

Julian Bay Trail Guide



Communities of Plants

The stories of Apostle Islands National Lakeshore reveal themselves along edges where water meets land, field meets forest, and past meets future. One of the stories revealed along this 0.4 mile walk to the beach at Julian Bay is about the diversity of plant life found in the islands.

Plants live in communities, just like people. Plants with similar preferences for certain conditions tend to live together in similar environments. The intersection of edges along this trail creates a variety of different environments in a relatively small area. Five (coniferous-hardwood forest, boreal forest, open bog, pine savanna, and dune grassland) major plant communities can be seen on this short walk.

This guide is a starting point for your exploration of Stockton Island. Along the trail you will find numbered markers corresponding to the numbers in the guide. See what else you can discover on your own. Enjoy your adventure.



Numbered posts mark stops on the trail, like this 200-year-old yellow birch tree.

1. Old-Timers

The forest you are walking in is a mixed coniferous-hardwood forest. Before European settlement, 90 percent of the Apostle Islands were covered in this forest type. The dominant tree species were eastern hemlock, white pine, sugar maple, yellow birch, and white birch. Logging and fires changed most Apostle Islands' forests. The large white pines were removed by 1900. During the next 50 years most virgin stands of eastern hemlock, sugar maples, and yellow birch were cut. Today, second-growth forests cover most of the islands.

Though this plant community has experienced great change, a few old-timers still live here. The large trees at the start of this trail are relics of the pre-settlement old growth forest. These 200-year-old yellow birch trees survived both the logging era and the fires that followed. Look closely at the large yellow birch 18 feet north of the trail. It has a fire scar near its base thought to be from a 1934 fire.

Beyond the Beach

From this point you have a couple of different hiking opportunities. The Anderson Point Trail proceeds south, following the shoreline for 1.4 miles to the Presque Isle dock. The Tombolo Trail loops north along the length of Julian Bay beach before winding back to join the Quarry Bay Trail near site #16 in the Presque Isle Campground. It is 3.4 miles back to the dock by this route. Sometimes an outlet forms across the beach between the lagoon and Julian Bay, requiring a water crossing. Be prepared to get your feet wet!

These are only a few of the stories about the plants living in the Apostle Islands' diverse plant communities. They not only make this a beautiful and interesting place to visit, but also provide important habitat for untold numbers of insects, amphibians, mammals and birds. As you continue your exploration of Stockton Island's many plant communities, please be a good neighbor and remember that Apostle Islands National Lakeshore was established not only for you to enjoy, but also to pass this experience on to future generations. Help preserve and protect our natural inheritance and help ensure that others enjoy the experience here as we hope you have.



Anderson Point Trail



Julian Bay lagoon outlet



Help pass the experience to future generations.

10. Shifting Sands

Welcome to Julian Bay. The Julian Bay beach extends north from here for more than one mile. Behind the beach is a line of active dunes, home to a plant community known as dune grassland. Plants such as beach pea, false heather, and dwarf juniper are elements of this community, but the dominant species is beach grass. The visible leaves and stems of beach grass may not be very impressive, but its extensive network of roots helps to stabilize the dunes, allowing other plants to establish a foothold in the shifting sands.

Erosion is eating away at Julian Bay's dunes. Though there is little we can do about storm waves and high lake levels, we can help protect the plants that help hold the dunes in place. Please avoid walking on the beach grass in the dunes behind the beach. This traffic kills fragile dune vegetation and speeds erosion.



