TRAIL NOTES & SAFETY INFORMATION

This 9-mile loop is steep and strenuous. It should only be attempted in good weather – never when there is a threat of storms and always with foul weather gear. A full day should be planned for completing the entire hike. Although the effort required is significant and the potential dangers are real, the scenic and natural rewards of making this visit are quite spectacular.

An alternate way to visit the alpine zone is to ascend Mt. Lafayette via the Old Bridle Path and descend the same way (8 miles total). This hike is shorter, allowing for easier retreat if the weather turns bad (the Falling Waters Trail is not recommended for descent in wet weather). Please consult the latest edition of the Appalachian Mountain Club (AMC)'s *White Mountain Guide* for detailed trail information. Also, bringing along a field guide to alpine plants and wildflowers may enhance your enjoyment of this hike.

THE ALPINE ZONE

In New Hampshire, the Alpine Zone only occurs in the White Mountains, at high elevations above treeline where severe climatic conditions prevail and natural communities of low, mat-forming shrubs, sedges, rushes, grasses, mosses, and lichens dominate. The flora is most similar to that of the eastern Canadian Arctic and coastal barrens. Five major groups of natural communities occur within the greater alpine tundra ecological system: (1) dwarf shrub barrens, often dominated by diapensia, on the most exposed sites, (2) meadows with dwarf shrubs, sedges, and rushes, (3) moist, herb and heath dominated slopes associated with late-melting snowbanks, (4) bogs in wet concavities, dominated by peat mosses and heath shrubs, and (5) heath/krummholz patches with stunted trees and shrubs near timberline. Where each community occurs depends largely on local climatic and soil conditions. In addition, several sparsely vegetated communities occur in open rocky areas such as boulder fields, landslide scars, ledges and cliffs, and talus barrens.

The vegetation here is exposed to a range of extreme conditions, including high winds, a short growing season, low temperatures, heavy cloud cover, high precipitation, and fog interception. Many of the plants are well adapted to these harsh growing conditions. Ironically, however, the plants are as fragile as they are tough, in that most cannot withstand the direct impact of footsteps. It takes a very long time for trampled vegetation to grow back. Great care must be taken by hikers to not damage these delicate plants.

Some wildflowers in the alpine zone have restricted flowering times (the second week in June is usually the best time to see many of these). But some, like the frequent, wispy clumps of mountain sandwort, can be seen flowering all along the trail throughout most of the short growing season. Several rare plants can be seen along the ridge from the trail, including bearberry willow, alpine blueberry, mountain avens, dwarf birch, and Appalachian fir clubmoss. The rarest plants on the ridge include mountain-heath and dwarf cinquefoil. They usually grow in secluded sites well off the trail, and are not described in this guide to ensure their protection and survival.

Less obvious but no less important components of alpine tundra are the numerous species of mosses and lichens growing on rocks. These can also be damaged by footsteps and should be avoided when possible.

Franconia Ridge has a long history of recreation, stewardship, and conservation. Trail maintenance and revegetation efforts are underway to help bring back formerly denuded sections of the alpine tundra. Since 2000, USFS/AMC alpine stewards have been on the ridge on weekends from May–October to promote protection of the fragile vegetation.

NATURAL COMMUNITIES

Natural communities are recurring assemblages of plants and animals found in particular physical environments. New Hampshire has a fascinating and complex variety of them, including alpine meadows, tidal marshes, riverbanks, forests, peatlands, swamps, and more. Each type of natural community has a certain set of environmental conditions that support species adapted to those conditions. Similar communities in turn often occur together on the landscape to form larger scale natural community systems. The NH Natural Heritage Bureau surveys and maintains a database of the state's most exemplary natural communities and systems, as well as all of its rare and endangered plants and animals.

The 230-acre alpine tundra system on Franconia Ridge, and some of its component natural communities, are considered to be exemplary by NH Heritage. This type of natural community system is rare in the state, and limited to only about 600 total acres outside the Presidential Range.

