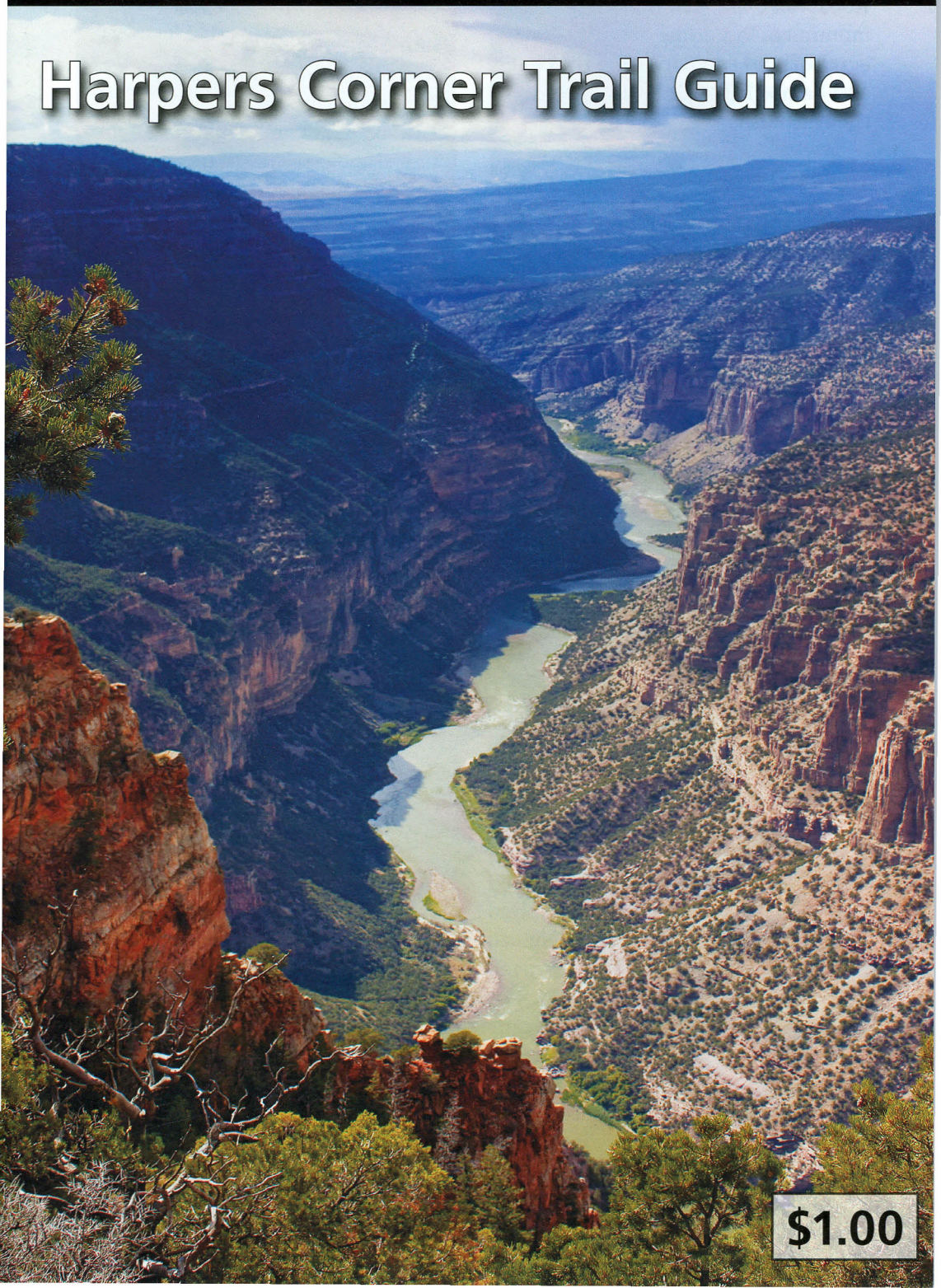
National Park Service
U.S. Department of the Interior

Dinosaur National Monument
Utah, Colorado

Harpers Corner Trail Guide



$1.00

Welcome to the canyon country of Dinosaur National Monument. In 1938 President Franklin D. Roosevelt expanded the original monument by adding over 200,000 acres of land encompassing the Green and Yampa River Canyons, including the Harpers Corner area.

