

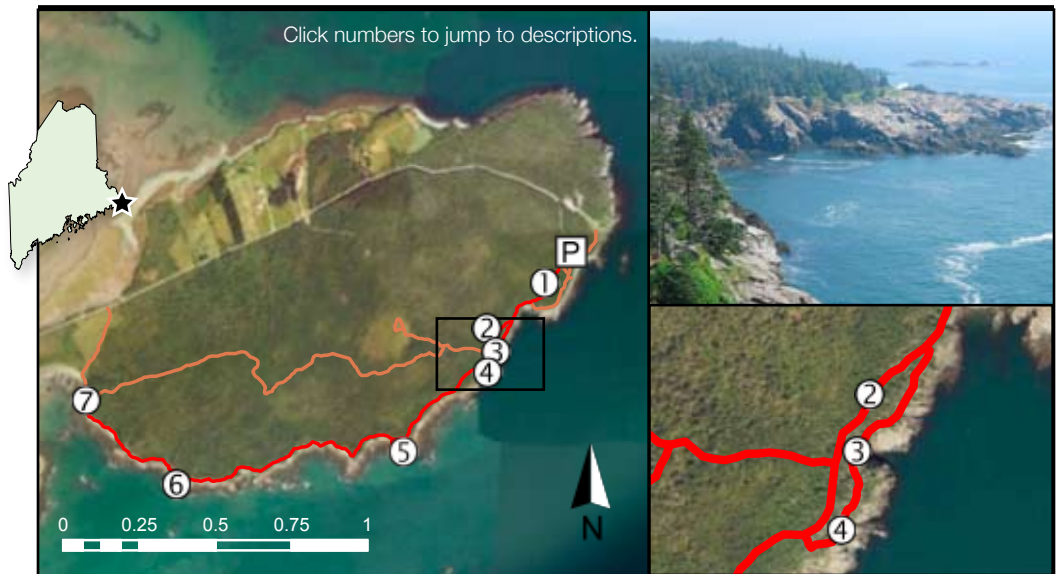
# QUODDY HEAD STATE PARK

Inland trail, Coastal Trail - 1.6 miles each way, moderate

**T**ethered to the mainland by a narrow strip of bog, Quoddy Head is surrounded on three sides by frigid ocean waters that flow from the North Atlantic on the Nova Scotia current. The ocean dictates the ecology of the peninsula, and it's not kind. Because cold water cools the air here, visitors from the mainland will feel as though the peninsula is air-conditioned, even on the hottest summer days. The plants here include species rarely found this far south. Buffeting waves, scouring winds, extreme tides, and constant salt spray add to the drama, forcing coastal plant communities to crouch for safety.

## Getting There

From the intersection of US Route 1 and ME Route 189 in Whiting, follow ME Route 189 for 8.5 miles to South Lubec Road. Turn right and continue for 2 miles to a fork. Bear left and continue 2 more miles to the park entrance. There are two trailheads. To reach the second trailhead (Inland Trail) bear right when entering the park following a short dirt road to a parking area with picnic tables and outhouses.



## Naturalist's Notes

While this Spruce - Fir Wet flat may look like an upland forest, it is actually a forested wetland.

In flat, foggy, poorly-drained sites like this one, water collects in the mineral soil and mosses thrive. Here, the ground is completely carpeted with red-stemmed moss, three-lobed bazzania, and green sphagnum moss. Herbs include bunchberry, mountain wood fern, and twinflower.



Twinflower, as featured in a portrait of Carl Linnaeus by Hendrik Hollander.

### ① **A Biologist's Favorite Flower** -66.953254, 44.812906

*The first 200 yards of the Inland Trail wind through a shady stand of balsam fir ♀ draped in lichen.*

[A to map](#)

To the right to the trail, from late spring into summer, look for light pink gems dangling in pairs from a single stalk like tiny, old-fashioned streetlights. This is twinflower, a cold-loving plant that only grows at high latitudes or near cool mountain summits around the globe. Warm temperatures in springtime initiate a ripple of blooming twinflower, beginning at the southern edge of its range and heading north. Quoddy Head's cool summer temperatures make it an excellent place to spot blooming twinflower in July.