Left: *Diapensia lapponica* (diapensia), *Geum peckii* (mountain avens), *Ledum groenlandicum* (Labrador tea), and *Vaccinium uliginosum* (bog bilberry) in the alpine tundra system on Franconia Ridge.

DIRECTIONS TO TRAILHEAD

Take I-93 to the Franconia Notch Parkway. Northbound, exit at the Trailhead Parking sign on the right soon after The Basin. Southbound, exit at the Lafayette Campground, park, and take a paved walkway through an underpass to the lot on the other side of the parkway. This area is called Lafayette Place.
Note: these parking lots may be very busy or full on weekends or holidays.

WHITE MOUNTAIN NATIONAL FOREST

The National Forest system was established in 1911 by the Weeks Act to provide multiple resources for the nation while also protecting and managing the land for future generations. The White Mountain National Forest encompasses about 800,000 acres in New Hampshire and western Maine, and is managed for a variety of uses including recreation, wildlife habitat, water, timber, and wilderness.

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This brochure was created by the New Hampshire Natural Heritage Bureau as part of a series designed to educate the public about the state's special plants and natural communities. More site guides and profiles are available on the Visiting New Hampshire's Biodiversity program page at:

www.nhnaturalheritage/org.

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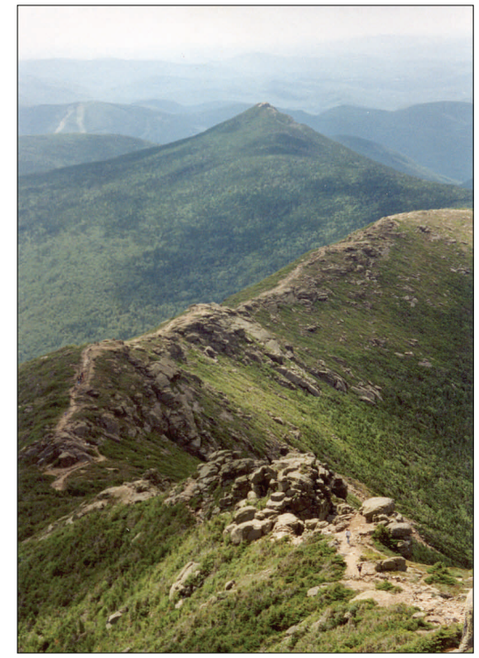
NH Natural Heritage Bureau

Visiting New Hampshire's Biodiversity

Franconia Ridge Alpine Zone



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TRAIL DESCRIPTION:

From the trailhead at **Lafayette Place**, hike east on the Old Bridle Path through a diverse northern hardwood forest composed primarily of beech, yellow birch, and sugar maple, with lesser amounts of hemlock, spruce, and pine. At the first trail junction, go right across the small wooden bridge over **Walker Brook**.

For the next half mile, the **Falling Waters Trail** skirts the upper edge of a wet, *northern hardwood seepage forest* natural community, where groundwater emerges at the surface creating springs and small streams among a diverse mix of trees, shrubs, and herbs. Carefully cross **Dry Brook** and ascend alongside it past several spectacular waterfalls. This section of trail is often slippery on wet rocks and ledges.

As you climb, notice how conifers begin to replace the hardwood trees, that the trees gradually decrease in height, and that the overall diversity of species decreases. These changes are due to poorer soils and greater environmental stresses at higher elevations. In 3 miles of ascent, this shift in plant composition is similar to the climatic shift that would be observed if you traveled north from Franconia Notch to Hudson Bay in Canada.

After the waterfalls, the trail climbs steadily along several old logging grades. At a sharp turn, a 100-yard side path leads down to **Shining Rocks**, a steep, open ledge that is nearly always wet and slippery. An uncommon alpine plant, mountain avens (*Geum peckii*), can be seen growing in cracks here. Back on the main trail, continue steeply up through an increasingly stunted mix of balsam fir (*Abies balsamea*) and black spruce (*Picea mariana*) until you reach the treeline. Here, just below the summit of **Little Haystack**, you enter the Alpine Zone.

