

## Muskrat (*Ondatra zibethicus*)

Mary Penney, Stewardship & Habitat Program Coordinator,  
New York Sea Grant



Photo courtesy of U.S. Fish and Wildlife Service



New York Sea Grant  
SUNY College of Oswego  
Oswego, NY  
13126-3599  
Tel: 315.312.3042

[www.nyseagrant.org](http://www.nyseagrant.org)

### What are muskrats?

Muskrats are mammals that are well-suited to aquatic habitats and are often mistaken for their larger relative, beavers. An average adult muskrat weighs 3 pounds, and is about 10 to 16 inches from its nose to the base of its tail. Its tail, which in rare cases can be 2 feet long, is a physical characteristic that is important for the muskrat's aquatic way of life. It's shaped like a rudder on a sailboat and helps the muskrat turn in the water.

Other physical characteristics that make muskrats well-suited to aquatic habitats are their fur, mouth, and eyes. A special layer of fur traps air to insulate the muskrat from cold. They can close their lips behind their front teeth. This allows muskrats to breathe underwater while gnawing on plant material. Muskrats have small eyes that are positioned on top of their heads that allow them to be secretive in the water.

### Where do muskrats live?

Muskrats live in a variety of habitats and are typically found in cattail marshes. They seem to prefer habitats where water flows slowly and during colder months does not completely freeze. Although relatively large in size, it is often difficult to see muskrats in the wetlands protected by the eastern Lake Ontario dunes. This may be because they are most active at night or near dawn and dusk, when we are not around.

Muskrats build their pyramid-shaped houses, or lodges, with cattails, mud and other materials cleared from the immediate area. These lodges are usually more than three feet (3.28 feet) wide and one and a half feet (1.64 feet) tall.

#### Fun Fact:



The name "muskrat" is derived from the animal's pungent smell, or musk. Musk comes from the two scent glands that are located near the muskrat's tail.

New York's Sea Grant Extension Program provides Equal Program and Equal Employment Opportunities in association with Cornell Cooperative Extension, U.S. Department of Agriculture and U.S. Department of Commerce and cooperating County Cooperative Extension Associations.

# Muskrat



Muskrat lodge photo by  
Mary Penney

The lodges have underwater entrances and are chewed out from the inside, creating a shelter that protects them from predators and weather. Along with the large lodges, muskrats also build smaller platforms for resting and feeding.

## Role of muskrats in the wetland food web

Muskrats don't just use cattails for shelter and a place to hide, but for food as well. They eat virtually every part of the cattail plant from top to bottom. Although muskrats prefer cattails and other plants, they will eat small animals like mussels, frogs, salamanders, crayfish, and even small fish. During the winter, you may see "push-up" mounds. Muskrats swimming under cattails and ice create "push-up" mounds and tunnels when searching for food. "Push-up" mounds are areas where muskrats break through the surface for breathing. They will also leave left over food there during feeding.

Muskrats are also an important food resource for many other animals such as foxes, coyotes, mink, raccoon, otter, and owls. Baby muskrat may also be preyed upon by predators like large fish and snapping turtles.

## Muskrat's life cycle

Muskrats normally live in a family group of a male and female pair with their young. Annually, females give birth to two to three litters of six to eight young each. At birth, the baby muskrats weigh about 0.8 oz and are hairless. According to local biologists, muskrats mature at about a year, and generally live two years.

## Importance

Because muskrat feeding and hut-building can thin areas of cattail vegetation, muskrat activity tends to produce a patchy pattern of open water within marshes. Patches of cattails mixed with open water can be positive in some situations. When in balance, a mixture of wetland plants, like cattails, and open water encourages waterfowl and black tern nesting. This is one example of how moderate muskrat activity can be a positive influence on wetlands ecosystems.

## References

- Benyus, J.M. 1989. *Northwoods Wildlife: a watcher's guide to habitats*. Northword Press, Inc. St. Paul, MN.
- Collins, H.H. Jr. (ed.) 1981. *Harper and Row's Complete Guide to North American Wildlife, Eastern Edition*. Harper and Row Publishers, New York, NY.
- Smithsonian Natural History Webpage: [http://www.mnh.si.edu/mna/image\\_info.cfm?species\\_id=232](http://www.mnh.si.edu/mna/image_info.cfm?species_id=232)
- U.S. Fish and Wildlife Service wildlife photos: [http://www.fws.gov/huronwetlands/Photos Wildlife/index.htm](http://www.fws.gov/huronwetlands/Photos%20Wildlife/index.htm)

This fact sheet was prepared for the New York State Department of State, Division of Coastal Resources, with funds provided under Title 11 of the Environmental Protection Fund

### Advisory Committee:

Sandy Bonanno,  
*Consulting Ecologist*

Carolyn Deary-Petrocci,  
*Oswego County BOCES*

Chris Lajewski,  
*The Nature Conservancy*

Irene Mazzocchi,  
*NYS Department of Environmental Conservation*

Erica Schreiner, *Oswego County Soil & Water Conservation District*