

National Park Service  
U.S. Department of the Interior

Theodore Roosevelt National Park



# Caprock Coulee

## Nature Trail

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Be aware of the following:



Wildlife



Poison Ivy



Rattlesnakes



Stairs

# Caprock Coulee Nature Trail

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The Caprock Coulee Nature Trail is a 0.8 mile section of the Caprock Coulee Trail. This part of the trail shows the natural and geologic variety of the badlands. It also provides a rare look at a densely wooded area of the park.

When you reach the end of the nature trail, turn back for a trip totaling 1.6 miles. Or, if you are prepared for a longer hike, continue on the Caprock Coulee Trail for a hike of 4.1 miles. Wear sturdy shoes and appropriate clothing. Carry extra water and a trail map.

## 1. Coulees

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Coulees are steep, narrow valleys like the one you are about to enter. Although they are formed by water erosion, coulees are usually dry in summer, except during thunderstorms.

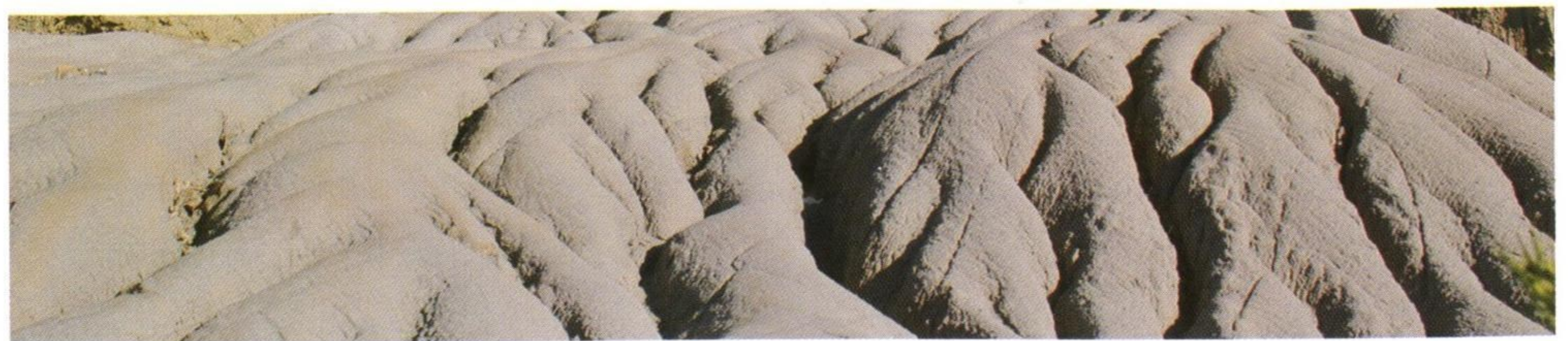
In the 1800s French fur trappers began referring to these valleys as “coulée” meaning “flow.” Since then the name has stuck.

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**Take a left where the trail forks.**

The trail to the right leads to the Buckhorn Trail.

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## 2. Rivulet Erosion

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The pattern on the hillside is rivulet erosion. Rain carves a maze of channels over the face of the butte. These narrow rills merge to form a network of larger channels.

Rivulet erosion is one of many never ending systems of erosion taking place in the badlands. With each rain shower, the land changes shape.

### 3. Grass

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Rainfall influences the amount and type of plants that can grow in an area. This region receives only about 15 inches of precipitation each year,

