

# Voyageurs National Park Digital Junior Ethnobotanical Garden Explorer

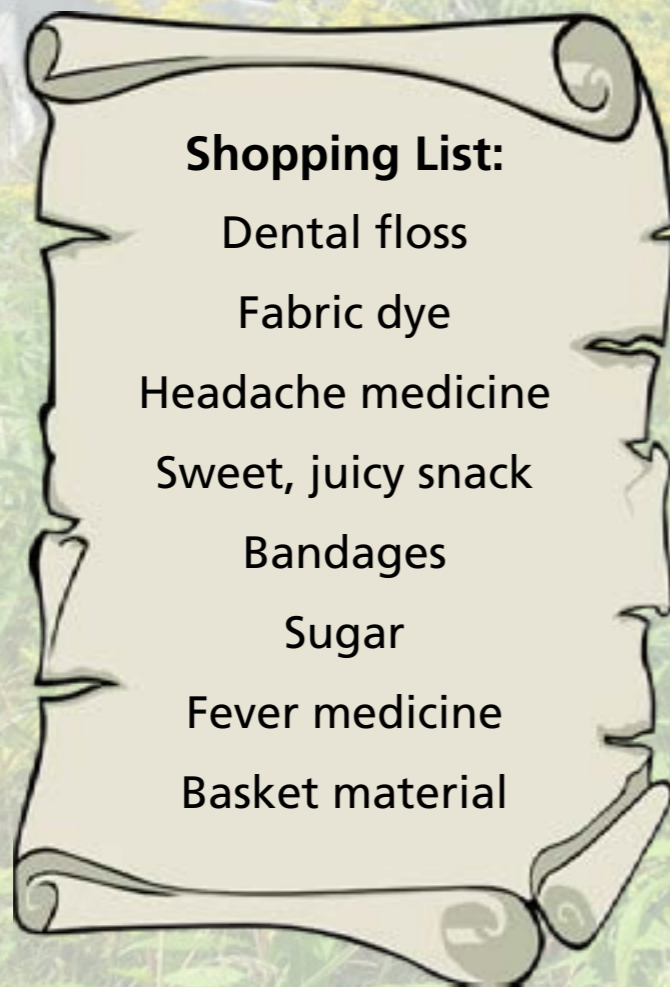


Come on in! Explore the garden and complete the activities, and you'll earn your Junior Ranger Ethnobotanical Garden Explorer badge!

# What is an Ethno-botanical Garden?

An **Ethno-botanical Garden** represents the connections that a group or groups of people have to a place and how they have used the resources found there. Our garden grows native plants that the Ojibwe people have traditionally used for medicine, food, and basketry.

Look at the shopping list and word bank below. Fill in the blanks above the basket with the plants you think can be used to make each item. The numbers next to the blanks show how many letters each answer has. Answers are on the last page of the book.



\_\_\_\_\_ (10)  
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## Word Bank:

Paper birch   Goldenrod   Strawberry   Yarrow   Maple tree   Fir   Aspen   Serviceberry

# Who Are the Ojibwe People?

The Ojibwe are the **indigenous** (native) people who have called what is now Voyageurs National Park, home for hundreds of years. They first lived along the coast of the Atlantic Ocean, but traveled to the Great Lakes area due to conflict with other groups. As the Ojibwe people traveled, they had to adapt to their new environment. They learned how to harvest crops like wild rice, use plants for medicine, and to make goods, art, and homes.



Photo Credit: Bowser, NPS



Photo Credit: Bowser, NPS

These images show Ojibwe people at an encampment and moving blueberries in canoes. Although these images are from the past, the Ojibwe still live in Minnesota, still come to the park, and still pass on and practice their traditions today.

To explore and learn more about Ojibwe settlements, go to the next page.

# A Summer Ojibwe Encampment

This is the type of camp the Ojibwe people would use during the summer months. These sites would usually be lakeside, where the wind could keep them cool and blow off bugs. Crops and herbs would be grown close by. Explore the camp by reading the descriptions of each item to learn what it was used for.

In the summer, Ojibwe families would live in structures called waaginogaan (wah-gin-oh-gahn). Waaginogaan are rounded buildings covered in birch bark. All family members, from grandparents to small children, had special places inside the waaginogaan.

