



Old Speck Mountain, the northeastern terminus of the Mahoosuc Range, has long been a popular hike along the Appalachian Trail. Here, evidence from the last glaciation is everywhere, and includes scoured bedrock, Speck Pond tarn, erratic boulders and even the massive carved valley of Grafton Notch. While its glacial history is part of what gives the rugged landscape of Western Maine its character, exposed bedrock and shallow soils, harsh high elevation climate conditions, and catastrophic disturbance events have also shaped the variety of vegetation and habitats found here. The forests that have developed are adapted to these unique soil and climate conditions.

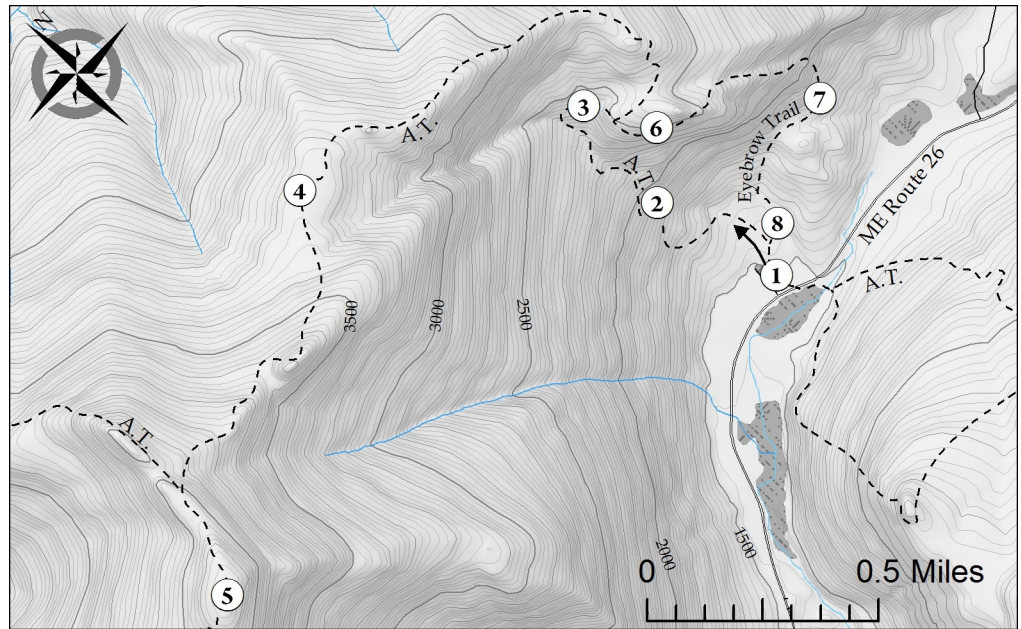
Temperate northern hardwood forest is prevalent at the base of Old Speck. Deep, fine grained soils developed from the sediment eroded from slopes above, support hardwood species including American beech, yellow birch and sugar maple. Ascending in elevation, harsh climate conditions lead to a change in forest type. Red spruce and balsam fir are increasingly common, and hardwood species diminish. Nearing Old Speck’s peak, even red spruce becomes scarce. Here, heart-leaved-paper birch, balsam fir and scattered black spruce, highly tolerant of harsh weather and frequent disturbance, are the dominant canopy species.

Getting There

Access to the Old Speck and Eyebrow Loop trail is on the West side of Route 26 at the north end of Grafton Notch State Park. Although this guided hike begins on the Appalachian Trail, one may choose to begin on either trail.
Note: The Eyebrow trail has some steep areas with metal climbing rungs that may not be suitable to children or pets.



The Eyebrow Cliff, with an ~800’ vertical drop. Note: These cliffs are closed to rock climbing.



① **Trailhead** -70.94726, 44.59018

The parking lot offers an excellent view of the cliffs on the east side of Old Speck.

From the trailhead, there is a great view of the Eyebrow Cliffs and during the summer one may observe peregrine falcons, a species once extirpated from Maine due to the use of the pesticide DDT. Peregrine Falcons were success-



An area of placid waterfall marks the transition between hardwood and softwood forest.



Moist montane spruce-fir forest (above) often will have moist carpets of mosses and liverworts ideal for fungi (below).



fully [re-introduced to Maine during the 1980s and 1990s](#).

Peregrine falcons nest in cliffy terrain that is inaccessible to predators. Famous for being the world’s fastest bird, Peregrines achieve top speeds estimated at 200 mph during vertical dives to strike their prey— small to medium sized birds.

② **Waterfalls and forest transitions** –70.95314, 44.58905

Ascending the slope, one will observe a change in forest composition from hardwood to softwood forest.

[Northern Hardwoods Forest](#), with common tree species including sugar maple, American beech and yellow birch, is the dominant forest type along the lower slopes. Ascending in elevation, conifers including balsam fir and red spruce become gradually more abundant. A series of waterfalls mark the transition into conifer forest— here, a mountain stream cascades down the slope from pool to pool. Though benign in the summer, mountain streams can be forces of destruction in the winter. In steep areas, the stream forms unstable sheets of ice that scour the adjoining slopes and stream bed, leaving them bare.

Above these waterfalls, [Montane Spruce-Fir Forest](#) is the dominant forest type. As the name implies, this natural community is dominated by balsam fir and red spruce trees, which thrive in cooler, higher elevation areas. Dense tree regeneration is common in the understory, and a soft carpet of mosses and liverworts covers the forest floor including abundant feather moss (*Pleurozium schreberi*) and bazzania liverwort (*Bazzania trilobata*).

③ **Ledges and views** –70.95844, 44.58946

Ascending through a series of open outcrops, the hiker is provided with the first of a series of spectacular views.

