



VIRTUAL GUIDED NATURE WALK

BARRED ISLAND NATURE PRESERVE



Long-time favorite, the mile of trail takes you through some of the Island's most attractive maritime boreal fog forest, spruce trees hung with lichens. Botanist Dr. Ralph Waldron established a nature study lodge here in the 1940s and laid out the trails. This popular preserve is owned by The Nature Conservancy and managed by IHT. Because of conditions set by TNC this nature preserve does not allow dogs. You pass a most impressive mossy glade and a bald granite overlook with a panoramic view of the bay before reaching the sand bar that takes you to Barred Island itself. For about three hours either side of low tide you have plenty of time to walk around the little island. If you are too late for that, you may get to watch the zipper effect, waves lapping onto the bar simultaneously from both sides.



The trail now begins at a new enlarged parking lot. You will find a series of interesting ferns before you even come to the original parking lot. (See *Learning Our Ferns*)



Hay Scented Fern



Sensitive Fern, New York and Lady Fern



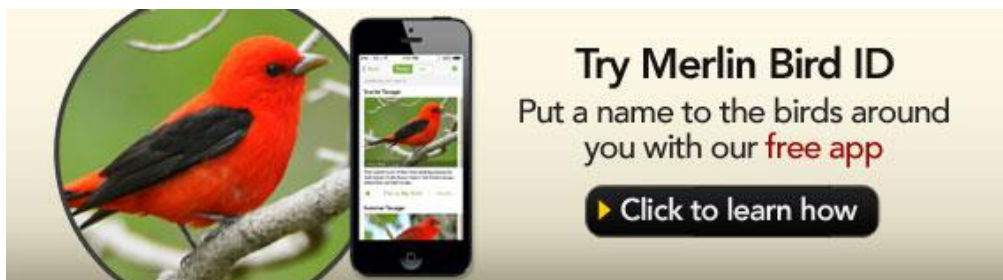
Interrupted Fern

There are over half a dozen fern species within a meter of the boardwalks here. Rather than trying the patience of your companions, you can see this is worth a return visit for studying ferns all by itself!

The one-mile trail to Barred Island is an excellent example of what is called boreal fog forest.



Among the birds you will hear along the trail are Hermit and Swainson's Thrushes. The flute-like trills of the Hermit are among the most beautiful of bird songs. Black-throated Green Warblers sing zee-zee-zee-zoo-zee. Listen for Golden-crowned Kinglets' high-pitched whispery chickadee-like calls overhead in the spruces. You might want to use your web browser to call up the Cornell Laboratory of Ornithology site if you do not have a good bird app. See www.birds.cornell.edu or download their free app, below.



The upturned spruces along the trail show how shallow-rooted the trees are here. The 15,000 or more years since the last glaciers have not been sufficient time for deep soils to develop. Almost immediately the thin soil begins to wear away and expose the tangle of roots that sometimes make footing for humans challenging. The paths are also often soggy. The ice sheet left an irregular surface in the granite here, and drainage from the depressions is poor. Essentially our trails go through many shallow basins topped with sphagnum moss. Where the

basins are extensive, bog vegetation can form. Take a moment to view the extensive carpet of mosses and lichens on the forest floor, noting the variety of colors and textures.



Sphagnum (above) or peat moss indicates that there are moist conditions here. A dozen or more kinds of sphagnum occur locally, each adapted to particular conditions. Commercial peat moss is dug from boreal wetlands where it has accumulated over centuries. Peat which has been further compacted is dug for fuel in the British Isles.

The lovely carpets of mosses here on this preserve are largely Shreber's, also called Red Feather or Phoenix moss (below). Under spruces around the Island where it is relative dry, you will find this common moss. Its red central vein lends it an overall coppery color and confirms your identification. (For more information on mosses see *Learning Our Mosses*)



This trail bypasses a small bog which is in bloom in summer with arctic cotton grass, grass-like sedges and bog heaths such as sheep laurel. Trailside we can look for cinnamon ferns (*Osmunda cinnamomea*, the left photo below) in which the spores are on separate fuzzy cinnamon-and-sugar covered stalks. Its near look-alike is interrupted fern (*Osmunda claytoniana*, the photo on the right, below) with pendant clusters of dark brown spore-bearing structures interrupting the green leaflets.