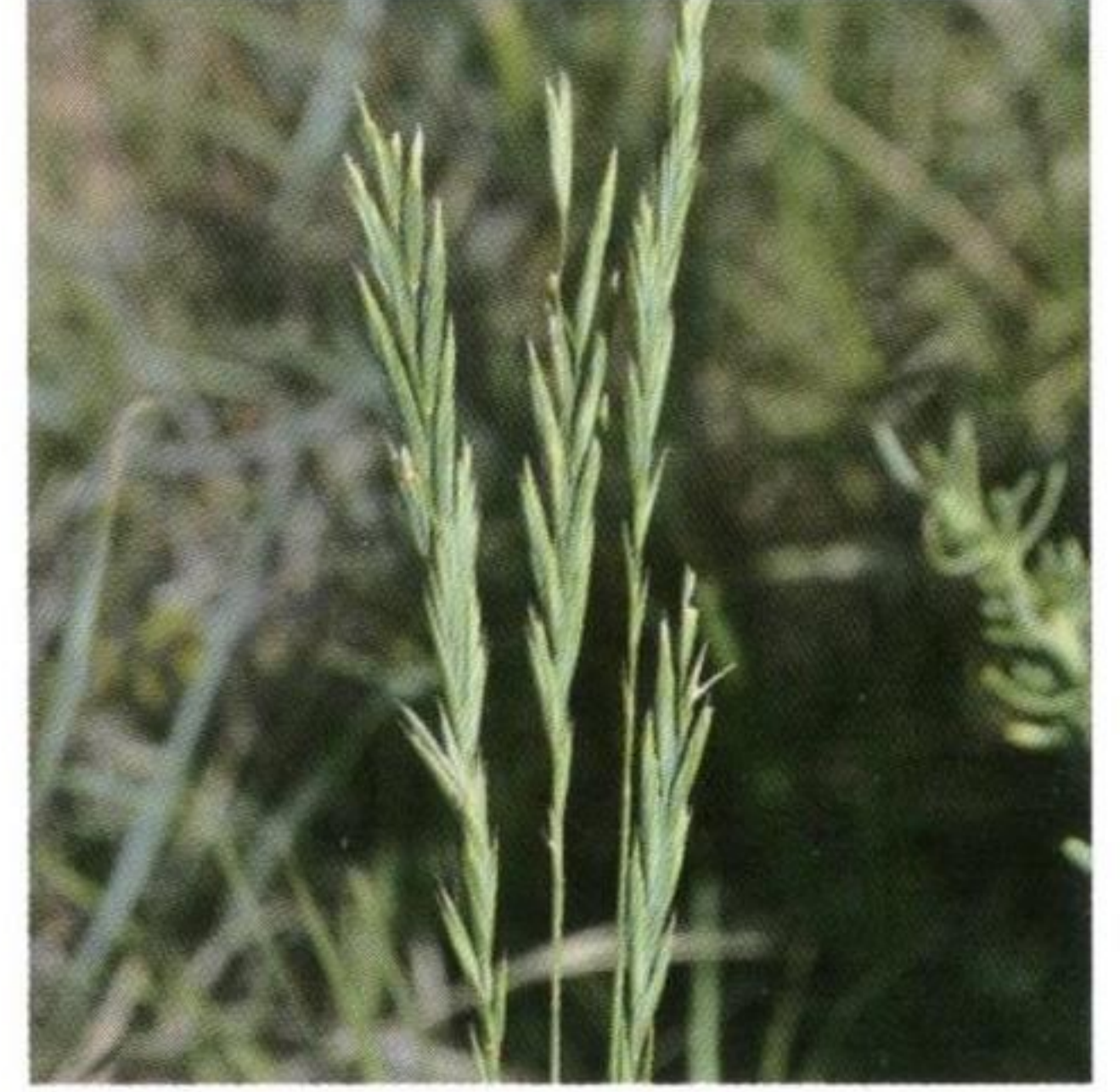
making it well suited for grasses. Prairie grass is an important food source for grazers like bison, deer, and other wildlife.



green needle grass  
(*Bouteloua gracilis*)



needle-and-thread  
(*Stipa comata*)



western wheatgrass  
(*Agropyron smithii*)

### 4. Chokecherry (*Prunus virginiana*)

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Dark purple chokecherries hang from these branches in late summer. Plains Indians enjoyed the fresh berries and also ground and dried them for winter use. Beware! The leaves, roots, and seeds are poisonous.



### 5. Badlands Slopes

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Look for the differences in the vegetation patterns on the buttes around you. Notice the moist, cool, north-facing slopes supporting stands of juniper and other woody plants.

South-facing slopes receive more direct sun rays making them hotter and drier. They are the ideal place for more desert-like plants. Explore these two plant communities on the trail ahead.



## 6. Differential Erosion

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The thin layers of rust-red rock on the butte in front of you are iron-impregnated sandstone. Because they are harder than the soft gray sediments that make up the rest of the butte,

they erode more slowly. Notice how these hard layers form shelves that protect soft sediments below. This type of erosion, called differential erosion, is the main shaping force of the badlands.

