

Nature Hike

This nature hike is designed to be used on most trails in the montane and subalpine ecosystems of the San Juan Mountains – between 5,000 – 11,000 feet in elevation. Scan the topics, and when you find that on your trail, read that bullet point and learn something new!

- **MULTIPLE USE TRAILS** – Many trails in the area are multi-use trails. You may see mountain bikers, horseback riders or motorcycles here as well as other hikers, depending on the trail designation. Remember to always be courteous to other trail users, and ‘share the trail’. A general rule of thumb is that ‘wheels yield to heels’. Bicycles, ATVs or motorcycles yield to all other users, and hikers yield to horseback riders.
- **ANIMAL EVIDENCE** - Although you may not always see many animals in this forest, we can often find evidence that they are here. You may see evidence of a small mammal – holes in the ground could be homes of pocket gophers, chipmunks, or even golden mantled ground squirrels. Other evidence of animals include tracks in the mud, chewed leaves or twigs, scratches or rubbings on trees, and scat (a.k.a. animal droppings!). How many different ‘evidences’ can you find on your hike?

- **ASPEN** - Although aspen trees produce copious seeds, aspen here in the west reproduce almost entirely from the roots. Because of this, an entire hillside may be a single genetic organism. Aspens also grow best after a disturbance such as a fire and may dominate an area for many years.
- **SOUNDS** - Stop and listen. Close your eyes, and cup your hands around your ears. How many different birds, or simply natural sounds can you hear? Many times we hear more birds than we can actually see. Common birds at this elevation include: gray jays, mountain chickadees, northern flickers and Stellar’s jays.
- **WATER** - The majority of our water comes from melting mountain snow with summer thunderstorms providing additional moisture. Snow-melt runs off or soaks into the soil and emerges later from ground seeps and springs. Because this water is west of the Continental Divide, it eventually flows into the Colorado River in Utah by way of the local rivers in the area.
- **LOGS** - We’ve all seen downed logs before, but have you ever stopped to think about their importance in the forest? Logs provide habitat for lots of animals living in the forest, such as ants, termites, mice, pillbugs, millipedes,

snakes and salamanders. If you want to check them out, find a small log and very carefully roll it over. After investigating, roll it back so those animals still have a home.

- **ROCKS** - Complex geological processes have formed the San Juan Mountains over eons. Some rock outcrops might be shale, a sedimentary type of rock formed by the deposit of clay eroded from the Ancestral Rocky Mountains about 300 million years ago. Engineer Mountain, 12,968’ high is a good example of a typical mountain in the area. The horizontal bands of rock that form the base of Engineer Mountain are also sedimentary. The vertical columns of rock at the top of Engineer Mountain were formed by the cooling of molten rock that was forced between the sedimentary layers at least 40 million years ago.
- **SPRUCE VS. FIR** - The forest between 9,000 and 11,400’ of elevation is made up primarily of Engelmann spruce and sub-alpine fir. How can you tell them apart? The easiest way is to check the needles. **S**pruce needles are **s**harp to the touch and **s**quare in cross-section – you can roll them between your thumb and forefinger. **F**ir needles are **f**lat and **f**riendly – not sharp to the touch. In addition, spruce cones hang down from the branches and last all winter; fir cones stand straight up on the branches and disintegrate during

the winter. Both of these trees have narrow crowns made up of short branches – they are adapted to easily shed the heavy snow loads of this deep snow country.

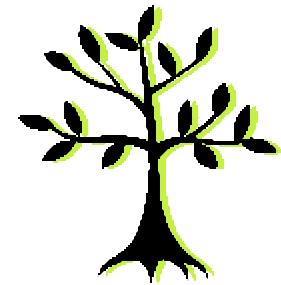
- **MORE ROCKS** - Some mountains in the area were formed 65-70 million years ago by violent faulting and thrusting that caused ancient rocks deep in the earth to be pushed up through the overlying layers of sedimentary rock. The remains of those sedimentary rocks have eroded away leaving the 1.75 billion year old rock we see today. The rock outcrops at the bottom of the peaks were smoothed by glacial ice that extended all the way to the north edge of Durango 20,000 years ago. The glacier had melted by 12,000 years ago.
- **LICHEN** - The “moss” draped on the branches of some trees is not moss at all, but a lichen. Lichens are colonies of two organisms – a fungus and an algae – that live together. The fungus provides support and some minerals; the algae produces the carbohydrates that they both need. A lichen gets its nutrients and moisture from the air. A lichen is not a parasite although it seems to grow best on dead or unhealthy trees. Those kinds of trees provide more opportunities for exposure to the air, sunlight and moisture than trees with thicker crowns. A good way to remember the composition

of a lichen is the verse: “*Freddy fungus and Alice algae took a like’n to each other.*”

- **SNAGS** - Just like logs in the forest, standing dead trees, or snags, also have an important role. Many wildlife species use them for nesting, roosting, perching, or even territorial displays. Woodpeckers, for example, find that they are a good source of insects to eat. Raccoons might use the hollow insides for a den. Bears might do the same in very large snags. Bald eagles may use them for a perfect nesting site. Look closely at this snag for evidence of animals, including insects!
- **FOREST SUCCESSION** - A forest is constantly changing. Trees die and become snags or downed logs, and as they decompose, they return nutrients to the soil for new growth to appear. The seedlings you might find in the forest somehow found a perfect spot in the sun to germinate and grow. As they get larger, the stronger ones will out-compete the others, and grow to be large trees you see around you.

SELF-GUIDED NATURE HIKE

**MONTANE/SUBALPINE
5,000 – 11,000’**



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