The actual summits of the high peaks on Franconia Ridge are now mostly barren. Alpine plants are very susceptible to trampling, and heavy hiker traffic has taken a toll on them over time. More than 10,000 people hike along the ridge each year - please stay on the trail or open rock to help protect the fragile environment. Stony "scree" walls have been built to keep hikers on the path. Along either side of the scree walls lining the trail here is a *diapensia shrubland*. The dominant plant, diapensia (*Diapensia lapponica*), grows in cushion-like clumps in the most exposed, windswept locations all along the ridge. Like several other alpine plant species, diapensia has evolved tiny, rigid, waxy leaves that help conserve moisture and protect it from wind damage.

Weather permitting, head north on the **Franconia Ridge Trail** (a part of the Appalachian Trail). Most of the ridge is very exposed, but you will occasionally pass through areas of short, gnarled spruce and fir trees called krummholz (a German word meaning "crooked wood"). Strong winds and blowing snow keep these trees naturally pruned, like wild bonsai, and some of the individuals are actually quite old (up to 150 yrs). Wildlife thrives among the relative protection of the twisted stems and branches.

Another frequent natural community on Franconia Ridge is called a *sedge - rush - heath meadow*. This lawn-like alpine community is characterized by prominent clumps of grass-like deer's hair sedge (*Scirpus cespitosus*) and highland rush (*Juncus trifidus*), as well as rocks and lichens.

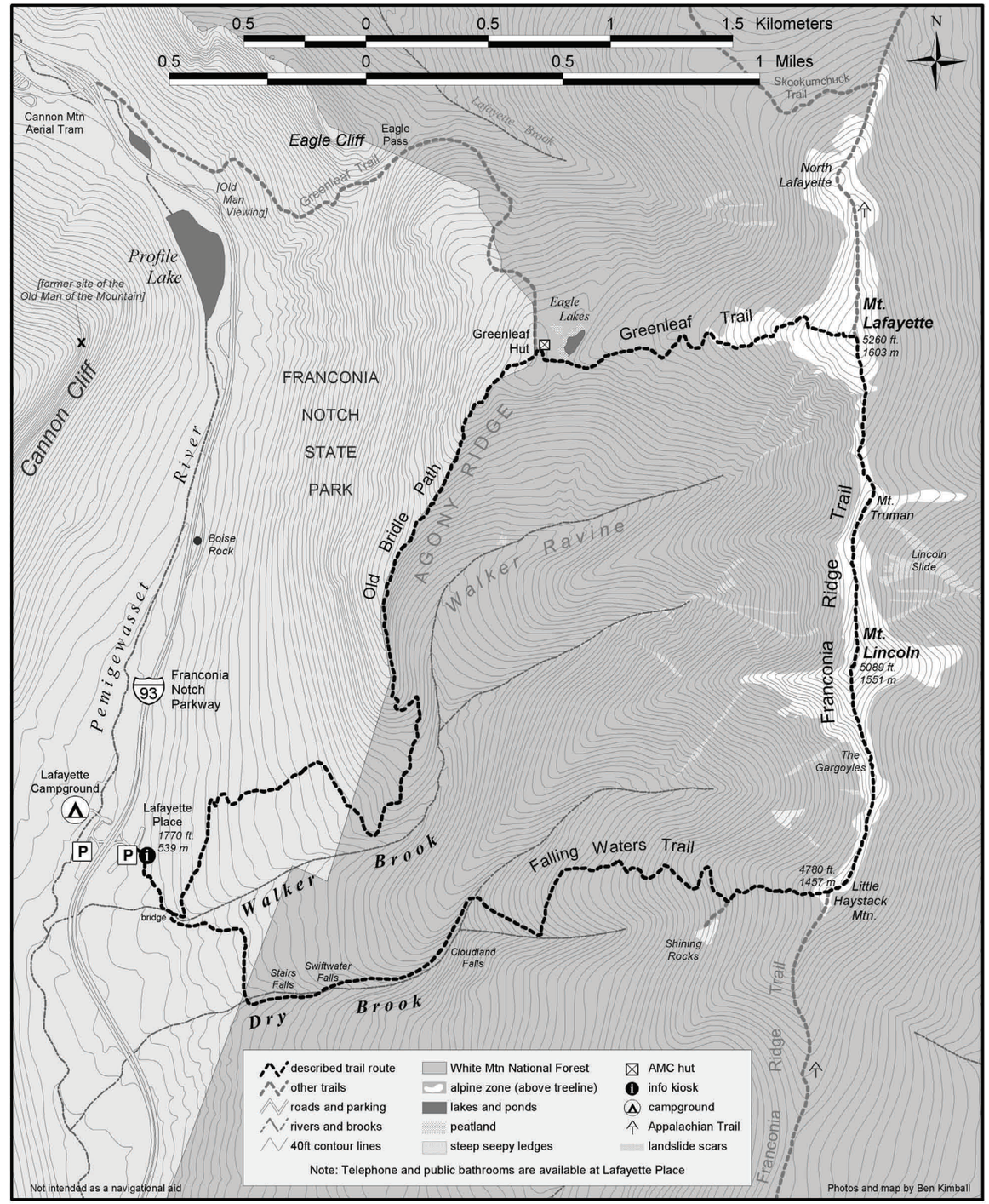
Passing over a small knob, turfy bands of an easily damaged plant called alpine sweet grass (*Hierochloe alpina*) line either side of the trail. Then, on the narrow section known as **The Gargoyles**, steep cliffs and ledges drop away to the west - take care to stick closely to the trail in both of these areas. Watch for ravens gliding on updrafts of wind.

