

Habitat Conservation Area

A Self-Guided Interactive Tour Activities



TURTLE WATCH

Materials: Binoculars, camera (both optional)

Upon entering the Habitat Conservation Area (HCA) you will notice a map with sites marked. Head towards post 2, turn left and walk down the berm. As you look to the right, across the dugout area, you will most likely see Western Painted Turtles sunbathing on the shoreline on a nice sunny day!

Western Painted Turtles are native to North America with Regina falling in the northern part of their range. However, in 2015 the largest ever recorded in North America was found here in Wascana Lake. Her name is Olga and her carapace shell (top shell) is 27.2 cm long, which is comparable to a school ruler!

While you're taking a closer look at the turtles, did you know that the carapace (upper, dorsal shell) evolved to protect turtles from predators and was formed from their ribs fusing together, forming a shell 240 million years ago? Turtles are also known as wetlands janitors since they eat insects, fish, and plants along the bottom of the lake floor, creating pathways throughout the plants that fish and aquatic invertebrates can swim through. These actions are very important in maintaining the health of the wetland.

In the cold winter months, some turtles hibernate at the bottom of the lake under a thin layer of mud. In order to breathe during hibernation, they take in oxygen around their cloaca, their butt. The cloaca has specialized blood vessels that absorb oxygen from the water, allowing turtles to breathe without coming up to the surface. In addition to "cloacal respiration" Painted Turtles have another unique adaptation that allows them to survive overwintering successfully in hypoxic conditions (low oxygen levels) over the winter. They will switch their metabolism to one that doesn't require oxygen. This can be dangerous if done for too long because lactic acids build up in their tissues as a result. To combat this, they will bask in the sun to increase their body temperature which will jumpstart their metabolism and eliminate the acidic by-products.

PHRAGMITES

Once you are done observing the turtles and wildlife in the first area, walk back down the berm, turn left on the path and another left at the boulder that looks like a dinosaur egg! Calling it a dinosaur egg may not be the craziest thing to hear, as the plant to your right, called Phragmites, is a prehistoric plant that has been around since the dinosaurs.

Phragmites have tan or beige stems with blue-green leaves, large, dense seed heads and are considered an invasive species in Canada. Invasive species generally lack natural predators in their new surroundings, adapt easily to a range of environmental conditions and reproduce at a rapid rate. They can

disrupt ecosystems and cause harm and stress to native species, including species at risk, by altering food webs, affecting nutrient cycling and displacing native species. These changes are often irreversible and can result in decreased biodiversity. Phragmites thrive in disturbed habitats and while they prefer growing in standing water, their roots can grow to extreme lengths and extend deep into the soil to find and access moisture to survive in relatively dry areas. These specialized roots also secrete toxins into the soil to impede the growth of and kill neighbouring plants.

BEAVER LODGE

Continuing down the path from the phragmites you will notice an old home of a toothy friend on the left, the beaver. These aquatic mammals with large webbed hind feet for swimming and hand-like front paws for manipulating objects, weigh in at 45 to 60+ pounds, making them the largest rodent in North America.

The lodge on the left, you will notice is made of branches, twigs, mud and rocks. Beavers make two main structures, a dam and a lodge. A dam is a structure built to block a river, stream or creek, whereas a lodge is used for a home and will contain two underwater tunnels that lead from the chamber to the pond so that beavers avoid being spotted by predators upon exit. The walls of their lodge are very strong due to the layers of mud and sticks and extremely insulated which is helpful in the winter months.

Beavers are fascinating creatures with interesting adaptations and traits. For example, did you know that in order to efficiently move in and out of the water with clear sight, Beavers have developed two eyelids? The first eyelid acts as a traditional eyelid, keeping the eye moist and clean, just like our own. The second eyelid is transparent and acts like a built-in pair of goggles.

Beavers also have naturally oily and waterproof fur due to a gland that produces castor oil. They spread the castor oil all over their bodies to help with waterproofing, allowing them to stay dry and warm as they enter and leave the water.

Similar to other rodents and rabbits, Beaver teeth never stop growing which is why you often see beavers gnawing on wood. They use wood as a food source, for building their lodges and dams, and for simply filing down their teeth (similarly to how we file our nails). An example of this can be seen on the right side of the pathway across from the beaver lodge, where there is a tree with MANY tooth indentations and grooves.

POND DIPPING

Materials: Fine mesh net, bucket or container, identification guide ([link on website](#))

Walking past the beaver lodge and around the berm wetland, you may hear or see Red-Winged Blackbirds, Marsh Wrens that are common wetland birds. Red-Winged Blackbirds create their nests in the cattails just above the water and in late spring/early summer you can sometimes see their light blue, dark speckled eggs hidden in their nests.

At the other end of the berm, you will notice a dock area that can be used for pond dipping. Looking off the dock into the water you may notice aquatic invertebrates (animals without backbones) swimming in the water and that is because a wetland is not only abundant and diverse with animals and plants, but also insects. The best time of the year to go pond dipping is from May to August when the ponds are at their peak activity. But it is always best to go pond dipping a few times from late spring to early fall to see how ponds change over the course of the summer, week by week and even month by month.

