December 15, 2022 Newsletter

Winter is on the way! Soon there will be snow to crunch on the ground and icicles hanging from trees.

Our Nature Detectives programs will be suspended this December due to the hunt in the park. We'll see you again in March!

Brightwood's Turtles

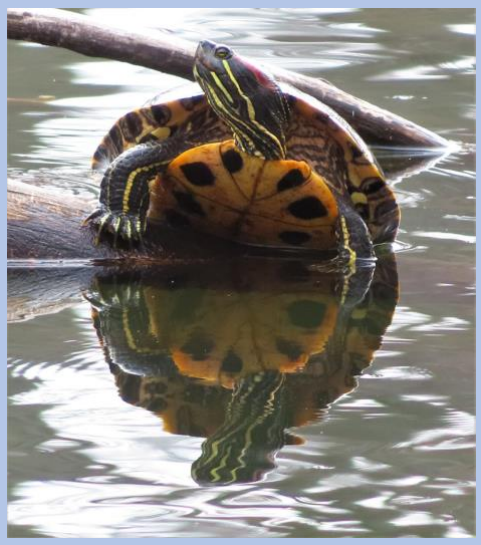
Photos courtesy of Chuan-Chu Chou

In the warm weather, turtles are hanging out!

Brightwood is home to many turtles. All spring, summer and early fall you can find them sunning themselves on logs and other materials in the water.

If you keep a watch out for them in warm weather, you will see two predominant types of turtles in the pond. They seem similar but in some key respects are quite different. One of the species is a native species, the eastern painted turtle. The other, is an invasive species, a red-eared slider.

If you look closely, you will note that the eastern painted turtle has yellow stripes around its eyes. The red-eared slider has a red streak leading away from its eye. The eastern painted turtle's upper shell is smoother compared to the red-eared slider. Can you guess which is which?



These turtles' belly shells are also a contrast with the painted turtle having a brownish yellow or crimson tone and the slider having a lighter yellow color with dark markings.

The painted turtles are smaller than sliders. Female painted turtles can grow up to 10" while males range up to 6." Sliders can grow up to 12."

The painted turtles natural habitat is here in the northeastern United States. The red-eared turtles are native to the mid-western and southwestern United States from New Mexico to Illinois and to West Virginia. However, they have made their way to the eastern coast. Red-eared sliders are sold as pets and can live up to 40 to 50 years in captivity. There is a theory that they have been introduced to this region by pet owners who release them into ponds. The red-eared turtles then compete with native species for food, habitat, and a place in the sun.

It's Cold Outside...Where Have all the Turtles Gone?

Though the turtles are around in the warmer months, they disappear when the weather turns cold. Where do they go?

Surprisingly, turtles do not hibernate in the winter. Rather, they rest, but do not sleep, on the muddy floor of the pond for the duration of the cold weather. They neither eat nor come to the pond surface to breathe. How do they survive?

Turtles are cold-blooded reptiles, that is, ectotherm, meaning that their body temperature is governed by their surrounding environment. Their bodies cannot generate heat like endotherms (such as humans). Turtles can survive cold weather, but if they freeze, they will perish. Thus, they dive down to the muddy floor of a pond where the water temperature stays above freezing.

The cold water temperature slows their metabolism. Metabolism is how a body changes nourishment into energy. With a slower metabolism in cold water, turtles can go months without eating.

But what about oxygen? They have lungs and need to breathe oxygen. Yet, turtles do not surface to breathe for months. Interestingly, they can absorb enough oxygen from the water as it passes over certain body surfaces that have a lot of blood vessels – in particular, their butts. So, you could say that they breathe through their butts to stay submerged until the weather and water warms up.

When the water warms, they surface once again, find a log and sun themselves to raise their body temperature. As their body temperature warms, their metabolism speeds up also.

For more information, check out:
https://www.pbs.org/newshour/science/the-secret-to-turtle-hibernation-butt-breathing

Brightwood's Maples

Photo courtesy of Chuan-Chu Chou

Does this red leaf look familiar?

Hint: This classic leaf shape adorns the Canadian flag and a National Hockey League team's jerseys.

Yes... It is a sugar maple! Brightwood Park is home to many of these native trees that give us such brilliant Fall foliage.

In case you did not know, sugar maples are highly valued from an ecological perspective. Like the mighty oak, these trees support birds, wildlife, and other insects that call the park home. Its buds and twigs are food for deer and rabbits. Squirrels and chipmunks munch on its seeds (called samara). Birds and small mammals dwell in nests built among its branches and make their homes in its cavities.

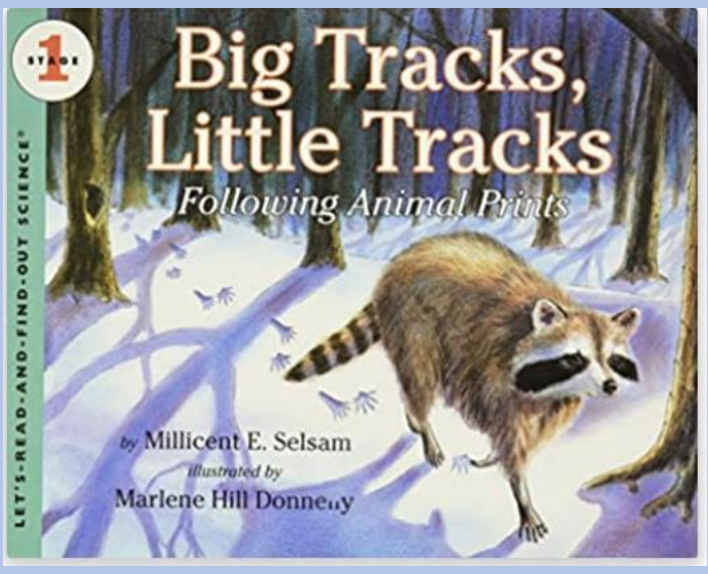
Of course, sugar maples are also highly valued by humans! Native Americans harvested maple sap to use as a sweetener. They used it fresh or fermented it as a beverage and also used it for cooking. Early settlers to America also appreciated the sweet water sap.

In late winter to spring, during freeze and thaw cycles, the tree's sweet water sap begins to flow. It is basically ground water that pulls sweetness and nutrients from the tree. A single tree can produce up to 60 gallons a day of this clear liquid. Our maple syrup comes from sweet water that is cooked down and condensed. It takes about 30 to 50 gallons of sweet water to make 1 gallon of syrup. If done properly, harvesting sweet water from a sugar maple tree does it no harm.

Sugar maples are so valued that a number of States have named them their State Tree: New York, Rhode Island, Vermont, West Virginia, and Wisconsin. Maple syrup is such a significant crop in Canada that the maple leaf adorns its flag and is its national emblem.

There is concern that climate change may threaten sugar maple trees in the future. States where maple products are a significant commodity have begun to look into the impact of climate change on this crop. Warming winters are causing the maple sugaring season to move earlier to align with freeze/thaw cycles. There is discussion of potential impact from decreased snow pacts and drought conditions that may cause damage to root systems and sprouting trees.

Let it Snow! Let it Snow!
Then be a Nature Detective!
Be on the Look-Out for Tracks in the Snow…



After a snowfall, take a walk to see what animal tracks you can find. We live in an area with deer, opossum, raccoons, dogs, cats and more.

Can you identify who has been roaming in the neighborhood?

For help identifying tracks you find, check out:

https://www.treehugger.com/animal-tracks-you-can-identify-your-own-yard-4869741

Winter Reading List