The Faces of Wetlands: Star-nosed Mole

This article is one of a series about the plants and animals found in Minnesota wetlands.

Image: Smithsonian

Moles can be foe to many backyard enthusiasts. But wait, star-nosed moles are different than their cousin the eastern mole. Star-nosed moles support healthy, functional wetlands through their burrowing and eating habits, and they even hold the Guinness World Record as the world's fastest eating mammal. So why are these furry, alien-looking, critters worth a second look?

The only member of the *Condylura* family, star-nosed moles have extraordinary capabilities. Able to dig 8 feet per hour and swim for hours at a time, their presence indicates the health of both soil and water because their habitat is right where they overlap. Their diet includes prey from land and water, like a super-sized grocery store. If you were equally at home on land or water, wouldn't you enjoy a gourmet selection of beetle larvae, ants, snails, leeches, dragonfly larvae, and mussels? To reach prey in any season, star-nosed moles tunnel underground, through snow, and in the soil beneath open water. This lets them eat critters in the soil, but also makes for a sneaky entrance to pop out at the lake bottom to ambush swimming prey. As an added bonus, the underwater tunnel is a safe passage away from hawks, owls, mink, and northern pike.

Try an exercise with me. Place your hands over your nose, palms out, and wiggle your fingers. Similar to this goofy wave, the star-nosed mole has 22 tentacles that are like hands, but their fingers can also "see". Shown to be six times more sensitive than the human hand, the tentacles create an electric pulse that feel objects, while the brain detects the signals at lightning speed. In dark passages where prey may bite back, it helps to be the first to attack. The time it takes for star-nosed moles to feel something and decide whether or not its food can be as quick as ¼ of a second. Underwater, their talented nose blows bubbles and breathes them back in to sniff out aquatic prey. On top of all of that, these sensitive feelers have 25,000 touch receptors each, and can even detect earthquakes. This ability has been used to research building and machinery design.

But beyond their abilities, star-nosed moles play a functional role for wetlands. With their preference for moist soil, their burrows are a valuable asset for plants that live under wet, oxygen-limiting conditions. Similar to preening the feathers of a bird, the spaces opened up by burrows help plant roots grow and gives plants a chance to diversify. A wetland with a healthy, diverse plant community is better equipped to filter water and absorb nutrients, provide for more wildlife, and better protect and replenish groundwater.

Moles may sometimes be a nuisance, but perhaps they're more like us than we realize. At some point, we're all that odd, unforgettable neighbor with a quirky habit, inspiring stories and turning heads. But isn't understanding each other and our differences what really makes a neighborhood? Next time you're at the grocery store and happen upon a neighbor, try waving hello like a star-nosed mole. It'll definitely be memorable.

Maintaining a buffer of natural, native vegetation around ponds and wetlands is a great way to support star-nosed moles. Check out buffer guidance, tips on water-friendly lawncare, and the history of our watershed at VLAWMO.org/residents. Find us on Facebook or call us at (651) 204-6070.

– Nick Voss, VLAWMO Education and Outreach Coordinator

Sources:

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