

NATURE DETECTIVES

Spring 2017



Muskrat Swims Home

Perhaps the first thing you notice is a small, v-shaped wave and ripples on top of the water. At the tip of the wave you detect a dark body paddling across the pond, creating those ripples. Beaver?

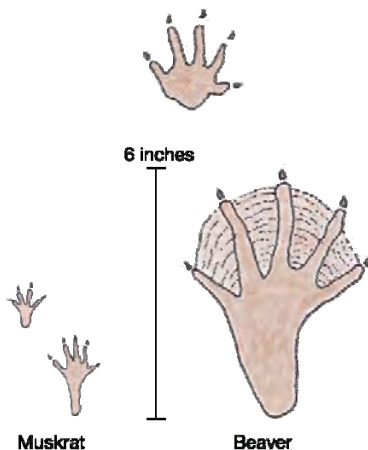
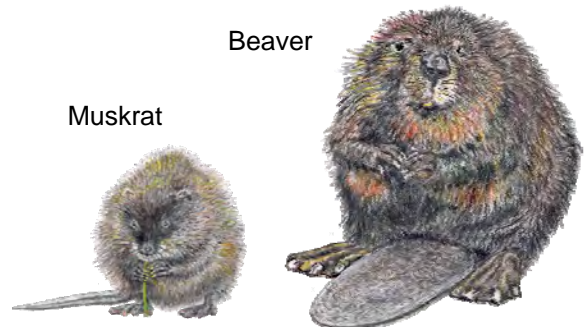
Then you get a glimpse of its tail. You might remember beavers have a roundish, flat, paddle-shaped tail, but this swimmer's tail looks almost like a snake. So it's not a beaver. What is it? Hmmmm.

Here are some hints. The animal's name means "stinky rat," and it lives the life of a beaver on a smaller scale. This furry creature was called *musquash* by the Algonquian people (who were the first Native American people encountered by settlers from England). The early white settlers called them "muskrats." **Muskrat** is the common name still used today. Muskrats are not rats, and they are not beavers either.

Pull Out and Save

Quite a Big Vole!

Beavers and muskrats and rats are all **rodents**,* but the three are not close relatives. Rat family members stole aboard ships from Europe to get to the Americas. Beavers and muskrats are native rodents with very similar lifestyles, yet they too are in different families. Beavers are in the beaver family, and muskrats are voles.



Muskrats are by far the largest cousins in the **vole** family. Most voles are mouse-sized critters that are known for chewing runways through thick vegetation. Muskrats make trails through plants too, but they gnaw plants that grow in or near the water. Like all voles, muskrats have little ears, barely visible above their fur, but their watery living and their much larger size sets them apart from all other kinds of voles.

*Rodents are animals with continually growing front teeth.

Bodies Fit for a Water Life



Although muskrats are quite big for voles, they are half the length of beavers and weigh much less. An adult muskrat only measures about two feet from the tip of its blunt snout to the end of its long, scaly tail.

Muskrats are propelled through the water by their back feet. The back feet are oversized, partly webbed, and turned out at the ankles so they work like paddles. The toes have stiff hairs around the edges. Muskrats swim and dive well and can swim backwards, but they waddle awkwardly on land. Their tails have scales like beaver tails instead of fur, but where beaver tails are paddle-shaped and flat top to bottom, muskrat tails are long, thin and flattened side to side. Muskrats use their tails as rudders to steer themselves in the water and for a little extra propulsion.

Muskrat eyes, ears and noses are adapted for swimming under water, and they have a waterproof, double-layer coat. Air trapped in the underfur keeps their bodies warmly insulated and buoyant too. They can hold their breath under water for fifteen minutes or longer.

Their clawed front feet are dexterous, and good at holding plant material for eating and building. Claws are also useful for digging and for grooming their fur.



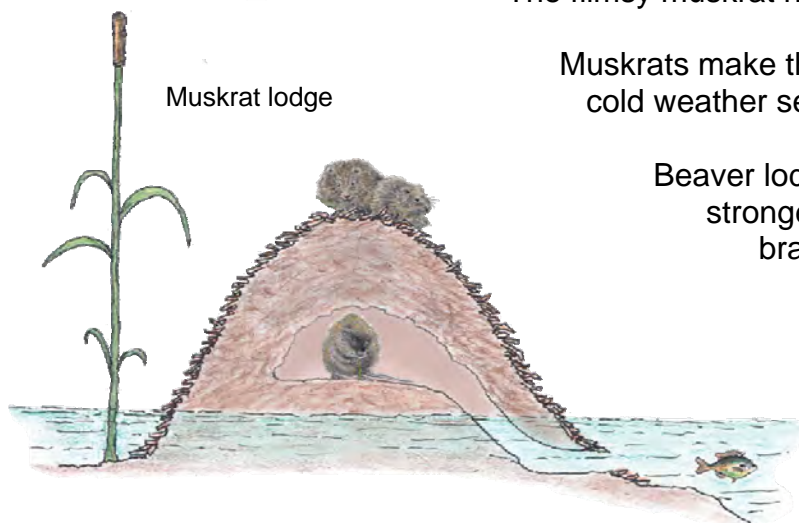
Muskrat tracks

Homes with a Water Entryway

Whether muskrats make their homes in **lodges** made of mud and plants or in **dens** tunneled in a dirt bank depends on what is available. They often tunnel into a steep bank next to a slow-moving river, stream, lake or pond. To deter predators, the tunnel entrances open underwater. They enlarge the tunnel after it rises above the waterline to make their cozy, dry living quarters.

