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BEAVER (*Castor Canadensis*)

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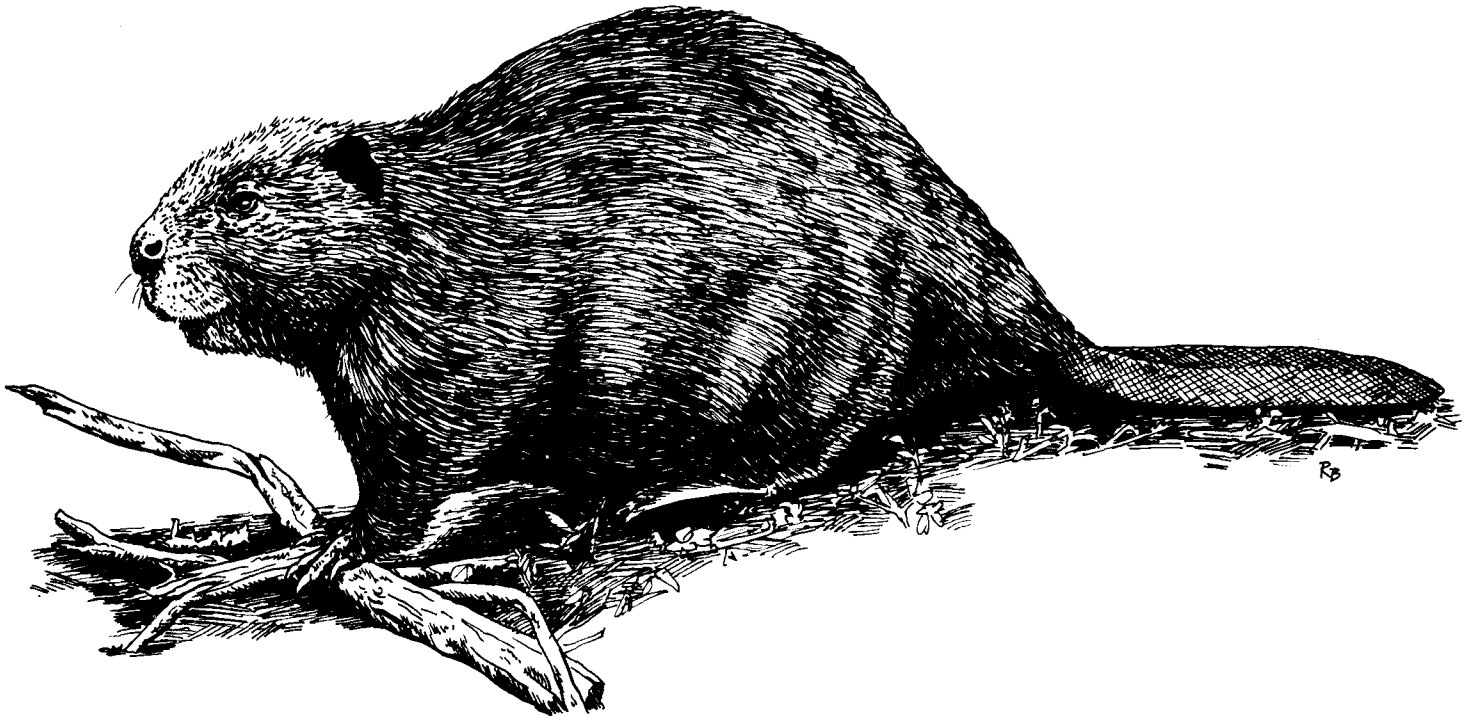
NEBRASKA WILDLIFE

Nebraska Game and Parks Commission



BEAVER
(Castor canadensis)

Description: The beaver is North America's largest rodent. Adults may be 4 ½ feet long and weigh over 60 pounds. A beaver is easy to identify because of its large size, its distinctive webbed hind feet and its large flat tail that resembles the end of a canoe paddle. The tail is nearly hairless and is a dull-black color. The "splat" that the tail makes when slapped on the water is one of the most distinctive of nature's sounds. The beaver's body fur is dark brown on its back and sides, and a light brown on its chest and belly. Its front feet are short and have heavy claws, and possess good dexterity for feeding, grooming, digging and lodge construction. Its hind legs are large and have fully webbed feet which propel it through the water when it is swimming.