Many flying insects lay their eggs in the pond and their young called nymphs or larvae live under water before changing into adults. Larvae are maggot-like insect young, sometimes with legs. Nymphs look more like adult insects but without wings, usually with jointed legs. Many insects start their lifecycle in the water and complete it on land, such as: dragonflies, mosquitoes, mayflies and damselflies. Dragonflies can live in the water as nymphs from two to four years before climbing to the top of a cattail where they shed their exoskeleton, open their wings and become the land-based dragonfly we all know and love. Other common aquatic invertebrates include water mites, whirligig beetles, predaceous diving beetles, zooplankton, water striders, fishing spiders and many more! In the winter, insects hibernate under the leaves, grass and in the mud.

A fun and inexpensive activity that allows you to get up-close and personal with the insects is pond dipping! You will need a container of any sort (bucket, Tupperware, old ice cream pale, etc.) and a net with a very fine mesh size. To begin, take your container and scoop a generous amount of water out of the lake, this is easiest to do from the dock when the water level is high. If the water level is not high, simply find an easy access point to the lake along the path that is free of cattails. Be sure to not disrupt or damage any plants or wildlife as you collect the water.

Next, skim your net through the top, middle and bottom levels of the water, that way you will hopefully collect a variety of insects. Once you have glided your net in the water, invert it and submerge it in your container of water. Using our handy identification guide, you can then identify the insects you caught. When you are done, carefully pour the collected water back into the lake with no splashes as to not harm any of the insects. Have fun exploring!

QUADRAT SURVEYS

Materials: Quadrat markers (ex. Rope, flags, rocks), magnifying glass (optional), paper, pencil crayons, identification guide

Once you are done pond dipping, continue along the path to the left towards the grassland habitat. Here you will see and smell many different plants. Although most of the area is covered with native prairie plants, some invasive species are present. These species include Irises, Caragana, Absinthe and Downy Brome. When Canada was colonized, plants were often introduced from Europe for ornamental purposes.

Invasive plant species grow quickly and aggressively, disrupting the ecology of natural ecosystems by displacing native plants and the animal species that depend upon them, reducing native biodiversity. Next to habitat loss, over 50% of the loss of native biodiversity globally has been attributed to introduced species, and nearly half of the species listed as threatened or endangered are at risk due to competition with alien or introduced rivals.

To combat invasive, noxious or nuisance plants in Wascana Centre, we are constantly monitoring and managing the plant species. Part of that is trying to preserve and restore the Habitat Conservation Area to native prairie grassland. Common native perennials you will see are Wild Prairie Rose, Common Yarrow, Canadian Milk-Vetch, Pasture sage, Prairie sage, Coneflower and Wolf-Willow.

In order to assess the overall plant diversity in an area, Ecologist's often use plant quadrat surveys. To conduct a plant survey all you need is a marker to create a square on a section of land. This could be rope, four flags or even four shoes that you can use to make an outline. A good size is generally 1 meter on each side. Once you've made your square, try to identify as many plants as you can or even just try to notice and describe the differences among them. Are some tall and some short? Are some spiky, smooth or hairy? Do they differ in colour? When ecologists are trying to identify plant's, it is often based on these simple observations.

These characteristics are sometimes adaptations that the plant has had to develop in order to thrive in its environment. For example, wetland plants, like the cattails you see surrounding the shoreline, have hollow stems which allow them to store oxygen because their roots are often waterlogged. Their leaves are big and long which allows them to transpire excess water.

In contrast, grassland plants, like a blade of grass, have adapted to be short because they do not have to compete for sunlight and have generally flexible structures that allow them to survive in high winds. Environmental areas are often more stable and healthier when there is high plant diversity and biodiversity, as it allows the site to be more stable in response to environmental stressors.

Each plant you discover in the square, mark on your page in the location found on the ground. Creating a legend on the side of your page will assist in keeping a clean and organized survey. If you are unable to identify the plant, take a picture and write down all possible details about the plants to identify at a later point. To properly assess the diversity of an area, multiple quadrat surveys can be performed. You never know what you will find.

BIRD WATCHING

Materials: Binoculars, camera (both optional), bird book

Another activity that you can do in the Habitat Conservation Area is bird watching! As you have been walking through the area you have probably heard a variety of bird calls. That is because Wascana Centre is located on Canada's migratory bird route. This means that throughout the spring and fall a larger diversity of bird species stop on the lake for a couple weeks, days, or even a couple hours! Tundra Swans are always much anticipated and stop through each spring for a couple days, as they make their long journey to nest.

Other park favourites are the American White Pelican, American Avocet, Wood Duck, Yellow Warbler, and even threatened species like the Bobolink. Wascana is an important place for birds to stop as it has a wide variety of resources for nesting and foraging. Bird watching can be a fun and educational activity for anyone, all you need is your eyes and ears to hear their calls and spot them flying overhead. However, if you want to get more into birding you can buy or rent a bird identification book, download a bird identification app, bring a camera out to take pictures, or invest in some binoculars. Let the discoveries begin!