Where the rock has enough cracks and fractures we have Deer Isle's reservoir of freshwater. Think of it as a rain barrel largely filled with rock; there is no mysterious flowing underground aquifer to quench our thirst. Wherever we humans heedlessly pump out what limited fresh water that there is, salt water from the surrounding ocean will seep in and ruin that well for a lifetime or more. There are limits to development here and we would do well to contemplate them in advance.

The woodland trail climbs to higher ground here. The trail is relatively high and dry and the tree canopy is open enough to let in light. Several broad-leaved trees grow here among the spruces, including White or Paper birch, recognized by its sheets of bark (below).



Yellow birch (below) is recognized by bark that peels in shiny horizontal ribbons of silvery-gold. The old trees here may not look classically yellow or white because they are so overgrown with various growths.



Red Maple and perhaps a Striped Maple are also found along the trail. Red maple (below) is our common swamp tree and in autumn it earns its name.



Of particular interest is the Lung lichen (below) growing on several Red maples.



The wildflowers along this section of trail are so well-adapted to growing on the acid soils of granite bedrock that they can be considered eco-indicators. Among them are bunchberry, a dwarf dogwood (below)



as well as Mountain Cranberry (below)



Canada Mayflower, (below)



and Twinflower (below).



(See *Species Almanac* for more information.)

In addition to three species of mouse, the most common mammals here are red squirrel, snowshoe hare, and red fox. Sharp eyes may spot their well-travelled trails crossing ours. You may find their scats—foxes often deposit their on top of something so you can't miss their sign. Coyotes have recently been leaving their larger droppings as well. At the shore keep your eye out for mink.



The small trees under the power line are both spruces and firs. The photograph above shows white spruce on the left and red spruce on the right. Red spruce is common at this end of Deer Isle. Its needles are reddish brown while the white spruce has a bluish cast. White spruce is sometimes called “skunk” spruce because of its pungent smell, often compared to cat urine.

Balsam fir has flat soft aromatic needles. Fir seedlings flourish when released by light in areas of blowdowns. Balsam fir is the traditional favorite for Christmas trees and the aromatic needles are used in fir pillows. Spruce needles are sharp and surround the twig. See the top branch in the photo below. Fir needles, below in the same photo, form a flat plane and if you turn the branch upside down you will see a pair of fine white lines on the undersides of needles. Remember Fir is Flat, Spruce is Spiny.



This looks like a lovely wooded preserve that you are walking through, but much of land beyond the trail is privately owned. Fortunately much of that land has been protected by a **conservation easement**. The donation of this conservation easement increased the size of preserve by a half. It contains a major source of animals’ drinking water, and provides more living space for the animals that live here, especially larger mammals and birds of prey.

What sorts of organizations are legally allowed to accept and enforce a **conservation easement**? It must be a non-profit or governmental agency with a recognized record of conservation efforts. Every conservation easement is a little different, reflecting the owner’s wishes. Owners may have heirs who wish to inherit part or all of the property; they may wish to reserve some building rights; they may or may not allow public access. But the lands must

provide a public benefit, whether that is for preserving water quality or habitat and species diversity, or simply for beauty and historical value. Conservation easements are probably today's best conservation tools. Everybody wins.

In autumn the sharp-shinned hawks come funneling down this peninsula and spiral over these woods looking for one more meal before they take off over the bay. In spring the returning warblers fill the woods here, glad to reach land after their flight across the bay.

Soon after the trail crosses a private road you will also notice remnants of stone walls. Stone walls provide a record of past land use. The land right here was probably not tilled, but may have been used for pasture. Much of Deer Isle was cleared for farming in the 1800s, as in this photograph looking across the head of Crockett Cove.



Virtually all of Deer Isle has been cut over several times, much of it for pulpwood during World War II. The Barred Island forest may be less than 100 years old but because they grow slowly on the thin soils, individual trees are older than you might guess from their size.