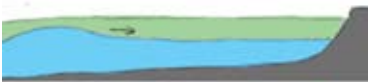
Twinflower (*Linnaea borealis*) was the favorite plant of famous biologist and taxonomist Carl Linnaeus (1707-1778). Linnaeus is responsible for placing scientific names on thousands of species, but he didn't name his beloved twinflower. In the science world, it is considered tactless to name a species after yourself, so a fellow botanist and friend of Linnaeus gave the genus its name, *Linnaea*. Linnaeus himself finished the name with *borealis*, meaning "from northern areas."

After 0.1 miles, keep straight at the first intersection onto the Coastal Trail. White spruce becomes prominent here, indicating the beginning of [Maritime Spruce - Fir Forest](#)

## Naturalist's Notes



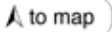
Look for white spruce clinging to bluffs to the left of the trail and sprinkled throughout the canopy of the Maritime Spruce-Fir Forest on the right. In this community, balsam fir is joined by white spruce, red spruce, paper birch, and mountain ash in the canopy. Bunchberry, whorled aster, mountain wood fern, common wood sorrel, and wild sarsaparilla are common here. Because of its location on shallow slopes adjacent to the coast, this community is subject to brutal winds that blow down large trees, resulting in a perpetually middle-aged forest.



Simplified illustration of Quoddy Head's extreme tides  
Illustration by Kelly Finan

📍 . For a better view of this natural community, detour inland here ② on the Inland Trail. The Inland Trail will merge with the Coastal Trail again in about 250 yards.

### ③ Water Beats Rock -66.956378, 44.810849



If you remain on the Coastal Trail, you will pass Gulliver's Hole at 0.3 miles.

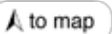
Gulliver's Hole is a tall, narrow cove with waves surging in and out. Here, the bedrock has fractured vertically and the **erosive** forces of the waves are taking advantage of the weak spot. The waves gradually but relentlessly deepen the cove every day.

From a bench on the left, you can see the top of West Quoddy Head Light peeking out from behind a gently-sloping hillside.

**West Quoddy Head Light** is the easternmost light house in the United States. Since 1808, it has been here to guide ships through the Quoddy Narrows, preventing them from running aground on Quoddy Head's deadly rocks and bluffs. The light is automated now, but for 180 years, up until 1988, it was operated by a lighthouse keeper.

Tides at Quoddy Head are among the most dramatic in Maine; they rise or fall an average of 16 feet every six hours thanks to Quoddy Head's unique position at the mouth of the Bay of Fundy. Farther north and east into the Bay of Fundy, the tides are among the most dramatic in the world, rising and falling as much as 50 feet per tidal cycle. It is speculated that the Bay of Fundy's long, narrow shape is responsible for these tides. The water that fills the bay at each high tide does not have enough time to leave the bay before the next high tide starts flowing in. This sloshing effect results in extremely high water levels where the two tides meet.

### ④ Hot Meets Cold -66.956443, 44.810076

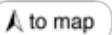


At 0.35 miles, the trail wraps around a table of outcropped bedrock.

Diabase is a type of intrusive igneous rock, which means it originated as magma that seeped from the earth's molten mantle to a place higher in the crust. Unlike lava that pours out onto the earth's surface and cools quickly, diabase cools slowly beneath the surrounding rock, often forming large crystals.

What was magma doing in eastern Maine? The surface of the earth is broken up into massive plates, many the size of continents, which float on the earth's liquid mantle. About 425 million years ago (during the Taconic Orogeny), two such plates were colliding in very slow motion. As one plate slid beneath the other, it began to melt into the mantle. A melting plate sheds water and other chemicals that reduce the melting point of rock, inducing volcanic activity above. Parts of a volcano that cool underground, as well as rising masses of magma that cool before they surface, can become diabase. The diabase found at Quoddy Head is a result of those forces, and has only been exposed at the earth's surface after millions of years of weathering and erosion.

### ⑤ An Alga takes a Likin' to a Fungus -66.960576, 44.807656



At 0.8 miles, the trail rounds Green Point, a Downeast Maritime Shrubland.

Here, low-growing vegetation crouches beneath scouring winds and salt spray to

## Naturalist's Notes

Lowbush blueberry, black crowberry, and cranberry find a little nourishment in the thin soil that has collected here. Closer to the water, harebells emerge from pockets of soil accumulated in crevices between rocks. This community type is usually found on exposed granitic headlands.