## 7. Sagebrush

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Silver-green sagebrush is a common sight throughout the western United States. Here, it grows abundantly on terraces above the Little Missouri River. Look closely at the leaves on

several of the bushes as you walk along the trail. You should find three different shapes belonging to three different species. Notice how each species has a unique smell.



silver sagebrush  
(*Artemisia cana*)



big sagebrush  
(*Artemisia tridentata*)



fringed sagebrush  
(*Artemisia frigida*)

## 8. Lignite

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On the slope to your left is a thin black seam of lignite coal. Coal forms when vegetation is buried and subjected to great heat and pressure. Coal seams and other fossils tell us this region was once a lush, thickly vegetated swamp.



## 9. Bentonite

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The blue-grey sediment on the hillside across the coulee is bentonite clay.

Bentonite contains volcanic ash and is common throughout the badlands. It can absorb several times its volume in water and has many industrial uses. After heavy rains or when soaked by melting snow, it expands and flows down hillsides. Notice the wildlife trails crossing the steep bentonite slope.



## 10. Prickly Pear Cactus

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Prickly pear cactus (*Opuntia polyacantha*) grows in clusters on the hill in front of you. It is one of few cactus species to grow this far north, and one of four in the park. Prickly pear is adapted to withstand periodic droughts. Its leaves have been reduced to spines to help preserve moisture and protect the plant.



## 11. Petrified Wood

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Light-colored pieces of petrified wood dot the far hillside. They are the fossilized remains of trees that grew here 55 million years ago. Parts of the trees were covered by sediment which prevented decay. Ground water slowly