If muskrats are living in a marsh without high banks, the muskrat builders will pile up mud, twigs and soft vegetation into a dome. Once the structure is big enough, they chew underwater entrance tunnels upward and hollow out a flat living area above the waterline.

The flimsy muskrat homes might last just half a year.



Muskrat lodge

Muskrats make their best structures in the fall before cold weather sets in.

Beaver lodges are similar, but larger and stronger, and constructed of thick branches and lots of mud.

Because beavers eat woodier plants than muskrats, they don't compete with muskrats for food or territory. Sometimes muskrats will even build their homes in the wall of a beaver lodge.

Muskrat Dining Rooms

Musk rats will sometimes make smaller domes on top of a stump or flat ground for feeding rooms or platforms. In cold weather they will also pull plants up through cracks in the ice to make pushups. They can keep an opening in the ice at the pushups and hide in the pulled-up plants while they eat. Muskrats will also eat shoreline plants and sometimes even garden or farm plants if they are located very near muskrat homes.



Musk rats Seek Habitats in Wetlands from the Plains to the Mountains

Musk rats never wander far from their dens or lodges so they need watery habitat with a good supply of green plants to eat. Muskrats eat trails through cattails and other rapidly spreading, shallow water plants.

Muskrat trails create good habitat for waterfowl such as ducks and for shorebirds such as herons and egrets. Without muskrats, plants can grow so thick there are no spaces left for birds. Many underwater critters, plus snakes, frogs and insects also benefit from the building and eating activities of muskrats.

Eggs, fish, frogs, crayfish and dead animals are also muskrat snacks. Muskrat lips close behind their long incisors so they can easily gnaw and carry plant material and other foods in their teeth while they are underwater.

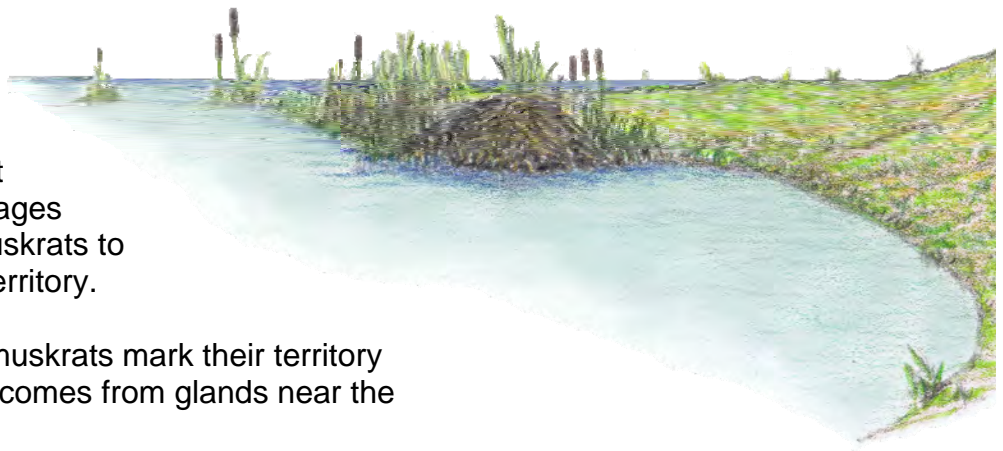
Predators ensure that muskrats don't become so numerous that they eat up the habitat. Minks, otters and occasionally snapping turtles eat baby muskrats. Foxes, coyotes, raccoons, eagles, hawks, owls and other predators catch muskrats traveling over land.

Baby Muskrats Are Called Kits

Inside their homes, the muskrat family builds one or more nest chambers lined with plant material. Moms usually give birth to about six babies in the spring and again in the summer. Kits are born blind and almost hairless. In two weeks they have fur, open eyes and can swim. After four weeks they can fend for themselves and after a year they are fully grown.

Fighting among muskrat family members encourages smaller and younger muskrats to leave to find their own territory.

As their name implies, muskrats mark their territory with a strong scent that comes from glands near the base of their tails.



Muskrat Neighborhood

Musk rats live in a neighborhood with many other animals. Draw these animal neighbors that share the muskrat habitat on the picture below: **Duck** — on the water, **Goose** — nesting on top of the muskrat's dome, **Heron** (bird with a long neck and long legs) — near the shore, **Frog** — in the cattails, **Snake** — near the water, **Dragonfly** — on a plant or above the water, **Eagle** — flying overhead.



What's for Dinner?

Musk rats are part of a **food web**. After you finish drawing your animals on the picture, **circle** the things in the picture that muskrats might eat. Put a **square** around the animals that eat muskrats. *(Answer key at bottom of page.)*

Where are the Musk rats?

Here are a few places muskrats have been spotted in Boulder County:

- ◆ Walden Ponds Wildlife Habitat
- ◆ Dodd Reservoir, on Niwot Road west of 73rd*
- ◆ Little Gaynor Lake on Oxford Road in south Longmont*

**Be sure to bring binoculars or a spotting scope at these two locations.*



Sherlock fox says, "Watch for pieces of plants floating on the water or along a shoreline. They are clues to muskrat dining. Check for plant bits around a log, rock, stump or pile of matted plants. They are signs of a favored feeding spot."

*Muskrat food: plants, frog
Muskrat predators: mink, coyote, eagle, snapping turtle
(Did you find the turtle?)*

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