Limited by underlying granite ledge, this clear area has changed little in 50 years. Over many years, lichens have gathered nutrients which allow plants like upland cranberry and bunchberry to get a foothold; these are slowly being displaced by Bracken fern and Huckleberry. The dominant lichen is Reindeer lichen, which carpets much of the sub-arctic tundra. There are several other related species of *Cladonia* lichens.

The trail next winds along the edge of a cliff. For years Dr. Ralph Waldron had a split log bench here so lodge guests—and eventually preserve visitors—could pause to admire the scene. Barred Island Nature Reserve is a good place to learn to recognize the common mosses. The expanse of moss carpeting the forest floor here is almost entirely the Red Feather moss you met at the beginning of the trail.



Haircap moss (above) is most common where conditions are rather dry, frequently along paths. It could be mistaken for spruce seedlings. The name comes from the cap-like shape of the spore capsule lid.

Here and there are easily recognized whitish mounds of moss—Pincushion moss of course (below).



The mosses that look as if they have been windswept or combed are Broom moss (below).



With a little study you can learn to identify the most common moss species from a car window and impress your friends. (See *Species Almanac*) We suggest, of course, that getting out of your car and walking the trail is a much better option. Note especially the wisps of one of the Beard lichens on the spruce branches (below).



The richness of lichens and mosses on this point is due to fog borne by the prevailing southwesterly winds - our boreal coastal Fog Forest.

Frederick Law Olmsted's summer home - he named it Felsted - lies further along the shore here. For some years later it was a hotel. After World War II some time elapsed before the economy recovered and tourists once again visited the Island. The town insisted on a property tax that far exceeded the hotel's revenue. The owners sold the goose that might have laid golden eggs...

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Visible only from the water, the Victorian shingled Cottage-style home became again a private residence. The additions were removed and the once-again-handsome home subsequently served as the set for Mel Gibson's movie, *Man without a Face*.



When Carolyn Olmsted, grandniece of famed landscape architect of New York's Grand Central Park, gave Barred Island to The Nature Conservancy in 1969, she wanted the deed to say "for the enjoyment of the people of Deer Isle". When George Pavloff bought Goose Cove Lodge, he realized that only those who owned boats could reach the island so he donated 48 acres of land for a lovely walk through the woods.

Notice the blowdowns as the trail leads on towards the shore. In a misguided attempt at "prettying up" to create a park-like appearance, dead and fallen trees were removed years ago. That tree removal exposed the shallow-rooted trees to the coastal winds, ironically causing further blowdown. Far better to realize that the standing dead trees form physical windbreaks and shelter many species. It might be worth the effort to lay tree trunks directly on the ground so they rot faster. Don't take them away—those fallen logs provide homes for the wildlife food network.



The stretch of trail leading up to the Overlook has taken us through a variety of microhabitats. We find rushes and cinnamon ferns at every small watercourse and puddle. On the sunny hillside we find trailing blackberry species, an upland cranberry, crowberry and bayberry bushes. Tiny brown elfin butterflies claim the area on the first warm days of April. As with so many of our Island treasures, you must be at the right place at the right time to see them. When it comes to observation, chance favors the prepared naturalist, to paraphrase microbiologist Louis Pasteur'.

After severe damage from a hurricane In the 1980s, many of the remaining trees on this hillside were cut to encourage regrowth. Most of the young conifers are red spruce. Their yellow color is indicative of a nutrient deficiency, perhaps nitrogen. Be that as it may, they are prime habitat for the Magnolia warbler, Swainson's thrush, and White-throated sparrow.



The view from the top of the short side trail to the Overlook stands to look the same in years to come because protective arrangements—outright ownership by Acadia National Park, Island Heritage Trust, and Maine Coast Heritage Trust and conservation easements—are in effect for Isle au Haut, Mark Island Light, Scraggy Island, Second Island and The Fort. Bald eagles seem to know that since they nest on several of these properties.