filled the cell spaces with minerals. The minerals hardened, preserving the trees as rocks. Much later in time, erosion exposed the petrified wood. The trees, likely cypress or magnolia, are further evidence of the area's swampy past.

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### Leave No Trace

Help preserve the park for future generations by leaving everything just the way you find it. Remember - all natural features of the park are protected.

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## 12. Slump

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Across the coulee to the right is a small slump. Notice its layers are diagonal instead of horizontal. Unlike a landslide where earth and rock break up as they tumble down, slump blocks remain whole as they slide. Match the colors in the slump to the rock layers on the wall above to find where the slump came from.

**Right:** an example of slumping visible from the park's North Unit Scenic Drive.



## 13. Piping

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The vertical “pipes” in the coulee walls are formed by a type of erosion called piping. Rainwater enters small surface openings, like rodent burrows or tree root tracks, and saturates the ground.

The saturated ground then collapses, forming a pipe. The size of some pipes, up to several feet deep and wide, makes them a significant force of change in the badlands.

## 14. North-facing Slopes

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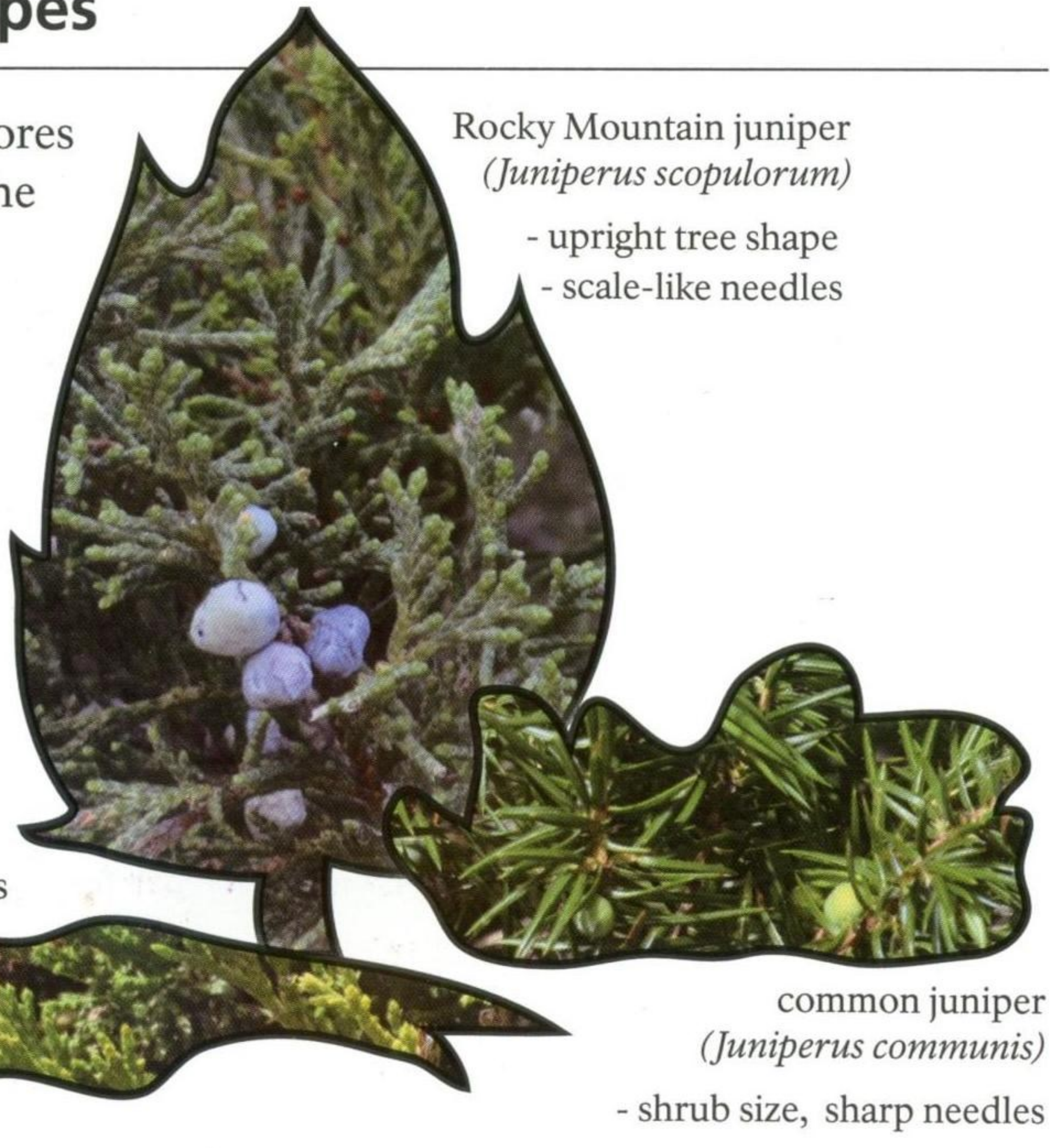
The next part of the trail explores a north-facing slope. Notice the difference in temperature. Animals and hikers alike appreciate these pockets of vegetation for the shade and protection they provide. Three types of juniper grow on north-facing slopes. See if you can locate them all.

