Nature Guides

Muskrats Make the Most of Life Under the Ice

Early-Mid January

Featured Species: Muskrat ramble, part 2

Muskrats were featured in mid-November, and a brief mention was made of push-ups and feeding huts. From now until ice-out, these features will be prominent in local marshes, as Muskrats continue to ramble beneath the ice and snow.

Muskrats out on the ice are pretty exposed, so they create pushups. To form a pushup, Muskrats chew a small (10 - 15 cm) hole in the thin, newly-forming ice, and "push up" a pile of vegetation less than a half-metre high. This wet vegetation freezes, and forms a hard little dome for the muskrat to breathe and rest in safe from predators. In Alaska, blackfish will also use the holes to get oxygen, and their activity helps the Muskrat maintain an open hole. Yes, everything *is* connected.

To confuse matters a bit, Muskrats also build feeding huts in the winter, which are mid-way in size between a lodge and a pushup, and are used more for feeding than the pushup is, since there is more room. Unlike most lodges, both push-ups and feeding huts will collapse in the spring.

With this network in place Muskrats can stay busy all winter, following their trails under ice and chowing down on cattails.

Top R4R Picks

Resources for extending the learning

- Black Bear Ecology-Interactions within Ecosystems
  Middle
- Black Bear Ecology-Growth and Changes in Animals
  Elementary
- Wild World
  Elementary, Middle

Other Happenings:

- As we speculated last month, some Great Gray Owls have turned up in southeastern Ontario. More Snowy Owls have also been seen, and a Northern Hawk Owl was reported in southern Ontario. There is still a lot of winter left, so keep your eyes open.
- Black-capped Chickadees, Red-breasted Nuthatches, and White-breasted Nuthatches are active throughout the winter. Chickadees survive in part by significantly lowering their body temperature at night, and choosing good roost holes. They also stay dry with oil from their preen gland. Still, in very cold weather they may need to eat their weight (40 g) in food each day to survive. They eat lots of conifer and other seeds as well as insects that they find and have cached away. Chickadees will also snack on fat and bits of meat from dead animals opened up by larger predators and scavengers. Nuthatches will huddle together in hollows or nesting boxes. Look for survival signs of birds that stick it out through the winter, get inspired and creative, and enter the photo-video-art Survival Challenge (the deadline is Feb. 15th).
- Observing Goldenrod galls (which we discussed in mid-September) may provide just such survival signs. Goldenrod galls are very evident now, as much of the vegetation has died back. The Goldenrod Gall Fly makes its home in the gall for the winter, but eats a tunnel (photo 3) close to the surface before it goes dormant. You may find galls opened and the larva eaten by either Downy Woodpeckers or Black-capped Chickadees, adding to the food web that these insects support. Keep checking on these galls throughout the winter to see how many become a bird lunch.
- Beavers are mating - faithfully. They mate for life until one dies. Find active lodges by checking after a recent

snow for a dark patch, depression or gap around the breathing hole near the top, where the animals' heat has melted the snow.

- All month both male White-tailed Deer and Moose are shedding their antlers, which will be gnawed upon by small mammals for their calcium and other vital minerals.

- Early this month Black Bears give birth to two or three cubs, about the size of chipmunks and very cute – Rick Mercer certainly thought so!
- In early December we talked about the molecular magic of snow, and with recent snow squalls and cold temperatures winter has arrived. Have you ever wondered if relatives or friends are enjoying (or maybe I should say experiencing) snow elsewhere in the world? Check out this website to see current snow and ice cover around the world.
- As our orbit around the sun gives us seasons, we also get a different view of the stars. On top of that, the Earth's spin provides slightly different views, as the locations of constellations appear to move over the course of a night sky. The best known constellation is the big dipper (Ursa Major), which is visible to us in the Northern Hemisphere year round since it is located above the horizon. The big dipper is low to the northeast now. Due to the Earth's spin it will appear to rotate around the North Star (Polaris), which can be located by extending out (or up) from the two stars at the end on the big dipper's bowl. There a lots of good reasons to star gaze. It can also be integrated with subjects such as history. Stellarium is a great, free teaching tool for bringing the night sky into the classroom. Nothing beats star gazing on a dark, clear winter night with hot chocolate though (here are some activity ideas)!
- It's now the International Year of Biodiversity – a worldwide celebration of life on earth and of the value of biodiversity for our lives, and another reason to step outside and appreciate the other species that Earth is home to. This year the theme of Ontario Nature's writing and art contest for grades 7 and 8 is *Wild species and wild spaces: why biodiversity is important to me* (the deadline is Feb. 26th).