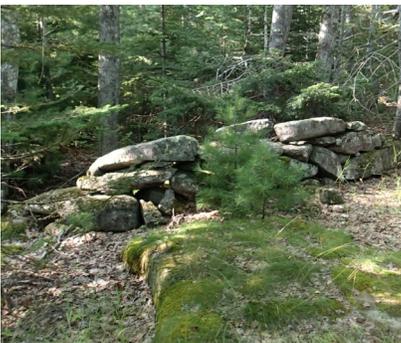




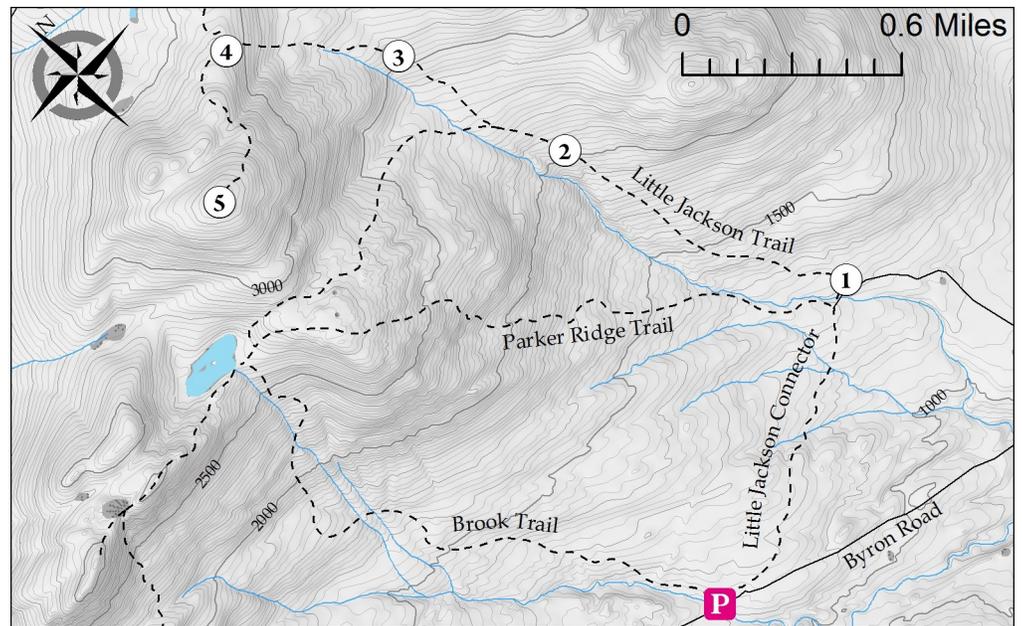
*Fire, harsh weather, shallow soils, rock slides, agriculture, logging, disease—the factors that make growing conditions difficult for trees in Maine’s western mountains are also those that define the structure and composition of the forests we observe while hiking here. Heading up the trail, one will observe transitions between numerous natural community types including forests dominated by sugar maple, yellow birch and American beech; forests dominated by paper birch and aspen; forests dominated by conifers; and open alpine summits. The composition of each of these communities is influenced in some way by natural or human disturbance. Hiking up the trail, one can observe the legacy left by fires and other forces that have shaped many of the natural landscapes of the western mountains.*

## Getting There

Park at the Brook Trail parking lot along the Byron Road. Take the Little Jackson Connector trail for approximately 1.1 miles until you reach the Little Jackson Trail.



19th Century rock walls memorialize the boom in sheep herding at that time.



① **Trailhead** -70.513523, 44.734846

*The trail ascends through land once used for farming.*

Looking at the hardwood forest surrounding the trailhead, it is hard to imagine that this area was once farmed. However, some signs of the area’s agricultural history remain— old stone walls that once penned in livestock and old woods roads that merge with the hiking trail.

In the first half of the 19th century, New England experienced a major boom in sheep farming as a result of the high price commanded for Merino wool and the advent of the power loom. This period is known as ‘[sheep fever](#)’. Large areas of New England were cleared and rock walls built. However, following the civil war, access to the fertile farmland of the Midwest increased, and the New England sheep industry collapsed. Much of southern



Diseased beech tree, with numerous lesions associated with beech bark disease (photo: Maine Forest Service).



Heart leaved paper birch is a common tree of subalpine settings in Maine. It can be distinguished by its cordate (heart shaped) leaf base.



Charcoal found in the soil provides evidence of historic wildfire.

and western Maine, including greater Weld, has been touched by this history.

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② **Northern Hardwoods Forest** –70.51980, 44.74625

*Lower slopes are dominated by a classic New England forest type.*

Ascending the trail, the evidence of agricultural land use becomes more scarce. Hardwood trees including sugar maple, American beech and yellow birch are 50-70 years old and dominate the forest canopy, having regenerated following the last timber harvest event. In this area, one can get a good look at the devastating effects of beech bark disease, an association between a nonnative scale insect and a native fungal disease.