From this vantage point, one can see the summits of Old Speck and Sunday River Whitecap. While taking advantage of the view, we may ponder why the surrounding slope has so much exposed bedrock. In some instances, it may be obvious; the steep topography prevents soil development, and as the rock weathers, loose materials erode downslope. Other areas with exposed bedrock, however, are flatter. Here, one would expect that the weathering of rock and the succession of lichens, mosses and vascular plants would progressively lead to soils capable of supporting forest. Some other force must have stunted soil development in these places: perhaps a rock slide or ice fall cascaded down the valley or an intense fire burned through vegetation and caused soils, no longer bound by sturdy roots, to be washed away. What can be certain is that lichens, fungi, and plants are slowly working in concert to



In Maine, spruce grouse primarily feed on spruce and fir needles. Photo: Ian Carlsen.



Gray jays are common in North American boreal forest from Alaska to Maine. Photo: Ian Carlsen



Wildfire is responsible for many of Maine's open summits. Photo: Maine Forest Service

build soil and reclaim these less steep areas of barren rock.

As you ascend further, pay attention to the balance of fir and spruce trees—red spruce will become increasingly scarce.

④ **Subalpine fir** –70.96434, 44.58120

At elevation ~3,300, red spruce is scarce and scraggly balsam fir dominate the forest canopy.

[Subalpine Fir Forest](#) is dominated by balsam fir and heart-leaved paper birch trees, with mountain ash common in the understory. Cool climate, harsh weather and short growing seasons prevent trees from growing much taller than 30'. On average, trees in this area will live for [less than 60 years](#) before declining due to exposure or natural disturbance events. Although this harsh climate is challenging for many species, a number of boreal bird species common in northern Canada can also be found in subalpine forests of Maine. Some of the more common of these include boreal chickadee, spruce grouse and gray jays.

Boreal chickadees are very similar to the common black-capped chickadee (Maine's state bird), but have a brown back and cap, and a [buzzier call](#). The diet of boreal chickadees includes insects (larvae and adults) and seeds of spruce trees.

Spruce grouse are ground nesting birds that look a bit like chickens. Male spruce grouse are very distinctive with black feathering over most of the body and a red patch above the eye. Spruce grouse are relatively tame, and will often allow humans to approach within a few feet.

Gray jays are similar in appearance to common bluejays grey backs and whitish bellies and without a crest. They are voracious omnivores and have been observed consuming a variety of foods including insects, berries, and small animals. Some jays even learn to pester hikers for human food. Gray jays will cache large amounts of food for winter, and [use saliva to glue food to tree branches, above the snow line](#).

⑤ **Old Speck Summit** –70.95371, 44.57084

The forested summit of Old Speck is in contrast with the mountain's bald neighbors.

The fire tower at the summit of Old Speck provides panoramic 360 degree views. Unlike its neighbors including Baldpate Mountain to the east, Sunday River Whitecap to the southeast and Goose Eye Mountain to the southwest, the summit of Old Speck Mountain has not burned in recent times, and remains forested. While some alpine fires have human origins, lightning strikes



View from Eyebrow cliffs of glacially carved, U shaped Bear River valley.

fires do occur in Maine. In 2016, a lightning strike on Mt. Abraham (west of Kingfield) started a wildfire that burned over 40 acres of the mountain's southern summit before it was extinguished.

⑥ **Eyebrow Cliffs** —70.959555, 44.59064

In an area well known for ice climbing, the cliffs themselves have been formed by ice.

At ~2600 ft. elevation, these cliffs have an ~800 ft. vertical drop, and [formed during the last period of glaciation by the freezing of meltwater in rock fissures](#). This melt-freeze action has tremendous force, capable of breaking off chunks of rock such as those that are now scattered along the valley floor.



The bark of yellow birch is highly patterned in old trees.

⑦ **Old hardwood forest** —70.95152, 44.59499

Deep soils shed from upslope areas support a large stand of mature hardwood trees.

The forest at the base of the cliffs is quite old, and includes many stately sugar maples, red spruce and yellow birch. No evidence of timber harvest exists in this area for the past 75+ years, and many trees are over 150 years old. Hobblebush and striped maple are dominant in the understory, and are joined by a variety of herbs including Solomon's seal (*Polygonatum pubescens*), nodding bellwort (*Uvularia sessilifolia*), round leaved violet (*Viola rotundifolia*) and sarsaparilla (*Aralia nudicaulis*). Although not true 'old growth,' this forest stand provides many of the ecological values of late successional (older) forest including a diversity of forest structure, with trees of varying height and size; a number of large, dead and decaying trees; as well as a diversity of tree ages within the stand. This abundance of structural elements provides niches for many plant, fungi and animal species that are more prevalent in old forests, including bats, woodpeckers, rodents and others. Several species of wood-decaying fungi are restricted to late stage decomposition and are [only present on very large coarse woody material](#), which is more common in late successional forests.



Glacial 'erratic'.

⑧ **Glacial erratic** —70.94886, 44.59133

Massive rocks were left behind during the last glaciation.

Shortly before rejoining the Appalachian Trail, one encounters an impressive glacial 'erratic.' Though this rock gives the appearance that it was a meteor fallen from space, or a massive boulder thrown by a giant, this towering obelisk was plucked from the adjacent slopes by the Laurentide Ice Sheet—a mile-thick continental glacier that dominated much of northern North Ameri-

ca. As this massive glacier melted ~14,000 years ago, debris caught in the ice, like this boulder, was deposited haphazardly across the landscape.

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.

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Map sources: Maine Office of GIS, Esri