



Potato Hill Farm Outdoor Education Center

Alder Creek Gorge - Guide to Creekside Trail (Gullies I-IV)

Return by Rim 1.7 miles

1. Map and Warming hut- Point out map and where we will be hiking, BREIA trail systems, warming hut. Trail rules
2. Glaciers- Ice ages, kettles, eskers, erratic, dragging of materials and debris
3. Forest environment-deciduous trees, canopy, photosynthesis, pattern of bark, shape of leaves, and position of branches
4. Deciduous trees-lose their leaves to conserve energy and water, not enough sunlight in winter for photosynthesis, black cherry, ash, maple, note pattern of bark, shape of leaves, and position of branches
5. Flora-plants (indigenous and invasive)
6. Fauna-animals in habitat-fox, deer, rabbit, chipmunks, squirrels and turkeys.
7. Watershed-Water eventually flows into the Mohawk River to the Hudson to the Atlantic Ocean.
8. Stream topography- shape of area, how it was formed, habitat
9. Conifer trees-identify trees by needles. Fir=flat, spruce=square, and pine=pairs or more
10. Tamarack/larch-conifers that shed their needles in the winter.
11. Erosion-constant wearing away of Earth's surface. Ice, water, wind
12. Sedimentary rocks- most of the rocks that we find are sedimentary.
13. Survival skills-what to do if lost, stay put, tell someone where you are going. Rule of threes, 3min=air, 3hours=heat, 3days=water, and 3 weeks=food.

Alder Creek Gorge - Instructor's Guide-Creekside Trail (Gullies I-IV)

Return by Rim trail (1.7 miles)

- **1. Map**-Point out where we are and where we will be going. Discuss Black River Environmental Improvement Association, camera and website. Families are welcome on all trails. Show them the warming hut and all of the trails in the area and which trail we will be following for the day.
- **2. Glaciers**- Alder Creek Gorge is a wooded ravine at the foot of a glacial terrace near the headwaters of Alder Creek. The glacier blocked the Alder Creek Valley and formed a lake. Streams brought sand and gravel into the lake. When the ice melted, the lake drained and sediments were exposed. Top of the valley was farmed up until 70 years ago. Glaciers covered the area during the Ice Age about 10,000 years ago (Pleistocene Ice Age). Glaciers were formed by the snow, which didn't melt away but kept building up. There are two kinds of glaciers- valley (look like rivers of ice) and continental (ice sheet that cover vast areas of land such as Greenland/Antarctica). Glaciers move by the force of gravity and the pressure of its own weight. The ice ages disappeared in North America about 6,000 years ago. At one time on North America the ice was thought to have reached all the way to New York City. Kettles-holes in the ground that were formed where knobs of ice under the glacier melted. Eskers-long, snakelike ridges formed by material left by the melting of the glacier with the water flowing underneath. Drumlins- material left behind by the glacier forming smooth, egg shaped mounds. Kames- material left behind by the glacier formed cone shaped hills.
- **3 and 4. Forest environment** - An environment is identified by the climate and the plants that grow there. **Deciduous trees** - shed their leaves during a particular season each year. Deciduous trees are the dominant flora in the forest. Conifer trees that produce seed bearing cones and have leaves shaped like needles are also forest flora. Most conifers remain green throughout the year. A forest environment may have a canopy formed by the leafy tops of tall trees that limit the amount of sunlight that reaches the ground. Define understory. Fungi, moss lichens and ferns cover the forest

floor. **Fungi** - Yeasts, mushrooms, molds and morels are fungi. All fungi, except yeasts, are multicellular. Fungi are made of tiny filaments called hyphae. Tangled hyphae or mycelium grow below the ground. The above or visible portion of fungi is the fruiting body or reproductive structure.

