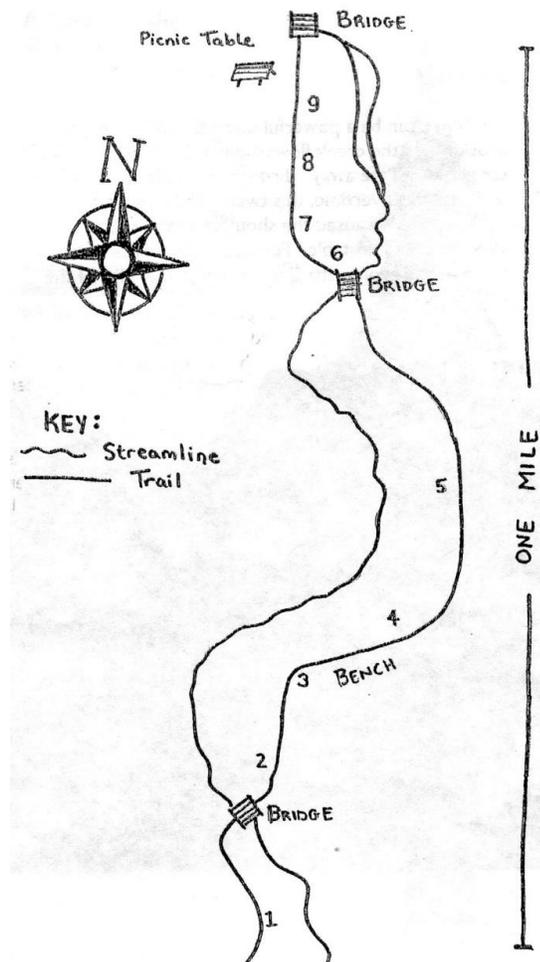


TROUT CREEK: A HISTORY IN THE MAKING

Welcome to the Trout Creek Canyon Trail. A hike through the canyon is a hike through geological time – natural forces have created geological features that provide a fascinating glimpse into the continuing changes that shape the future of this dynamic environment. The diverse landscape of the Big Belt Mountains, created over billions of years, displays some of nature's finest handiwork.



As you hike through the canyon, notice the geological features that contribute to the outstanding scenery and temperature changes. Trout Creek's steep canyon walls consist of exposed rock Madison limestone formation. These dark gray contorted bands of rock can be seen throughout the Big Belt Mountains. The canyon is narrow and sheltered by walls that extend more than a hundred feet which creates cool breezy conditions even on the warmest days.



Trout Creek Canyon is home to a variety of plants and animals. Wildlife such as pack rats and bats make their home in caves; whereas elk, deer and many other small animals live within the canyon itself. Trout Creek is an intermittent stream, flowing both above and below the ground. It provides an important fresh water habitat for a variety of birds that feed on fish, bugs and plant life. Look and listen and you are sure to see a critter or two.

The route through Trout Creek Canyon has had a variety of uses throughout the years. A road was first constructed in 1941 for the purpose of harvesting timber in the Indian Creek drainage. When the route wasn't washed out by floods, it was also used by cattle ranchers and miners. The route was also a part of the Figure Eight Loop, a popular scenic driving route on the Helena National Forest. The York Bar, along with having some of the best hamburgers around, has many pictures and interesting stories about the area.

Don't forget to pack your camera and extra drinking water, as you embark on your scenic adventure through time.

STATION #1

Water can be a powerful force that often results in erosion. As the creek flowed through the area, the water gradually ate away through the walls of the stream bed, creating this twenty foot drop off.

Erosion has caused the shoulder of the trail to be very weak and unstable. For your safety, please stay on the trail and avoid getting too close to the edge of the cliff.

STATION #2 A GARDEN IN THE QUARRY

A wide variety of vegetation grows in Trout Creek Canyon. Most notable are the Douglas fir trees that blanket the ridges and hillsides. They are one of America's most important lumber trees as well as a preferred Christmas tree. Look closely and you will notice a green "hair-like" growth hanging from these trees. Known as reindeer moss, it is actually lichen which provides tasty forage for deer.

Have you noticed the sage colored moss-like plants clinging to the limestone cliffs? Unique to this area, the plant's common name is Kelsey moss. It is actually a member of the rose family.

During spring and summer, wildflowers provide brilliant color along the canyon floor. Shrub and brush cover grows thick along the creek edge, providing food, shelter and cover for many small birds and animals.