creeping juniper  
(*Juniperus horizontalis*)

- low ground cover, scale-like needles

Rocky Mountain juniper  
(*Juniperus scopulorum*)

- upright tree shape  
- scale-like needles



common juniper  
(*Juniperus communis*)

- shrub size, sharp needles

## 15. Rabbitbrush

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Rabbitbrush is the last flower of the season to bloom, hinting at the arrival of winter. During the hot summer, rabbitbrush provides shade and shelter for small animals. In the winter it serves as food for deer and elk.



## 16. Active Slump

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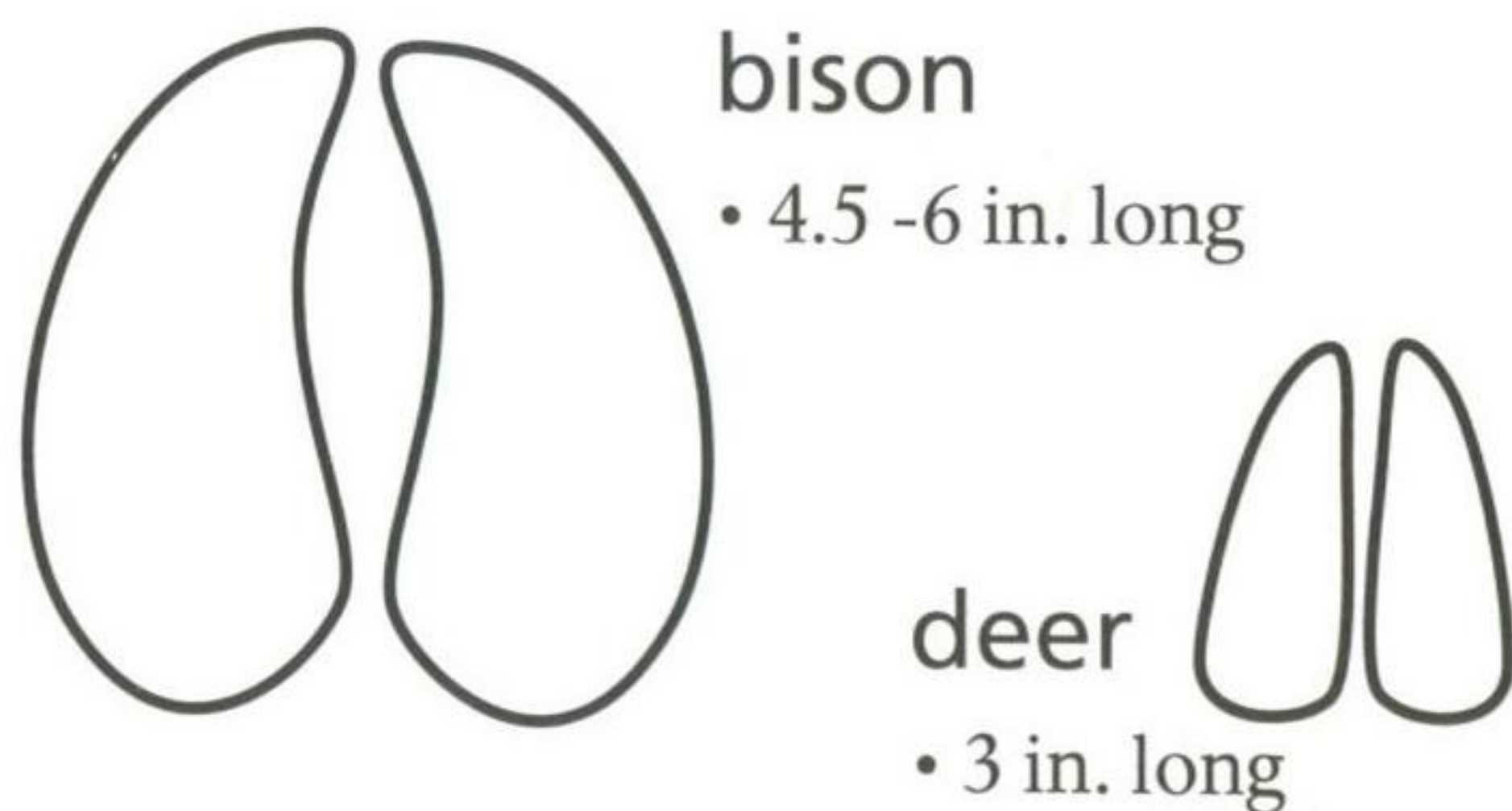
A slump that begins on the butte ahead has completely blocked the coulee. Water from the seep above you saturated a layer of bentonite clay. The force of gravity on the wet, slippery clay was too much and a section of land

gave way, sliding into the coulee. While the seep water is unfit for human use, animals welcome it in this semi-arid country. **Watch your footing** - seep water can make this area slippery.

## 17. Wildlife Tracks

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Small sources of water, like the one you just passed, become gathering places for wildlife. Seeps and springs draw bison, coyotes, and other animals looking for a drink. Look for signs of their presence, such as tracks or scat, on the trail.



### coyote

- 2.25 in. wide
- claw marks present
- oval shaped and symmetrical

### mountain lion

- 3.5 - 5 in. wide
- foot pad has 3 bottom lobes
- claw marks usually absent
- circular shape and asymmetrical with a leading toe



## 18. Forest Litter

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Forest “litter,” made of fallen leaves, trees, and other dead plant matter, is an important part of the north-slope habitat. Many animals use forest litter

for food, shelter, or nesting places. As time passes, the dead plant materials decay into the ground to nourish a new cycle of plant growth.

## 19. Green Ash

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Green ash grows in ravines and coulees throughout the park. Songbirds build their nest in the ash tree's shady branches. Bison use trees as scratching posts. Can you feel where their scratching has rubbed the bark smooth?



## 20. Lichens

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The bright-colored splashes on the tree trunks are lichens (pronounced li-kens). Lichens consist of two different organisms – fungi and algae. The two live together in a balanced relationship as if they were one organism. The alga makes food, while the fungus gathers and holds water for both organisms. Lichens

can be indicators of changes in the environment; some species are sensitive to changes in air quality.



## 21. Trail's End

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You have reached the end of the Caprock Coulee Nature Trail. The shortest way back to your car is to turn around here. If you continue ahead

you will have to hike another 3.3 miles to return to where you started. Only continue if you are prepared with extra water, appropriate clothing, and a map.

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**We hope you enjoyed your hike!**

**Please return this brochure to the box at the start of the trail.**

**Download this brochure at**

**[www.nps.gov/thro/planyourvisit/hiking-and-trail-information.htm](http://www.nps.gov/thro/planyourvisit/hiking-and-trail-information.htm)**

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