying hare* because its coat changes color twice each year. In early fall its brown summer coat gradually turns white as long, silky white hairs replace brown hairs. In late winter the process reverses itself, and the white winter coat begins changing back to brown. (Its ear tips and eye rings remain black all year long.) This change in color lets the snowshoe hare blend into its surroundings, creating a natural camouflage to hide from bobcats, owls, and other predators.

The snowshoe hare's food also changes with the seasons. In summer it feeds on grasses, berries, wildflowers, clover, and other fresh

green vegetation. In winter, the hare eats bark, twigs, and evergreen needles.

### Home sweet home

Snowshoes live in northern Minnesota in woods, thickets, and coniferous swamps. A solitary animal, the snowshoe hare roams a seven- to 17-acre home range. (One acre is slightly smaller than a football field.)

During the day the snowshoe hare spends most of its time grooming and taking naps. The hare takes dust baths to help remove parasites from its fur.

Males and females usually gather to breed in March, and the breeding season continues through the

summer. Before she gives birth to her young, the female hare retreats to a protected spot in grass or brush and stomps the vegetation into a nest. Two to four young are born with fur and open eyes. A female can have up to four litters in one season.

### Escape artist

Leaving the nest after about one month, young hares face many dangers from predators. To contend with threats, hares react in various ways. If predators approach, the snowshoe might “freeze” in place, relying on its camouflaged fur to blend into the background. If this doesn't work, the hare can use its strong hind legs to escape. The adult snowshoe hare can run more than 25 miles per hour and make 10-foot leaps. Though it avoids water whenever possible, the snowshoe hare is an excellent swimmer and readily jumps into water when being chased.

### Population booms

Populations of hares go up and down dramatically. Researchers estimate that 1 square mile might have 5,000 to 10,000 snowshoe hares one year, and only two or three animals the next year after a population crash.

Researchers are trying to find out why hares go through such a “boom and bust” cycle. They believe many things interact in a complex way. During a boom, overcrowding causes stress, so fewer young hares are born. The hares eat so many plants that they have less and less to eat. Yet predators have lots of hares to eat, so they live longer and have more young. These things add up until suddenly the number of hares drops. As plants regrow, more hares can survive and raise more young. The population change from high to low and back again occurs over about a 10-year cycle.

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In the fall, dense pads of extra fur develop on the snowshoe hare's feet (below, hind foot). Like natural snowshoes, these thick pads keep the hare on top of the snow instead of sinking into it. This set of tracks (right) shows how the hare hops along putting its big back feet down ahead of its smaller front ones.



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ROD PLANCK, DEMBINSKY PHOTO ASSOCIATES

## White-tailed jackrabbit (*Lepus townsendii*)

The white-tailed jackrabbit is actually a hare. The largest lagomorph in Minnesota, the adult jackrabbit can weigh 8 pounds or more and measure 2 feet in length from the tip of its nose to the tip of its tail.

Like the snowshoe hare, the white-tailed jackrabbit changes color with the seasons. In summer it has brown-gray fur with white feet, belly, and tail. Later in the year, as the daylight grows shorter, jackrabbits in Minnesota turn white, except for a dark patch on the back of each ear. This natural camouflage helps the jackrabbit blend

into the snowy background.

The jackrabbit is most active from dusk to early morning. During the day it will rest in a shallow hole or a simple depression, called a *form*, scratched out of the earth. The jack often travels on established trails that connect a series of forms and feeding sites. The jack's home range varies from five acres to more than 700 acres.

### Quick action

The jackrabbit lives in open areas near cover such as tall grasses and farm

crops. It relies on speed and excellent hearing to avoid predators. It has long, antennalike ears—the better to hear approaching coyotes, bobcats, great horned owls, and other predators. It can run up to 40 miles per hour in short bursts and can leap up to 20 feet in a single bound.

A fine swimmer, the jack uses a four-legged motion similar to a dog paddle. When chased, it might jump into a river and paddle to the other side.

### Spring gathering

White-tailed jackrabbits lead solitary lives. Only during the breeding season will a few individuals gather. Then, as many as five males might pursue one female.

### Lagomorph vocabulary

<i>doe</i>	a female hare or rabbit
<i>buck</i>	a male hare or rabbit
<i>leveret</i>	baby hare
<i>kitten</i>	baby rabbit
<i>bunny</i>	an affectionate name for hare or rabbit

The female jack digs a small, simple nest in the ground and lines it with fur. Her first litter is born in early April. Each year she has two to four litters of three to five young.

Like snowshoe hares, jackrabbits are born with fur and open eyes. They begin to eat green plants in about two weeks and join adults in foraging for grasses, alfalfa, and clover.

Often in winter, the jack burrows into a snowbank or lies in a shallow hole. Then only its back, flattened ears, and eyes show above the snow.



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## Eastern cottontail (*Sylvilagus floridanus*)

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Eastern cottontails are common animals, living throughout Minnesota in partially open fields, brushlands, and woodlands. They spend most of the day in and around the shelter of thick vegetation. They are most active near dusk and dawn, but remain active all night. They have a home range of five acres or less and lead mostly solitary lives.

Cottontails like to eat many kinds of plants. Favorite foods include grasses, clover, flowers, and other cultivated crops. During the winter they eat seeds, twigs, and bark.

Named for the tail's fluffy, white underside, cottontails are smaller than

snowshoe hares and jackrabbits. Unlike hares, they do not change fur color with the seasons.

### Artful dodgers

Cottontails have shorter legs than hares and rely on quick, dodging movements to escape predators. If chased, they usually circle within their territory. They can run up to 18 miles per hour and leap up to 15 feet. Eastern cottontails are not fond of water, but they can swim if necessary.

While hares have long ears, the cottontail's ears are shorter than its head. The cottontail has excellent hearing and can move its ears

continuously to detect sounds.

The cottontail's eyes are set high on its head, and each eye can move more than half a circle. Both eyes together give the cottontail a 360-degree field of view. This full circle of vision helps the rabbit spot overhead predators such as hawks and owls.

### A bounty of bunnies

Eastern cottontails are known for being some of nature's most abundant mammals. Each year a female cottontail produces several litters of young, with four to six rabbits per litter. A female born in early spring may breed that same summer when only 3 months old!

Before giving birth to her young, a female cottontail digs or finds a shallow hole in the ground. She lines the nest with grass and fur pulled from her body. She may breed again when the young are a few days old.

Because cottontails have many predators, only about 1 percent of all rabbits born reach 2 years of age.

### A secret life

Newborn cottontail rabbits weigh about an ounce at birth. Unlike hares, they are blind, naked, and totally dependent on their mother for protection and food. Their eyes open

### To learn more

Hop over to these web sites on hares and rabbits:

[www.dnr.state.mn.us/snapshots/mammals.html](http://www.dnr.state.mn.us/snapshots/mammals.html)

[www.enature.com/guides/select\\_Mammals.asp](http://www.enature.com/guides/select_Mammals.asp)

after about a week.

The mother rabbit normally visits the nest near dawn to nurse her young. During the day she keeps her distance so predators won't notice the nest. Before leaving each morning, she covers her young with grass and fur and scatters leaves over her nest.

At about 2 weeks old, young cottontails begin to venture from the nest. When only 1 month old, they begin life on their own. ①

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*Todd Whitesel is a writer and photographer living in Superior, Wis. While working on this story, he saw his first white-tailed jackrabbit hopping across a farm field near Thief River Falls. It was much bigger than he had imagined.*