



Alder Creek Gorge

Instructor's Guide-Rim trail to road (0.9 miles)

1. Map and Warming hut- Point out map and where we will be hiking, BREIA trail systems, warming hut. Trail rules
2. Lycopodium- staghorn club moss, and clubmoss
3. Flora-plants (indigenous and invasive)
4. Ferns-different kinds
5. Fauna-animals in habitat-fox, deer, rabbit, chipmunks, squirrels, and turkeys.
6. Forest environment-deciduous trees, canopy, photosynthesis, pattern of bark, shape of leaves, and position of branches
7. 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
8. Glaciers- Ice ages, kettles, eskers, dragging of materials and debris
9. Lichens- symbiotic relationship of algae and fungi
10. Sedimentary rocks- most of the rocks that we find are this.
11. Birch trees-bark burns when wet, Native American built canoes
12. Conifer trees-identify trees by needles. Fir=flat, spruce=square, and pine=pairs or more
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.

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- **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. Lycopodium**- is 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.
- **3. Flora**-Discuss plant life that we see. Flora is the naturally occurring indigenous plants of a particular region with no human intervention. Invasive means 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.
- **4. 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. 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 have eyes that are so far back on its head so it can be more aware of its surroundings and may use camouflage for more protection.

- **6. 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** 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.

- **7. 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 its potential danger. 1 hand approximately 12 tree years
- **8. Glaciers-** Alder Creek Gorge is a wooded ravine at the foot of a glacial terrace near the headwaters of Alder Creek. 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.
- **9. 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. See them on trees and on grave markers. Freddy Fungi+ Alice Algae= Larry/Lisa Lichen
- **10. 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.

- **11. Birch trees**-Birches are native to northern regions. The bark is marked with cross streaks and/or dark chevron-shaped trunk markings. The curling older bark is flammable even when damp. The paraffin wax component helps it ignite. The bark of some species (white birch) was once used in the making of canoes. The sap of some birches is used in drinks and syrups. The flowers of birches are caterpillar-like catkins. Male catkins are present in the winter. Birch lumber is used for cabinets, tools, spools, clothespins, and fuel. The seeds and buds are eaten by ruffed grouse, wild turkey, red squirrels, and songbirds. The twigs are browsed by moose, deer, and rabbits.
- **12. 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.
- **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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8. Glaciers
9. Lichen
10. Sedimentary rocks
11. Birch trees
12. Conifer trees/Adirondack Overlook