beach grass



eroded dune edge

2. Ancient Roots

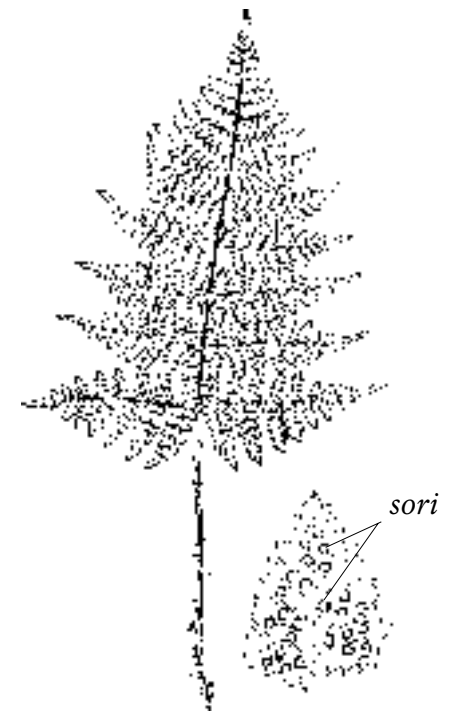
Most communities have a few families whose "roots" go back a long way. Some of the plants covering the ground at this stop have family "roots" dating back nearly 400 million years.

Ferns are among the oldest groups of vascular plants on Earth. These plants have neither flowers nor seeds and reproduce either by emerging as "fiddleheads" from a thick horizontal stem (rhizome) in the ground or producing spores that

are easily dispersed by the wind. Look underneath the ferns' leaves, known as "fronds", to see if you can find spore cases, which are brownish dots called sori. The shape of the sori is one clue to fern identification. Ferns can also be identified by how the fronds are divided into leaflets. The most common ferns along the trail are spinulose woodfern, interrupted fern, and oak fern. Look closely and see if you can tell them apart, but be careful...the family "roots" are really old.



interrupted fern



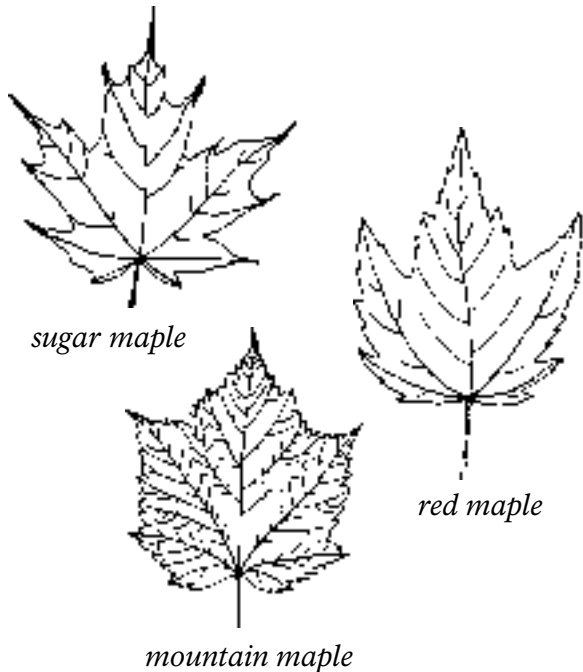
spinulose woodfern

3. Three of a Kind

Maples have expanded their presence in this community since loggers removed most of the white pine and eastern hemlock. Three species of maple trees grow near this stop.

The large tree directly in front of the post is a red maple. Red maple leaves usually have three, roughly triangular, coarsely toothed lobes. In contrast, sugar maple leaves usually have five lobes. Their leaf margins have several large, pointed teeth. The many seedlings and saplings springing up in the forest understory indicate that sugar maple is thriving in Apostle Islands forests.

Mountain maple is a low tree or shrub that also grows nearby. The shape of its leaf is the least defined of the three because of the shallow cut of the lobes. Edges of the mountain maple leaf are coarsely toothed.



4. Getting to Know Yew

Just as each human community has distinct elements that make them special, all coniferous- hardwood forests have unique aspects. The low evergreen shrub with bright red fruits is one element that sets Apostle Islands forests apart from their mainland counterparts. Canada yew is a favorite food of white-tailed deer. Though once common, yew is now nearly impossible to find on the mainland, where deer have eaten virtually every plant. When deer populations exploded on several of the Apostle Islands in the 1940s and 50s, yew began to disappear. Eventually, with reduced habitat and special hunting seasons, the island deer population crashed. Canada yew is slowly reestablishing itself here. Its presence helps offer us a glimpse of what the forests in northern Wisconsin used to be.