Like the muskrat's, the beaver's fur is virtually waterproof, and provides the protection and buoyancy necessary for the animal's extended underwater activities. The beaver's eyes are small in proportion to its body size, allowing moderate vision both under and above water. It has well-developed senses of smell and hearing, and its nose and ears have valvular processes which close tightly under water. There is a similar valvular process in its mouth behind the incisor teeth, which allows the beaver to gnaw while underwater.

The beaver also possesses a specialized digestive system to help it digest tree bark, and a special respiratory adaptation which gives it the capability to remain submerged for nearly 20 minutes. These specialized physiological and morphological adaptations serve both positive and negative functions; they have made the beaver well suited for a specific environment, but have also restricted it to very narrow habitat tolerances.

The beaver has two chisel-like incisors in its upper and lower jaws that grow constantly and are very effective tree cutting tools. These teeth are both self-sharpening and ever-growing, which means the beaver much use them continually to maintain their proper length and sharpness.

Distribution and abundance: In the early and mid 1870s, beavers ranged over most of North America, but excessive commercial trapping and human encroachment on its habitat resulted in the beaver being nearly wiped out in the eastern and the southern parts of the country. Their numbers were also reduced in Nebraska, and as a consequence, trapping seasons were closed during the 1940s. Fortunately, there is no shortage of beavers in Nebraska today, and they can be found in virtually all areas of the state.

Habitat and home: In Nebraska, beavers are found along streamcourses and rivers, small lakes and marshes. A beaver may dig a tunnel and form a den in a high stream bank or river bank, but in the standing water of lakes, marshes and backwaters, they most often pile tree limbs and other debris together, making a large, bulky, dome-shaped lodge. Beaver lodges are large structures constructed of wood and mud with at least one exit in deep water. Lodges contain a large bark-lined, above-water chamber which serves as the colony's "activity center." Although lodges are the most visible den sites, bank burrows are by far the most common denning structure in Nebraska. Burrows are usually dug from six to 20 feet into the bank before an above-water chamber is excavated and lined with fresh, shredded bark. On rivers like the Platte, where sandy soil prevents normal excavation, beavers will use the structural support of trees or shrub root systems to construct or maintain a den and burrow system. Over time, beavers will reinforce bank dens with sticks and mud, forming conical lodges called "half houses" at the water's edge.

Habits: The engineering skills possessed by beavers are well known. They are particularly adept at building dams, and may construct them across narrow, flowing waters, such as shallow streams and the channels of larger rivers.

When a beaver cuts a tree, he usually starts by gnawing a notch at an easy-to-reach height, then goes to the opposite side of the tree and gnaws another a few inches below the first. He continues chewing the bark and wood away from between the two notches until the tree falls. The only way the beaver can control where the tree falls is by the position of the notches he chews in the tree's trunk. In addition to building the dam and lodge, beavers often form waterways so they can float food and building materials from one area to another.

Foods: Beavers are primarily bark-eaters, and ingest the bark of young twigs, and new growth of wood found between the outer bark and the wood of tree branches and trunks. In spring and fall, about half of the beaver's food is made up of woody vegetation. In summer it eats little woody vegetation, but in winter it feeds on it almost exclusively. It also eats corn and other row crops when they are available, as well as various water plants.

