

## History

White-tailed jackrabbits were probably common to the shorter and frequently disturbed grasses of northwestern Iowa in pre-settlement times. With settlement and the cultivation of the tall grass prairie, the range of jackrabbits in Iowa rapidly expanded into central and western Iowa. Since the early 1900s they have appeared in greatest abundance on the glaciated soils of the Des Moines Lobe and the Missouri Loess soils of northwestern Iowa. They are most at home on the wide-open expanses of prairie/wetland/pasture habitat types, although moderate cultivation favors the species. Dry growing seasons appear conducive to hare abundance as populations decline in wet years. They were once a common Iowa game species, but their numbers have declined in recent years due to modern farming activities that have eliminated much of their grassland habitat. Prior to the mid-1960s, jackrabbits provided a considerable amount of recreational hunting (particularly in north-central and northwestern Iowa), and their pelts and meat were important commercially.

Jackrabbits are famed for their ability to cover long distances rapidly. When disturbed, jacks bound or lope generally covering between 5 and 10 feet each stride. At maximum speeds, 20-foot leaps are possible. While running, jackrabbits are able to leap from two to five feet off the ground. Speeds of 30 to 35 miles per hour are not uncommon over short distances. Jackrabbits also possess the ability to swim.

## Identification

The white-tailed jackrabbit is actually a "hare," and is much more closely related to the snowshoe hare of the northern U.S. than to the cottontail rabbit. White-tailed jackrabbits are easily distinguished from the cottontail rabbit, the only other Iowa member of the rabbit family (lagomorphs), by their larger size and different reproductive biology. Young of hares are born with fur and with open eyes, whereas cottontails are born naked and blind.

Jackrabbits are large mammals, weighing between 6

and 10 pounds and measuring from 18 to 22 inches in length. They are conspicuous by their long ears, which may range up to 6 inches in length. The ears may be rotated from front to back independently of each other. Like its cousin to the north, the snowshoe hare, the white-tailed jackrabbit has two color phases. In summer, the back is brownish-gray speckled with brownish-black. The chest and body are lightly colored. The tail is usually entirely white but may have a narrow gray stripe on top. With the coming of winter, jackrabbits shed their summer fur and the coat becomes white except for the black tips of the ears and a light gray tinge on the ears and back. This changing pelt coloration aids in concealing the jackrabbit during the different seasonal conditions it encounters.

## Reproduction

In Iowa, the jackrabbit's breeding season extends from February through August. Litter sizes generally range from three to six and average about four. The gestation period is about 42 days. Females are apparently able to breed within several days of having young and thus are capable of producing from two to four litters per breeding season. Unlike cottontail rabbits, no evidence of breeding by juvenile female (young-of-the-year) jackrabbits has been found. The onset of breeding activity may be conspicuous in early spring as males wander about open fields in search of does or are seen in groups chasing each other. The first young of the year are produced in early to mid-April. Severe winter weather and prolonged periods of snow may delay breeding activities. Young are born with their eyes open and are usually concealed in vegetation. Young hares can run several hours after birth.

## Food Habits

Jackrabbits generally feed at dawn and dusk. They are almost entirely herbivorous. Summer foods consist mainly of available green vegetation in the form of grasses or forbs, but some feeding on cultivated crops may also occur. Jackrabbits are also known to feed on baled and stacked alfalfa and use waste grain during winter. Like other members of the hare family, white-

tailed jackrabbits are sometimes known to cause damage through girdling and browsing of young trees in winter and consuming sprouts of corn and soybeans in spring.

Jackrabbits, like other lagomorphs, have a curious method of getting the most out of what they eat — food is passed through the body twice. Two types of droppings are produced: 1) dry and fibrous and 2) soft, moist, mucous covered droppings. The jackrabbit normally eats the soft droppings as they are passed from the anus, because they are high in protein and certain B vitamins formed by bacterial action in the cecum (a specialized portion of the digestive tract). Protein and vitamins are absorbed when the food passes through the system the second time, and the resulting droppings are hard, dry, fibrous pellets. This trait is called coprophagy and also occurs in other mammals including beaver.