This is a bajiishka'ogaan (bah-jeesh-kah-oh-gahn). It is an easy-to-put-up, easy-to-take-down, temporary shelter that the Ojibwe would use while hunting, or in the winter when they moved to their winter campsites. The common word 'tipi' that we use for this structure in English comes from another indigenous language: Lakota.

Pots like these came from trade with European settlers. Before European contact, clay pots were used for cooking over a fire.

Fires were used for cooking, for heat, and for drying herbs. People gathered here at the end of the day to talk, share stories, and relax.

This is a drying rack. Its made of birch wood bound together with cordage (string) made from either roots or bark. This is where herbs and meats were dried so they could be used as medicine or for food.



# Native Plants vs Invaders!

Most plants in Voyageurs are **native**, meaning that they have always grown there. They are important because they provide food and shelter to animals. However, because of new plants that were brought over by settlers and in trade, we now have exotic and invasive species in the park.

**Exotic** species are those that are not native to an area. While not all exotic plants are harmful, some can push out and replace native plants. This can prevent animals that rely on those native plants from getting the food and resources that they need. When exotic plants cause these problems, we call them **invasive** plants.

Each invasive plant you see on the side of the screen is in Voyageurs National Park. Scroll through the next pages to read and learn more about them and how they impact the environment.



**Wanted!**

For invasion  
and stealing  
habitat!

# Dandelion (*Taxacum officinale*)

- **Native to:** Europe and Asia
- **What is it?:** You might have seen a dandelion before, and even made a wish on one. It's a flower that has a bright yellow head, and produces seeds in the form of a white, fluffy blub. This herb was brought to North America in the 1600s to be used as medicine for skin and stomach diseases. Of all the invasive plants we have, this one has the farthest range, being found in all 50 states.
- **Impact:** Because of its easily spreadable seeds, Dandelions can take over entire areas, pushing out native species.
- **How do we manage it?:** Herbicides (plant poisons) will kill them, and digging them up will remove them, but Voyageurs National Park is not actively treating for dandelions. In fact, the only parks in the National Park system that are treating for them are in Alaska.
- **Food for thought:** Dandelions do have their uses: you may have seen them in your local grocery store, for instance. However, they are still invasive, and still cause harm to native species.



## Canada Thistle (*Cirsium arvense*)

- **Native to:** Europe, Asia, and North Africa
- **What is it?:** These plants have bright purple flowers and sharp, spiny leaves. They grow to be about 5 feet (1.5 m) tall, and have roots that stretch out to be over 1 foot (.3 m) long. It is thought that these plants were first brought to North America as seed in crop mixes.
- **Impact:** Canada thistle has an advantage over native plants in three ways. The first is that their spines make eating them more difficult, so other plants are more likely to be eaten instead. Their long roots also help them get more water than other plants. And they produce a lot of seeds, which can stay in the soil and still sprout after 20 years! In these ways, they can spread faster and push out native species before they can even take root.
- **How do we manage it?:** Herbicide (plant poisons) and removal are the most effective ways of managing them.



## Common Tansy (*Tanacetum vulgare*)

- **Native to:** Europe and Asia
- **What is it?:** A plant with large, yellow disk-like flowers. It was originally brought over to North America as medicine. Traditionally, it was used to treat illnesses of the stomach and to help ease painful joints. It was also used to keep flies off of meat while it was stored.
- **Impact:** The common tansy is poisonous to horses and cows, so once it becomes established in grazing areas, it is difficult to get rid of. Because fewer animals can eat it, it can grow with less threat from predators, allowing it to spread easily, take over areas, and push out native plant and animal species.
- **How do we manage it?:** Herbicides (plant poisons), manually digging the plant up, and mowing it before it can spread its seeds are effective ways of limiting its spread.
- **Special note:** The common tansy isn't just poisonous to horses and cattle, but also to humans! Don't pick this plant with bare hands. If you see it in the park, tell a ranger so they can remove it.





## Reed Canary Grass (*Phalaris arundinacea*)

- **Native to:** Europe and Asia
- **What is it?:** The reed canary grass that is in Voyageurs National Park is actually a hybrid (cross breed) of two kinds of grass. One grass was from Eurasia, and the other was native to North America. It can grow to be 6 feet (1.8 meters) tall, with leaves that are 10 inches (25 cm) long. It grows purple-green berries which become ripe in Spring and Summer.
- **Impact:** Its wide leaves can block sunlight from reaching other plants, stopping them from growing. This plus its traits from its Eurasian ancestors allow it to spread faster with less competition from native plants.
- **How do we manage it?:** We spray herbicides (plant poisons) and then plant native plants in its place. We also try covering the plants with fabric so the sunlight can't reach them, keeping them from growing.



