Potato Hill Farm Outdoor Education Center

Alder Creek Gorge - Guide to Glacier Trail

Warming hut to road gate (approx. 1 hour)

1. Map and Warming hut- Point out map and where we will be hiking, BREIA trail systems, warming hut. Trail rules
2. Forest environment-deciduous trees, canopy, photosynthesis, pattern of bark, shape of leaves, and position of branches.
3. 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
4. Glaciers- Ice ages, kettles, eskers, dragging of materials and debris
5. Flora-plants (indigenous and invasive)
6. Fauna-animals in habitat-fox, deer, rabbit, chipmunks, squirrels, and turkeys.
7. Conifer trees-identify trees by needles. Fir=flat, spruce=square, and pine=pairs or more
8. Ferns-different kinds
9. Fungi-Yeasts, mushrooms, molds and morels
10. Lichens- symbiotic relationship of algae and fungi
11. Lycopodium- staghorn club moss, and clubmoss
12. Topography of the area-glacial impact
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-Glacier Trail

Warming hut to road gate (approx. 1 hour)

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. Show the stone wall which was used for borders of property along with a cable that someone used for boundary markings.

2. 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 multi-cellular. 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 and 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:** formed by a symbiotic association between fungi and algae (or cynobacteria). 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:** 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.

3. Deciduous trees

Deciduous trees lose their leaves in the winter to conserve energy and water. There is not enough sunlight and water in winter for photosynthesis to occur. Some native deciduous trees are black cherry, maple, ash, beech, and birch. Remember that the Sugar maple is the New York State tree. Discuss maple syrup. Deciduous trees are the dominant flora in the forest. Discuss the Emerald Ash Borer beetle and it's potential danger. 1 hand approximately 12 tree years

4. 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.

5. Flora

Discuss plant life that we see. 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, and violets. New York state flower is the rose.

6. Fauna

Are the animals that habitat 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 the seek prey and decide whether it is within his reach or not. Prey have eyes that are se far back on its head so it can be more aware of its surroundings and may use camouflage for more protection.

7. 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.

8. Ferns

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9. Fungi

Yeasts, mushrooms, molds and morels are fungi.. All fungi, except for yeasts, are multi-cellular. Fungi are made of tiny filaments called hyphae. Tangled hyphae or mycelium grow below the ground. The above ground 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 decomposers. Fungi recycle nutrients by breaking down the bodies of other organisms. Parasitic fungi can cause diseases in plants and animals.

10. Lichens

Lichens are formed by a symbiotic association between fungi and algae (or cynobacteria). 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. See them on trees and on grave markers. Freddy Fungi+ Alice Algae= Larry/Lisa Lichen

11. Lycopodium

A genus of clubmosses also known as ground pines or creeping cedar. They are flowerless, vascular, terrestrial plants, with widely branched, erect, prostrate or creeping stem, with small, simple, needlelike or scale-like leaves that thickly cover the stem and branches. Staghorn clubmoss is the most wide spread species of the genus.

12. Topography of area

Describe the area where we started (plants, ground, etc), what it was like in the middle and what the area was like when we were close to the road.

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.

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4. Glaciers
5. Flora
6. Fauna
7. Conifer trees
8. Ferns
9. Fungi
10. Lichens
11. Lycopodium
12. Topography of the trail
13. Survival skills