

# Habitat Conservation Area

## *A Self-Guided Interactive Tour Activities*

### QUADRAT SURVEYS

**Materials:** Quadrat markers (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.

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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.