STATION #3

Trout Creek's steep canyon walls consist of exposed Madison limestone formations, made from deposits of mud, sand and mineral matter. After undergoing tremendous temperature and pressure changes, the layers hardened, crystallized, twisted and transformed into rock.

Mountains and valleys are shaped by mountain building events, hydraulic and glacier processes. As a result of folding and thrusting, some of the most ancient rocks lie atop the highest points, lifted thousands of feet by incredibly powerful mountain-building forces within the earth.

The grooves or flutes on the rock surface were caused by water passing over the face of the rocks and dissolving the calcium carbonated in the limestone. The process produced the miniature channels in the rock. These are thought to have formed by melting glaciers after the ice age.



STATION #4 BATH ANYONE?

Just as there is a temperature increase as you climb the canyon walls, there is also an increase in water temperature at this point. A feeder stream with warmer water joins with the main stream here. This warm water provides good growing conditions for the floating green carpet of vegetation seen here.



STATION #5

The wildlife in Trout Creek Canyon range from the bushy tail wood rat, commonly known as a pack rat to the mule deer. Many of the other larger animals such as mountain goats, elk and black bear, stay up along the ridge of the canyon. You will be more likely to see the smaller creatures such as squirrels, bats, song birds and even fish. Look closely at a cross-section of the ground and the tress and you will be able to see many types of insects. If you look overhead, you may see some members of the raptor family such as hawks and turkey vultures (pictured left).



Look for song birds, black birds and crows in the shrubs and trees along the creek. The steam bed and the vegetative corridor on both sides of the stream bed are called the riparian zone. These areas are heavily used by wildlife for food, cover and travel. If you look in the stream bed, you may be able to spot a small bird called the Dipper bobbing up and down.



STATION #6

The limestone canyon walls are composed of calcite, which deforms, breaks and flows readily under pressure. When rocks from the west were driven eastward against the limestone, it folded, forming the walls. The age of the thrust faulting here is estimated to be 65 to 75 million years old. The red stain that you see in different sections of the canyon walls is caused by the mineral hematite which is an iron oxide. Water filters down through the rock dissolving and carrying iron with it. There are also grooves in the canyon walls which are called flutes. These channels are caused by water flowing over the rock and dissolving the limestone.

STATION #7 FLOODWATCH

Trout Creek Canyon has had a long history of flooding. The Canyon first flooded in the early 1950s washing out the road. The road was repaired and washed out three more times.

A hundred year flood occurred in 1981, as a result of excessive snow melting and spring rains. The water rushed through the canyon at 717 cubic feet per second, debris blocked the narrow canyon causing pressure to build like a dam. On May 20, 1981 the dam broke, thus causing excessive damage to the road. After conducting an environmental analysis and gathering public comments, the Forest Service chose to close the road and manage it as a non-motorized recreational trail.

STATION #8

Water flows over a hard surface and creates what is called a stream bed. If the ground isn't hard enough, the water cuts through the soft limestone until it hits a hard surface and follows natural underground aqua ducts. This is what is happening here. The stream alternates between flowing above and below the surface.

STATION #9 WHETHER THERE'S WEATHER

Trout Creek has its own microclimate, which means a small area with its own weather system. Due to the steep, narrow canyon walls, the sunlight only touches the canyon bottom for about an hour and a half during the summer time. In the winter, it gets even less. This means that the temperature in the canyon is 10-15 degrees cooler than outside the canyon.

The west facing wall gets more sunlight and is therefore dryer and hotter with very little vegetation. The east wall is cool and damp and covered with trees. At night the air cools and a chilly breeze blows southward down the canyon. During the day a warm breeze blows up toward the basin.

STATION #10

While walking along the Trout Creek trail, one may notice the caves found in the limestone walls. When it rains, this water mixed with CO₂ seeps through the cracks in the ground, which then dissolves the limestone and forms caverns in the ground. The wind or running water erodes away the ground until the cave openings become exposed. Most of the caves in the canyon are not very deep, measuring between 12-20 feet deep and approximately 8-12 feet tall and 8-13 feet wide. The caves are home to bats and other small animals.



THANK YOU



We hope you have enjoyed your hike along the Trout Creek Interpretive Trail. The improvements to the trail and the production of this trail guide were developed for your enjoyment and education. They are the result of a cooperative effort between the Helena High School X-CEL class and the U. S. Forest Service. The information has been reproduced and been put online to make it more accessible to the public. If you have any questions or comments regarding the trail, contact the Helena Ranger District at 406-449-5490.