## Purple Loosestrife (*Lythrum salicaria*)

- **Native to:** Europe and Asia
- **What is it?:** A tall, purple flowered plant that lives along waterways and in disturbed soil. It was brought to North America by accident, riding on ships in ballast tanks and being carried in seed.
- **Impact:** It makes water in lakes difficult to navigate by growing in thick patches. As it takes over, it pushes out native plants that provide food to the fish and animal species that call that lake home. In these ways they can threaten the stability of the ecosystem.
- **How do we manage it?:** Removing it by hand and by applying herbicides to it are effective ways of removing it from an area. We also do a lot of messaging to visitors to clean, drain, and dry their boats after they leave any lake they visit. Looking a boat over is an effective way to check for hitchhiking invasive species, and drying the boat completely before putting it back in the water will kill what isn't removed.
- **Twins!:** It looks like fireweed, a native herb that also has tall, purple flowers.



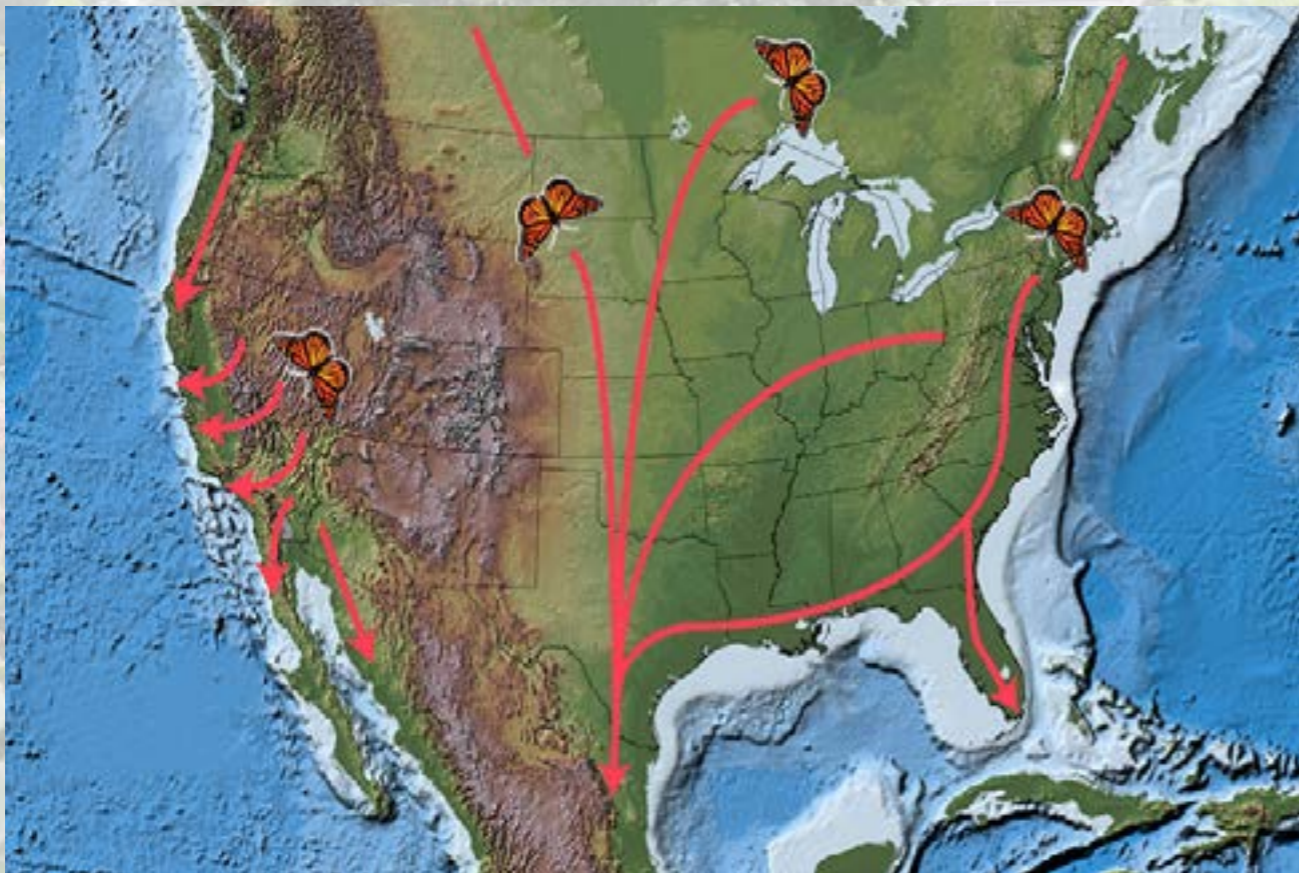
## Wild Parsnip (*Pastinaca sativa*)