The square of stones just as you walked out onto Stinson Point is what remains of what local people thought of as the shack for storing salt for drying fish. The Olmsted girls called it their

changing room for their picnic excursions. Part of Frederick Law Olmsted's personal philosophy was that nature was meant to be enjoyed equally by all members of society. The generosity of Caroline Olmsted has made your visit today possible. If you have enjoyed your excursion today, we hope you will take a moment to consider what it costs the land trust to maintain the preserves. A trust is not a government agency; it is simply a group of dedicated individuals relying on the generosity of individuals like you. What is the price of admission worth to you?



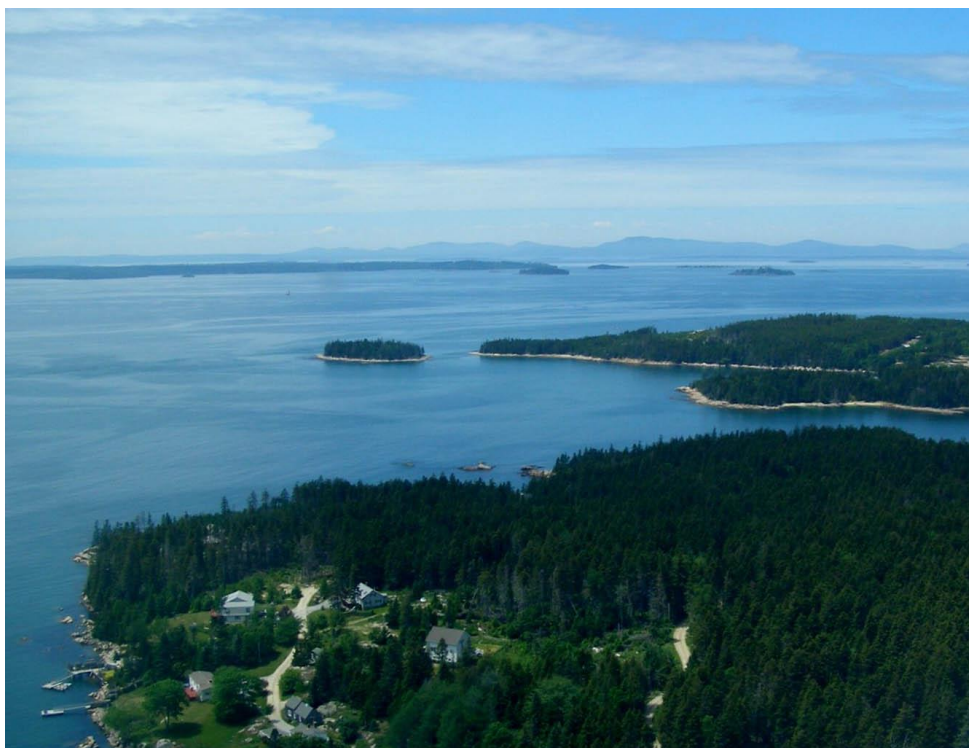
Characteristic of seashores bordering much of the Gulf of Maine are high tides and steep rocky faces. Not only do creatures living here have to tolerate alternating periods of being wet and dry, they also sort themselves in response to competition and predation. The photo shows a zone of dark rock weed above the low tide and a zone of white barnacles extending up almost to the high tide mark. While our tide pools here are not as spectacular as some in other places, Barred Island is an excellent place to study vertical zonation. (For further details see the [Species Almanac](#) section, OUR SHORES.)



Warning: the tides here are strong. The bar at high tide is covered by about 6 feet of water. Plan your trips out to Barred Island accordingly. You have about 3 hours either side of low tide to safely make the trip and return

From the outermost point of Barred Island you can look south to a wildlife area that is federally recognized as a national treasure. You see the same view as from the Overlook: Isle au Haut, Second Island, Mark Island (behind Second) and Scraggy.

Now turn and look west at the Camden Hills.



From their profile you can read the action of the glaciers as the ice sheets came bearing down from the right and plucked away the rock faces on the left, leaving a steeper slope. North Haven, Vinalhaven, and Eagle Island lie in the middle of the bay, and in the photo above you see Barred Island at high tide and the mouths of Crockett Cove and Burnt Cove.