Maritime sunburst lichen



Pocket Beach



Double-crested cormorant. Adults are brown-black overall. Immature birds are browner, with a paler neck and breast.

## Naturalist's Notes


While this bog isn't visible from the Coastal Trail, a second bog is more accessible. On the return trip, turn left on the bog trail from either the coastal or inland trail. This short loop is dotted with excellent interpretive signs explaining bog ecology.

form a [Downeast Maritime Shrubland](#) ♀. Live trees are nearly outnumbered by the silvery skeletons of the dead, many broken off in the middle, likely from the Groundhog's Day Gale of 1976. The Gale was the result of a strong storm that pummeled the coast with 100+ mile per hour winds, damaging trees by toppling and snapping them.

Few organisms can survive on rock that is constantly pummeled by water and wind, but lichen is an exception. For the next mile, keep an eye on the coastal bluffs for orange patches of maritime sunburst lichen so bright it almost resembles graffiti. Lichens often look like paint, but they are actually an intimate relationship between an alga and a fungus.

Most algae are simple, primitive, single-celled photosynthetic organisms that grow in water. Fungi can tolerate drier conditions, but can't get energy via photosynthesis; like animals, fungi get energy from plants and other organisms. When a fungus and an alga unite into a single organism, the fungus provides moisture for the algae while the algae produces food for the fungus. Different combinations of fungus and algae result in different species of lichen. Look for another species of lichen along this trail; *Usnea* lichen hangs like beards from the branches of the trees.

### ⑥ **Pocket-sized Beaches** -66.972170, 44.806419


 to map

*At 1.2 miles, the trail passes a pebbly beach on the left.*

Pocket beaches, like this one, are sheltered coves where pebbles, cobbles, and small boulders accumulate. The rounded stones here originated as part of the rocky bluffs surrounding the cove. For thousands of years, waves have pounded the bluffs, breaking them apart into jagged fragments. Once loose in the cove, churning water tumbled the rocks until they were rounded. But where's the sand?

Because sand grains are smaller and lighter than pebbles, they remain floating in the roiling waves. If you dig a few inches into the beach, you may find sand between the larger rocks, where water has slowed enough to let the sand settle.

### ⑦ **Quoddy Head's Lonely Future** -66.976875, 44.809328

 to map

*The trail rounds the final bend, a bench on the right overlooks Carrying Place Cove.*

Carrying Place Cove makes for good shorebird roosting. Keep an eye out for sandpipers and plovers along the water's edge and [double-crested cormorants](#) bobbing in the waves or perched on the rocks drying their wings after fishing.

This is a good place to make predictions about Quoddy Head's future. First, consider the landscape of Carrying Place Cove. The strip of land behind the cove is one of two [bogs](#) ♀ on [Quoddy Head](#). When cold ocean air meets warm mainland air, fog shrouds the peninsula for an average of 59 days per year. This keeps Quoddy Head wet and promotes the growth of bogs and other wetlands.

Look at the shape of the cove on the aerial photo (below, left). Do you think Quoddy Head will remain a peninsula? Remember, the erosive forces of the waves are at work here. At the back of the cove, the muddy beach creeps away from the mouth, high tide waves gnawing into the bog to the northwest. This thin strip of bog is the single thread tethering Quoddy Head to the rest of Maine. Within a few hundred years, the





Aerial photo of Carrying Place Cove  
Image © 2014 Google

dramatic waves responsible for Quoddy Head's bluffs and pocket beaches may sever it from the mainland. Quoddy Head may become Quoddy Island.

*To return to the trailhead, either go the way you came via the Coastal Trail (approx. 1.6 miles to parking lot) or turn right at the intersection to take the Thompson Trail (approximately the same distance to the parking lot), which offers a nice detour on the Bog Trail.*

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## Naturalist's Glossary

**Erosion:** The process by which soil and rock are transported and deposited in other locations.

**Lichen:** A partnership between a fungus and an algae (single-celled photosynthetic organism).

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*Natural Heritage Hikes is a project of the [Maine Natural Areas Program](#) in partnership with the [Maine Trail Finder website](#).  
For more Natural Heritage Hikes, please visit [www.mainetrailfinder.com](http://www.mainetrailfinder.com).*

*Designed and written by Kelly Finan, University of Vermont Field Naturalist Program.*

*Map sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community*