Fungi reproduce by spores or break off and begin to grow on their own. The oldest known fossils of fungi are 460 million years old. Fungi are important as decomposers. Fungi recycle nutrients by breaking down the bodies of other organisms. Parasitic fungi can cause diseases in plants and animals. **Mosses** - Low growing plants that can be found everywhere. They are an ecosystem within themselves. Mosses do not have true stems or leaves (nonvascular). They vary in appearance. Water and nutrients move from cell to cell through rhizoids (roots). Reproduction is by spores. Mosses have been used to absorb fluids, for fuel (peat), and added to soil to retain water for plants. **Lichens** - Lichens are formed by a symbiotic association between fungi and algae (or cyanobacteria). Lichens are resistant to drought and cold. They are the first organisms to grow in barren places. They break down rocks to begin soil formation. Lichens help recycle dead plants. They are important decomposers in the forest environment. **Ferns** - Ferns evolved about 350 million years ago. Ferns have true vascular tissues that carry water, sap and nutrients throughout the plant. Ferns have leaves called fronds which grow from a rhizome or underground stem. Ferns are abundant world-wide. Ferns reproduce by spores, usually found on the underside of the frond.

- **5. Flora** – (Discuss plant life that we see in season) Flora is the naturally occurring indigenous plants of a particular region with no human intervention. Invasive is plant life that is brought into a particular region. The gorge is a rich plant habitat. Approximately 110 species live here including 19 trees and shrubs, 15 ferns, 12 grasses and sedges, and 58 wildflowers. Some plants that can be found are blackberries, wild ginger, dwarf buttercup, turtle-heads, violets, bell warts, bishop's cap, trilliums, asters, and golden rods. New York state flower is the rose.
- **6. Fauna** - Fauna are the animals that inhabit the gorge. Generally we may see tracks/ scat for deer, rabbits, foxes, wild turkeys, squirrels and chipmunks. Predator/prey. Predators have eyes close together on the front of its head which allows it to seek prey and decide whether it is within his reach or not. Prey has eyes that are far back on its head so it can be more aware of its surroundings and may use camouflage for more protection.

- **7. Watershed-** A watershed is an area, often a ridge of land, that separates waters flowing to different rivers, basins, or seas. Alder Creek watershed has water flowing to the Black River, Lake Ontario, St. Lawrence River and then on to the Atlantic Ocean.
- **8. Stream Topography-** Streams and rivers are found when the rain falls and the water travels downhill. Streams always travel as the elevation descends even if it appears to be flat there is a slight slope. Many streams/rivers are found in gullies, valleys and ravines. In these streams the glaciers left glacial till.
- **9. Conifer trees-** An easy way to identify conifers is by their needles. Fir trees have flat needles. Spruces have square needles. Pines have needles that come in pairs or more. For example, a white pine would have five needles in their pair and a red pine would have three needles in their pair. Conifers are gymnosperms, plants that bear seeds or cones.
- **10. Tamarack/American Larch-** Larches and bald cypress are the only North American conifers that drop their needles in Autumn. Tamaracks are medium to large pointed trees. Their branches do not droop. The cones are about ½ inch in length and width. New cones are red in springtime. Tamaracks require wet soil. They have a dark bark. The needles change to a golden color in the autumn before they drop off the tree. Tamarack seeds, needles and bark are food for animals. The lumber is used for posts.
- **11. Erosion-** Is the gradual but continuous wearing down of the Earth's land surface. There are three kinds of erosion-water (most prevalent), ice, and wind (found in deserts). Forest vegetation helps control erosion. Man has helped erosion in his clearing away of land areas.
- **12. Sedimentary rocks-**most of the rocks found in this area are sedimentary rocks. They are formed by individual grains of sand or other substances pressed together in layers over time. Sandstone and limestone are examples of this kind of rock. They contain Fossils, which is the imprint of living creatures from millions of years ago. In the sedimentary rocks of this area fossils found are trilobites and crinoids. These rocks are dull, not shiny.
- **13. Survival skills-** stay put when lost, make sure that you are with a buddy, tell someone where you are going. Rule of threes- 3 minutes-air, 3 hours-heat, 3 days-water, 3 weeks-food.

Alder Creek Gorge

Points of interest on Creekside Trail (Gullies I-IV)

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5. Flora
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10. Tamarack
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12. Sedimentary rocks
13. Survival skills