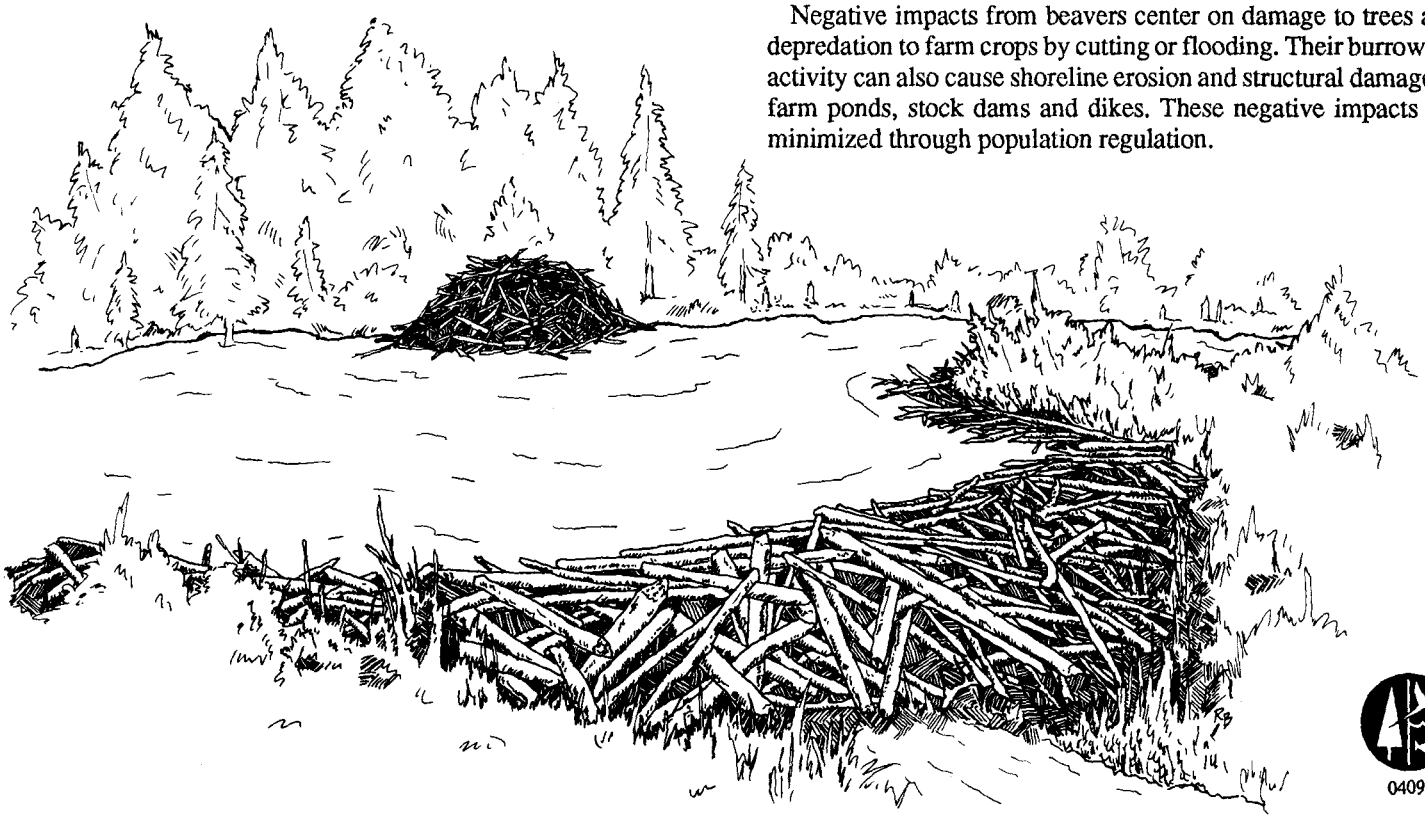
As fall approaches, the beaver begins to actively cut trees and shrubs for the colony's food cache. The quantity, quality and availability of this under-ice food supply will determine the condition and survival of the colony.

Reproduction: Beavers reproduce once a year, with mating activity beginning in January when rivers and wetlands are covered with ice. A 107 to 110 day gestation period follows, with an average of three to four young usually born in May. At birth the kits (young beavers) are fully furred, have their eyes open and incisor teeth visible. Kits are seldom seen until they are about one month old, though they are able to swim at birth, and are capable of being weaned in six to eight weeks. Although weaned within three months, the young usually remain with the family unit or colony for up to two years before leaving to establish a colony of their own. Typically, these two-year-olds will disperse, pair, establish territories, and raise their first litters at three years of age. However, under favorable conditions, they will produce their first litters at two years of age. The average lifespan of a beaver in the wild is three to four years. However, it is not uncommon to find eight-year-olds and rare individuals may reach or exceed 15 years of age.

Importance: The huge market for beaver felt was one of the main incentives that prompted the exploration and settlement of the west. Today beavers have both positive and negative economic values. The positive values center on the income generated by the harvest of beaver for their meat and fur, and the related recreational value. From 1942-86, nearly 400,000 beavers were taken by fur harvesters in Nebraska. Harvest totals from 1981-89 indicate an average annual harvest of 14,850 beavers valued at $255,000.

Beavers are also important in the management of river and wetland habitats. Their construction of dams and the subsequent formation of pools create habitat for a large number of highly beneficial wildlife species.

Negative impacts from beavers center on damage to trees and depredation to farm crops by cutting or flooding. Their burrowing activity can also cause shoreline erosion and structural damage to farm ponds, stock dams and dikes. These negative impacts are minimized through population regulation.



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