Your walk around this small island is a lesson in geology. Amid the pink granite bedrock are rocks small and large that are clearly different in appearances. Geologists call them glacial erratics. They were transported to Barred Island by the continental ice sheet that invaded Maine about 30,000 years ago and retreated from Penobscot Bay about 15,000 years ago.



The smaller rocks have tumbled in the sea and been rounded and smoothed and washed ashore. Unless you did look at very thin slices of them under a microscope you cannot be certain of your identifications but you can make some good guesses.



Stonington granite (above) underlies Stonington and many of the small islands of the archipelago off the town.



Ellsworth schist (above) makes up most of northwest Deer Isle.

The intrepid Olmsted sisters rowed amazing distances in their forays around the bay. Not much escaped their scientific curiosity. (Margaret was an astronomer well before many women made their way into that field.) A garnet-studded boulder (below) was one of their favorite discoveries. Did the glaciers bring it here from the Canadian Shield, where this kind of Precambrian bedrock is exposed?

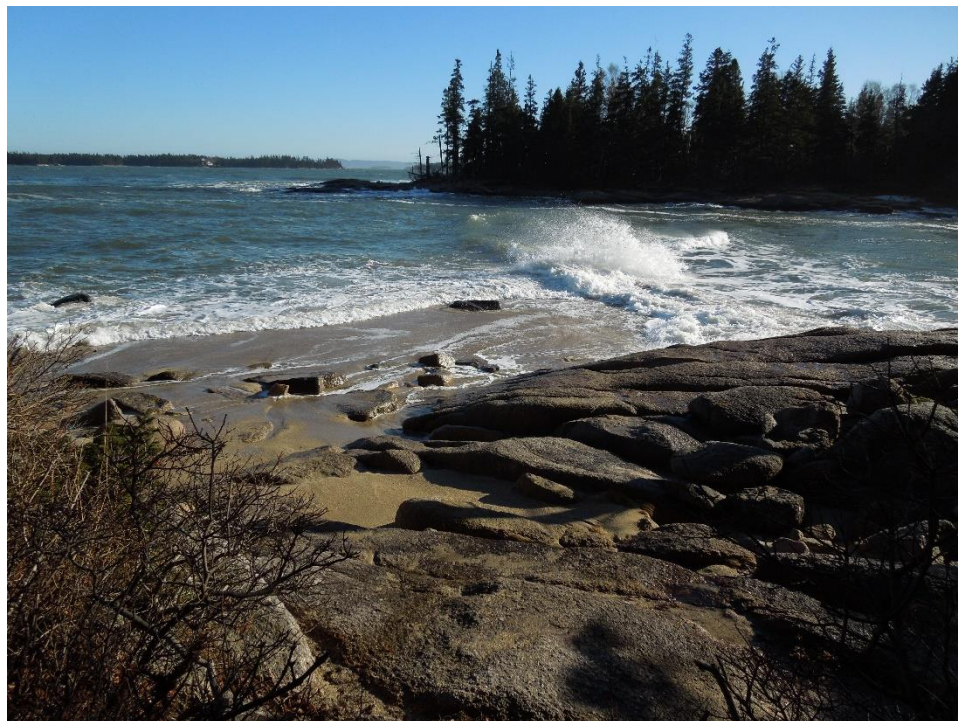


As most of us visit the preserves during the summer or during Fall foliage season, it is easy to forget that they are also wonderful places to visit in winter. Also we might keep in mind that the sea too knows the touch of seasons. Annual changes in the cycles of day length and water temperature of course affect the plants and animal breeding cycles.



If you are fortunate enough to be here in winter you might catch the bar under a coat of snow. That means that it snowed while the tide was low and you got there before the tide was high. A narrow window of opportunity, but oh so rewarding.

If you are at the bar within 3 hours of high tide, you can watch the tide waters come in from both sides. A bar formed this way is called a tombolo. The phenomenon here takes about a half hour to “close the zipper”.



We hope you have enjoyed your outing.



ISLAND HERITAGE TRUST

Text by Dr. Kenneth L. Crowell and Marnie Reed Crowell
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