The summit of **Mt. Lincoln** is bare, but the trail-less ridges to the east and west support extensive mosaics of fragile, undisturbed tundra communities and species of alpine plants. Please (always) stay on the trail to be safe and minimize your impact. A large, Y-shaped landslide scar called **Lincoln Slide** is visible on the east slope.

Descending north somewhat steeply from Mt. Lincoln, you will pass by a small *alpine heath snowbank*. This rare shrubland community occurs intermittently all along the eastern side of Franconia Ridge, particularly in locations where late-melting snowbanks linger well into the growing season. A common component plant species is Labrador tea (*Ledum groenlandicum*). The furry undersides of its leaves trap and conserve moisture, protecting it from drying winds. Diapensia cushions grow in notable profusion on the gravelly ground just beyond.

Cross over "**Mt. Truman**," a prominent hump between Lincoln and Lafayette. From this vantage (as elsewhere on the ridge), there are sweeping views of the vast Pemigewasset Wilderness to the east.

Ascending **Mt. Lafayette**, the trail passes through the largest patch of alpine meadow on the ridge. At the summit, inspect the stony remains of an old building foundation. The less frequented, ledgey knob of North Lafayette is visible a half mile to the north.

Follow the large rock cairns and stone steps of the **Greenleaf Trail** west down from the peak. Nearly all of the natural communities that occur on the ridge can be seen along this trail as you descend to treeline. Just before reaching AMC's **Greenleaf Hut**, you cross the marshy outlet stream of the two small subalpine tarns known as **Eagle Lakes**. These highly acidic ponds are actually in the process of becoming bogs as peat moss and other vegetation accumulates at their edges, where the krummholz slowly encroaches.

From the hut, follow the **Old Bridle Path** for 3 miles down **"Agony Ridge"** to the trailhead. As you pass by numerous open lookouts across **Walker Ravine** to the east, notice the many narrow landslide scars streaming down the steep west slope of the ridge. Such debris avalanches are a common phenomenon in the White Mountains, and often contain pioneer species good at colonizing disturbed sites. The trip concludes with a series of long, gentle switchbacks bringing you back down through northern hardwood forest.