- **Native to:** Europe and Asia
- **What is it?:** Wild Parsnip is a flowering plant that can grow to be 4 feet (1.2 m) tall, and has yellow, flat flowers. It was brought to North America to be grown for its roots, which can be eaten.
- **Impact:** It can push out and replace native plants. This keeps native flowers from blooming, and the species that rely on those flowers from getting food.
- **How do we manage it?:** By spraying it with herbicides (plant poisons) and cutting them before they can spread seeds.
- **Special note:** Wild parsnips have sap that can cause large, painful blisters, so don't try to pick it if you see it. Instead, tell a ranger so we can remove it.



# Who Lives in the Garden?

Every plant needs a few basic things to survive: water, sunlight, and healthy soil. However, for those things to work, plants also need **pollinators**! Pollinators are animals and insects that spread **pollen**, which, along with making people sneeze every spring, is what plants use to reproduce. Butterflies, bees, moths, wasps, and even bats can act as pollinators.



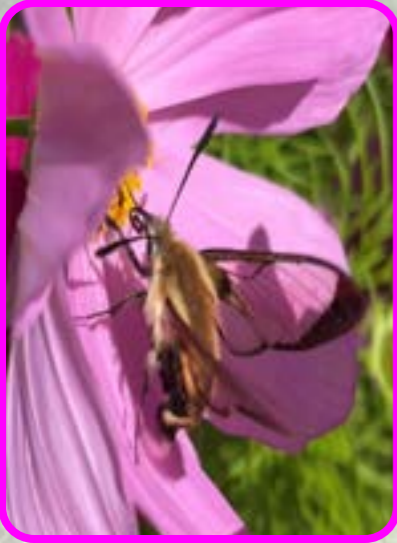
Source: USGS

Some pollinators, like the monarch butterfly, have evolved relationships with specific plants. Adult monarchs lay their eggs on milkweed leaves. When those eggs hatch, the caterpillars begin to eat the leaves. Milkweed leaves are normally poisonous to animals, but the caterpillar isn't effected. Instead, it becomes toxic to any predators that would try and eat it! This helps it survive long enough to make its **chrysalis** (cocoon) and hatch as an adult butterfly! Adult monarchs migrate (travel) very long distances between seasons, but they always go back to milkweeds to lay eggs.

Go to the next page to see some plants and the pollinators that visit them.



# Exploring Pollinators



On the left we have three pollinators that you can find in our garden: the hummingbird moth, the monarch butterfly, and the paper wasp.

On the right we have four plants: milkweed, blueberries, goldenrod, and verbena.

Decide which plants and pollinators go together. You can look at the answers at the end of the book to see if you got it right!

# Congratulations!

You have now finished your Ethnobotanical Explorer Junior Ranger book! You can now go to the next page and check your answers to the activities, and then go back to the [www.nps.gov/voya](http://www.nps.gov/voya) webpage to claim your badge!