## Limiting Factors

Intensive rowcrop cultivation has proven to be detrimental to jackrabbit numbers since the mid 1960s. Intensive rowcrop farming has led to the conversion and elimination of pasture, hay, and small grain habitats in the jackrabbit's primary range in northern Iowa. The loss of this preferred grassland habitat has been the primary reason for the decline of jackrabbit populations. Removal of fencerows and drainage of sloughs and prairie wetlands have also contributed to this problem.

## Habitat Needs

White-tailed jackrabbits are a native plains species that is well adapted to treeless, short to mid-height grasslands. To survive, jacks rely on their ability to see danger approaching and their quick speed to escape when threatened. Such a defense mechanism requires short vegetation so they not only see predators approaching, but also so they are not impeded by vegetation as they attempt to escape. Thus, jackrabbits avoid thick, tall, and rank grasslands. Such grasslands require disturbance either through grazing or haying to periodically reduce the height of the vegetation so jackrabbits can see over it and run

through it.

The home range of white-tailed jackrabbits may encompass from one to two square miles. If both feeding and resting areas are nearby, the range may be correspondingly smaller. Some cultivation is apparently beneficial for jackrabbits because it provides additional food and breaks up large blocks of cover, creating an edge effect. Even in intensively farmed regions, surprisingly high jackrabbit populations exist around airports, golf courses and other areas where treeless, open grassy habitat is available. It is perhaps these areas in northern and central Iowa that have allowed jackrabbits to persist in today's rowcrop dominated landscape.

Populations of jackrabbits on individual sections of land may show considerable variability. In the early 1960's, winter populations as high as 114 per section were reported. However, populations of 5 to 20 jackrabbits per section were much more common within the primary jackrabbit range. In most areas of Iowa at the present time, populations of 5 to 10 jackrabbits per section would be considered very high.

## Hunting

White-tailed jackrabbits were once important not only for sport but also for the value of their flesh and pelts. Jackrabbit flesh was sought by the mink farm industry as food, whereas pelts were used in the hatters' trade and as trimming for coats. Prices paid to hunters ranged from 25 to 75 cents per animal, making jackrabbits a more important source of fur revenue prior to the 1970s. Carcasses and pelts were marketed through established fur buyers. This market, however, does not exist today.

Old accounts of jackrabbit hunting are quite interesting. Circle drives were often employed by large groups of hunters to efficiently hunt promising looking sections of land for jackrabbits. Hunters surrounded a section, converged on the center, and shot jacks as they ran ahead or tried to escape the circle. Some of these hunts yielded as many as 100

jackrabbits per section, and individual groups of hunters were reported to have taken in excess of 1,200 jacks over the course of a season.

Unfortunately, the Iowa DNR closed the jackrabbit hunting season following the 2010-11 season because of declining population counts. This population decline was not due to hunting, but due to the conversion and elimination of pasture, hay, and small grain habitats, the preferred habitats of jackrabbits in Iowa. Between 1990 and 2020 the area of small grains in Iowa declined from over 1,000 square miles to under 100 square miles. This loss of preferred habitat has led to a tremendous decline in jackrabbits in Iowa. Jackrabbits are still found scattered across the northwest and northcentral regions of Iowa in very low numbers.

## Economics

Revenue from the sale of hunting licenses and habitat stamps, as well as the federal excise taxes on sporting arms and ammunition purchased by jackrabbit hunters, helps support a wide variety of Iowa Department of Natural Resources' programs including wildlife management, wildlife research, and wildlife habitat acquisition.

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Summer Coat

# WHITE - TAILED JACKRABBIT

(*Lepus townsendii*)



Winter Coat (Photo by Roger Hill)

## Biological Facts

**Weight:** 6-8 lbs (range 5-10); females slightly larger than males.

**Length:** 18-22".

**Top speed:** 35-45 mph.

**Identification:** sexes identical.

**Preferred Habitat:** treeless areas of open short grasslands with mixture of hay, small grains, and pasture.

**Foods:** grasses and forbs in summer, waste grains and browse in winter.

**Life expectancy:** 70-90% annual mortality rate; few jacks live to age 3.

**Mating:** polygamous, one female will breed with many males.

**Breeding period:** February-August.

**Gestation period:** 42 days.

**Nests:** none, young born furred with eyes open, usually concealed in vegetation.

**Litter size:** 3-6, average 4.

**Litters per year:** 3-4.

**Activity:** Mostly nocturnal, use lairs (shallow ground depressions) during day to hide.