9. High and Dry

The area east of the bog is a stabilized dune that supports one of the finest examples of a pine savanna in Wisconsin. The plants that grow in this community must withstand extreme temperatures, dry conditions, and abrasive, blowing sand. Widely scattered red pines and white pines dot the landscape, providing some shade and wind protection for an understory of reindeer lichen,

wintergreen, false heather, blueberries, sand cherries, and pink lady slipper orchids. Many of these plants are susceptible to trampling, so please be careful when walking in the savanna.



Pine savanna

8. The Wet Desert

Much of the wetland plant community visible from this platform is a bog, with its own unique complement of plant species. The bog's surface is covered with thick beds of sphagnum moss. Sphagnum moss is like a sponge, absorbing ten to twenty times its weight in water. The water, along with the dissolved minerals, is then unavailable to plant roots. Only plants with special adaptations can survive in this wet desert's nutrient-poor environment. Several carnivorous plants have evolved ways of trapping and dissolving insects to gain nutrients that their roots can't provide.

Pitcher plants use color and scent to attract and drown insects in the sugary solution that fills their cup-shaped leaves. Round-leaved sundews have a basal rosette of tiny leaves covered with short sticky glands that hold the prey while the leaves close around it. The bog community's placid appearance disguises a struggle for survival in a stingy environment.



sphagnum moss



pitcher plant



*insect inside
pitcher plant leaf*



round-leaved sundew

5. Cool Characters

Can you feel the change in light and temperature from the last few stops? Every community has a few cool characters. This low, poorly drained area is dominated by balsam fir, white cedar, and eastern hemlock. The thick boughs of these evergreens shade this spot and keep it cool.

Balsam fir is distinguished by flat, one-inch-long needles with two light stripes on the underside. Balsam bark is smooth, interrupted only by pitch blisters that ooze sticky sap when broken. Eastern hemlock needles are similar to those of balsam fir, but half as long. Hemlock bark is deeply furrowed, rougher than that of balsam fir. Many hemlocks were harvested from the island for the tannin in their bark, a substance used by the leather industry to tan hides.

The most abundant conifer here is northern white cedar with fibrous, distinctively ridged, and furrowed bark. Its "needles" are alternate pairs of overlapping scales. Cedar is another favorite food of white-tailed deer.



northern white cedar



balsam fir



eastern hemlock

6. Garden Spot

Every community needs a few members to help make it more beautiful. The wildflowers at this stop and elsewhere along the trail are typical of a mixed coniferous-hardwood forest. Look for clintonia (blue bead lily), Canada mayflower (wild lily-of-the-valley), and Canada dogwood (bunchberry). These plants bloom in May and June and produce clusters of berries in July and August. Clintonia berries are deep blue. Canada mayflower berries are speckled at first, but gradually turn pale red. Canada dogwood has dark red berries. None of these berries are edible. Please help keep the islands beautiful by not picking any of the wildflowers. As you continue along the trail, notice that these flowers become more scarce.



Clintonia



Canada dogwood



Canada mayflower

7. Northern Exposure

Notice any changes? The trail is entering a different plant community. The woods in this area have elements of the boreal forests found farther north. The dominant trees here are white birch and balsam fir, with a scattering of white pines and white spruce.

The forest along the edge of this opening is close to the lake and exposed to harsher weather, especially during northeast storms. These trees are hardy and can survive in the cool conditions and rocky soil. They are not firmly rooted, however, and are susceptible to being blown over. The dense fir canopy shades out many of the wildflowers seen elsewhere along the trail.

Look for the old man's beard lichen hanging on the branches and trunks of some trees. This is an indicator of our clean north country air, since lichen growth is inhibited by pollution. On the ground, you may find clumps of sphagnum moss, a critical part of the community described at the next stop.



old man's beard lichen on balsam fir