Healthy American beech can be identified by its distinctively smooth gray-bark and alternate spacing of leaves. American beech is the primary nut bearing tree in northern hardwood forests and is a valuable source of protein for a variety of wildlife. Until recently, American beech logs from Maine were milled and sold for high value hardwood flooring, among other uses. However, both the value of beech for humans and wildlife has been greatly reduced by the impacts of beech bark disease. Many beech trees here are covered in lesions and wounds, and look very gnarled and knobby. The corruption of the tree's living tissue just under the bark leads to a slow death. Just as Dutch elm disease and the American chestnut blight laid waste to those forest giants, so too is beech bark disease working its way across the country, decimating beech trees.

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③ **Stream Crossing** –69.735973, 43.778599

*Following a stream crossing, there is a dramatic change in forest composition.*

The trail crosses an ephemeral stream, beyond which, the forest changes dramatically. Here, a fire origin stand of heart-leaved paper birch dominates the canopy, while spruce and fir trees regenerate in the understory. Logging in Maine's western mountains during the late 1800s and early 1900s had a profound impact upon both the mountains and valleys. Much of the valuable softwood lumber was cut where it could be accessed. Following timber harvests and spruce-budworm epidemics, a considerable buildup of logging slash became dangerous fuel for wildfires. At this time, there was less attention and concern for fire prevention than there is today, and fires originating in logging camps were common. Because of dry conditions and buildup of fuels, occasional devastating fires occurred.

The combination of particularly dry weather and the build up of fuels occasionally led to large devastating fires. At higher elevations, heart-leaved pa-



Krummholtz trees are exposed to harsh weather throughout the year.



Crowberry, foreground, is in stark contrast with alpine bilberry (red leaves, at center) in late summer. These are among the common alpine plants found on the Little Jackson summit.

per birch is often the first tree species to colonize bare ground. Birches produce many small, long lived, wind dispersed seeds which grow more rapidly in full sunlight than other tree species. Heart-leaved paper birch is a short lived, shade intolerant species that does not regenerate under a closed canopy forest. At this site, it will eventually be replaced as the dominant tree by conifers including red spruce and balsam fir.

④ **Crooked wood** -69.735466, 43.78793

*Small weathered trees struggle to grow in alpine conditions.*

Immediately below treeline, the dominant forest community is [subalpine fir forest](#). Short, (usually less than 30' tall) balsam fir and heart leaved paper birch are dominant in the canopy, with many areas of blowdowns filled with dense tree regeneration. While subalpine fir forest is fairly limited on Little Jackson Mountain, its larger neighbor Jackson Mountain has an extensive area of this forest type that reaches the mountain's summit. These forests provide essential habitat for Bicknell's thrush, a rare endemic bird species that requires subalpine forests in New England and Quebec for breeding and nesting habitat. The best way to detect this species is by listening for its [distinctive song](#) in late Spring and early summer.

Emerging above treeline, the summit of Little Jackson is visible. Small stunted black spruce and fir trees are widely scattered. These 'krummholtz' trees, German for [crooked wood](#), have been shaped by the harsh climate and weather at the summit. Many factors including thin soil, limited growing season, variable temperatures, exposure, ice, and drying winds stress these trees and prevent them from developing fully above treeline. As a result of ice damage and winds that shear both buds and branches, the green growth of Krummholtz trees often occurs on the more sheltered leeward side. These are sometimes called 'flag trees' or 'banner trees'.

⑤ **Little Jackson Summit** -70.53564, 44.75431

*The alpine climate provides a subarctic refuge for cold tolerant plants.*

The bald summit of Little Jackson Mountain provides excellent panoramic views, including the Tumbledown Mountain cirque and its mountain pond or 'tarn.' This pond may have been excavated both through the action of alpine glaciers and by the activities of the Laurentide Ice sheet, which covered all of Maine's summits during the last glacial maximum (see the related [publication](#) from the Maine Geological Survey).

Alpine environments in the eastern United States are relics of a different age. Following the [decline of the Laurentide Ice Sheet](#), plant and animal species now associated with arctic tundra were the first to colonize the barren land.



Cliff nesting peregrine falcons can sometimes be observed from Little Jackson. Photo Credit: Jonathon Mays.

As the glaciers receded further, temperate conditions crept further north and most of these tundra species disappeared from New England. The [harsh weather and very short summers](#) in alpine areas provide environmental conditions for some of these species to persist. Alpine environments are ‘refugia’ for plants and animals now disjunct from the principal range of their species: the arctic. Common alpine species on Little Jackson Mountain include heaths such as [mountain cranberry \(\*Vaccinium vitis-idaea\*\)](#), [black crowberry \(\*Empetrum nigrum\*\)](#) and [alpine bilberry \(\*Vaccinium uliginosum\*\)](#). In Maine, these plants are known from alpine summits and exposed coastal bogs in eastern Maine.

The peak of Little Jackson Mountain can be an excellent place for raptor viewing, as the rugged terrain provides habitat for peregrine falcons and other raptors.

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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).*

*Map sources: Maine office of GIS, Esri*