



The Island Forest Trail



About This Trail

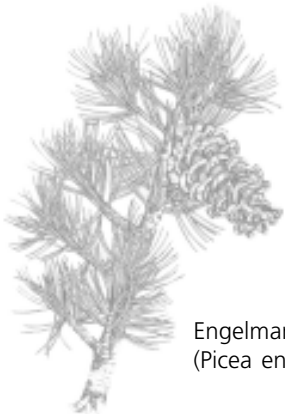
Like a forest island surrounded by a sea, the trees of Great Basin National Park sit high and stranded. Take this gentle 0.4-mile loop trail and learn and observe what sets this coniferous woods apart. Discover how this isolated forest in the Snake Range has evolved, cut off from other forests by distance, elevation, and time. The 0.4-mile

loop trail is wheelchair accessible and rated Challenge Level I. The trail has a firm, well-compacted surface, with a maximum grade of 1:12, a minimum width of 32 inches, and comfortably spaced rest benches. Pets and bicycles are not allowed on park trails.

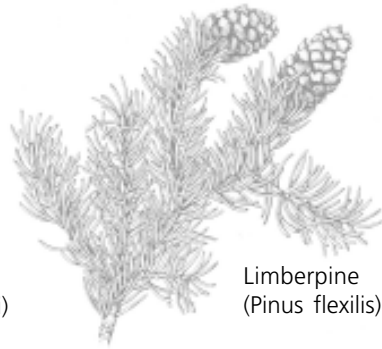
A Mountain of Influence

The forest stands here on the rubble of glacial outwash. During the last ice age, 20,000 to 11,000 years ago, glaciers emanated from Wheeler Peak and lay heavily

on the landscape. With the colder temperatures of that period, Engelmann spruce and limber pine forests were found much further downslope, living near 6,000 feet. As temperatures rose and glaciers retreated, so rose the conifer forest.



Engelmann spruce
(*Picea engelmannii*)



Limberpine
(*Pinus flexilis*)

The Snake Range supports eight species of conifers- the most found in the Great Basin mountains. Look for two conifers along this trail, Engelmann spruce and limber pine. Drawings by **Christine Stetter**, from *Trees of the Great Basin*, University of Nevada Press, 1984.

Because Wheeler Peak is so tall (13,063 feet), it creates its own weather. Moist air blows from the west and cools as it is forced to rise over the peak. As it rises, clouds form. The clouds drop rain or snow mostly on the mountain's western side. But enough moisture falls on the eastern, leeward side to sustain these high mountain forests and fill many of the park's streams year-round.

Trickledown Effect

The glacier-carved walls of Wheeler Peak funnel rain and snowmelt into this mountain valley. Like a catch basin, Teresa Lake (0.7 miles upslope from here) collects and holds much of the runoff. At the base of the lake, water slowly drains and flows downslope beneath the surface. Not far upstream from here the water emerges from the ground and feeds this small, rippling creek. The creek spills into larger Lehman Creek, which courses its way down the mountain, emptying into Snake Valley near the town of Baker – where it is diverted for irrigation use for farms and ranches.



Lehman Creek and its tributaries flow year-round, a rarity in the dry Great Basin region. Precipitation is largely an expression of elevation. With many peaks in Great Basin National Park approaching or exceeding 10,000 feet, 20 to 25 inches of rain and snow falls and trickles down each year.

Photo by J. VanHoesen, 2001.

An Isolated Island

The many plants and animals found within this forest and along this meandering creek are almost completely cut off from others of their kind. The forbidding landscape that surrounds the Snake Range inhibits all but wind-borne plants and wing-borne animals from finding their way here today.



The Clark's nutcracker is one of the few forest residents that is unrestricted by the desert valleys. They help to regenerate the conifer forests by carrying and caching seeds from other ranges.

Drawing by Kurt Danielson, 1999.

Eleven thousand years ago at the close of the last glacial period, rich, wet forests like this one occupied valley areas. As the climate warmed, basin forests migrated upward to cooler temperatures and dependable moisture. Stranded, these mountain forests –and all they contain– became islands unto themselves.

Living within this creek are some of the most isolated of the Great Basin creatures –water shrews and pea clams. Their limited mobility keeps them tied to this creek. Without physical contact with others of their species, in time they could evolve into their own distinct species found nowhere else on Earth. Butterflies such as the tiger swallowtail do not wander far from the creek – from egg to caterpillar to butterfly, the tiger swallowtail repeats its life cycle near the stream and forest, where flower nectar and host plants are abundant.

Forest Gaps

The gaps you see in this forest were created by a lightning-caused fire. Look around and you will notice fire scars on the trunks of several mature trees. Fire is a natural process that helps maintain diversity in plant and animal habitats. Its cleansing and culling action releases nutrients into the soil, renewing and invigorating aging forests.

After fire burned these openings in this spruce-pine forest, abundant sunlight

flooded in and quickly encouraged grasses and wildflowers to grow. Next, the small grove of aspen trees began to sprout and fill the opening. When these aspens are 80 to 100 years old their canopy will provide enough shade for young spruce and pine trees to grow. The aspens will give way to the conifers, which will reclaim the ground until the next lightning strike sparks the cycle again.



New aspens sprout from the roots of mature trees after a fire or other disturbance. The new generation is actually a clone of the last, with every tree in the grove being genetically identical.