Before you go, we'd like to leave you with some questions and activities you can think about at home so you can get more familiar with what's in your backyard, and how you can protect it:

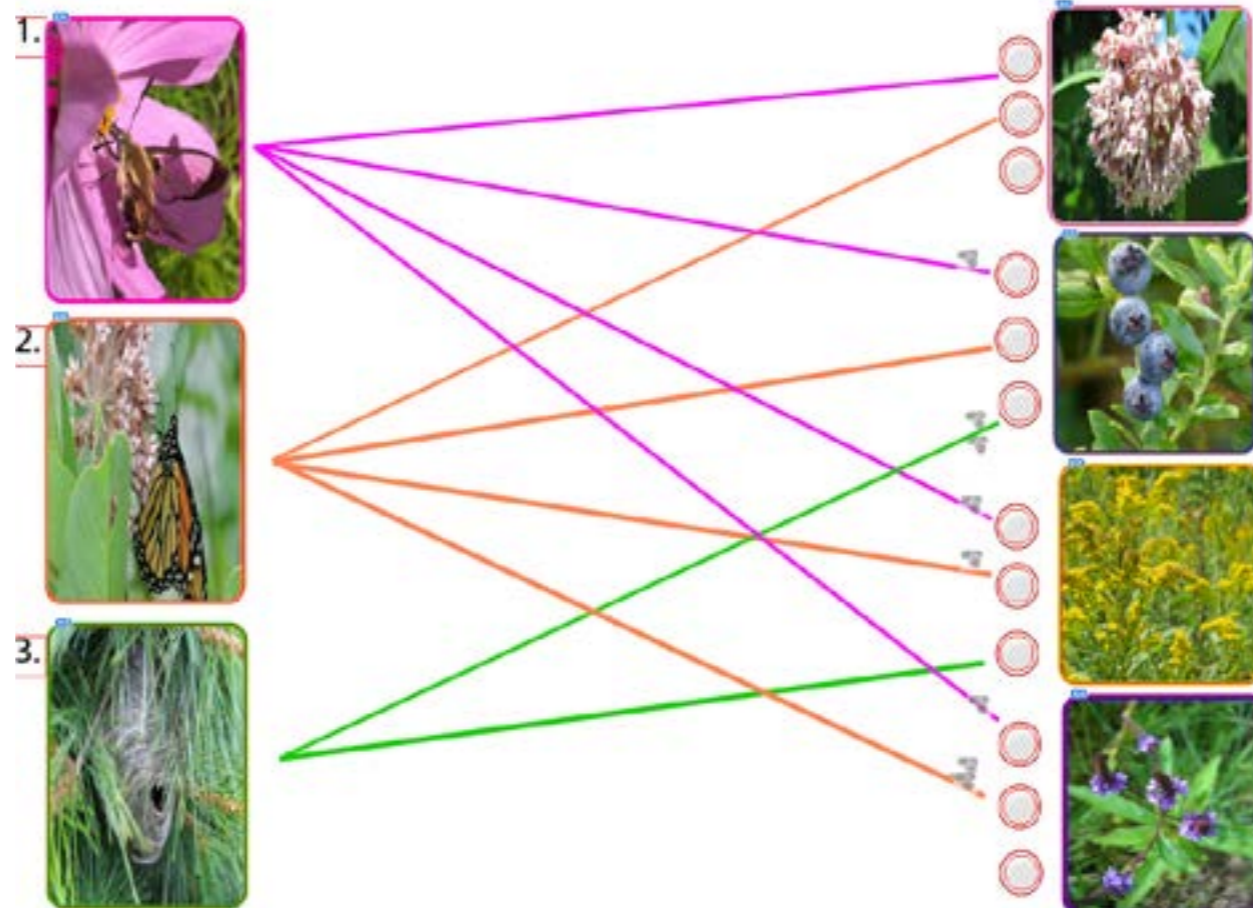
1. What are some native plants in your area? If you don't know, look some up and see if you can learn what they have been used for. If you can, go outside and see what new plants you can learn to identify.
2. What invasive species are in your area? How do they impact you and the place(s) you live? What are some ways you can prevent the spread of those species?
3. What pollinators live where you are? Have you seen any butterflies, bees, or other pollinators lately? The next time you do, pay attention to what they do and how they do it. Pollinator gardens, parks, and your backyard are great places to see them in action.



# Answer Key:

## Page 2: Shopping List Page 6: Pollinator Match Up

1. Strawberry
2. Goldenrod
3. Fir
4. Serviceberry
5. Aspen
6. Maple Tree
7. Yarrow
8. Paper Birch



### Explanation:

While monarch caterpillars rely on milkweed, adults can eat nectar from most plants and the juices of whole fruits. Adult hummingbird moths are also not very picky. Adult paper wasps, however, are not just pollinators. They also eat other bugs, and so don't rely on nectar as much as the hummingbird moth and monarch butterfly. They will however drink from goldenrods and berries.