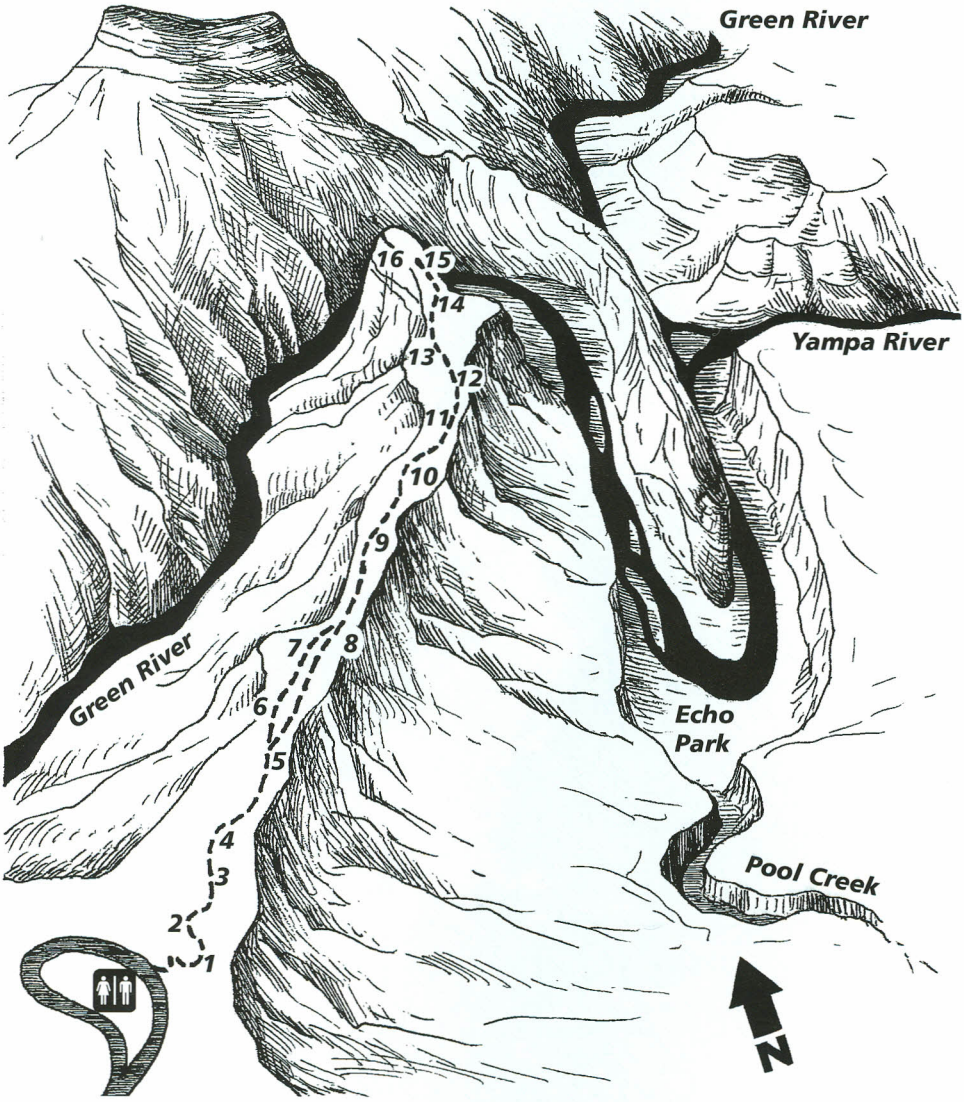
This guide is keyed to numbered points of interest along the Harpers Corner Trail, which leads to sweeping views of the canyons.

Trail Facts

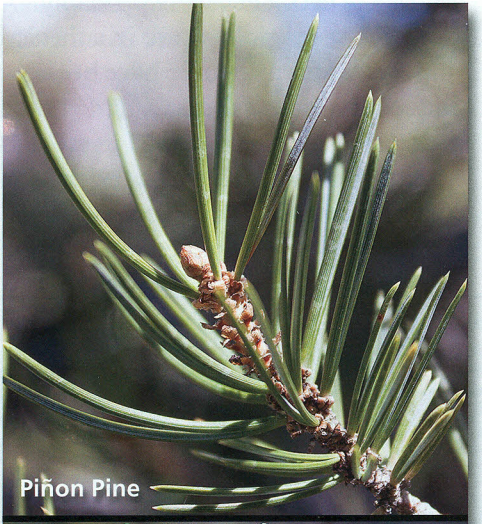
2 miles (3.2 kilometer) round trip
Allow 1½ to 2 hours for the walk

Hike Safely

Wear comfortable, sturdy shoes
Carry water and snacks
Elevation is around 7,500 ft (or 2,300 meters) above sea level - pace yourself
Seek shelter immediately if thunder is heard or lightning is visible
Steep drops and cliffs. Watch children!



1 While the deep canyons are the work of flowing water, high above the rivers, the land is dry. Only water-conserving plants and animals can survive up here. What do you notice about the plants? Most have small leaves, often dull colored with fuzzy or waxy surfaces. These features reduce exposure to drying winds, reflect sunlight, and hold in moisture. The open, even spacing of the trees lessens competition for groundwater. Though the piñon pine and juniper may live for hundreds of years, they rarely grow very large.


Piñon Pine


Utah Juniper

If you are here in spring or early summer, you may see wildflowers such as bluebells, gilia, and paintbrush.


Desert Paintbrush

Please don't pick the flowers or disturb any natural or historic features.

2 Piñon trees can live a long time, and even after death, an old piñon like this still contributes to the forest. Its wood provides a home for burrowing insects, which in turn are hunted by woodpeckers, nuthatches, and other birds. Falcons or hawks may survey their territory from the high bare branches. When the tree eventually falls, its slow decay will return nutrients to the soil.

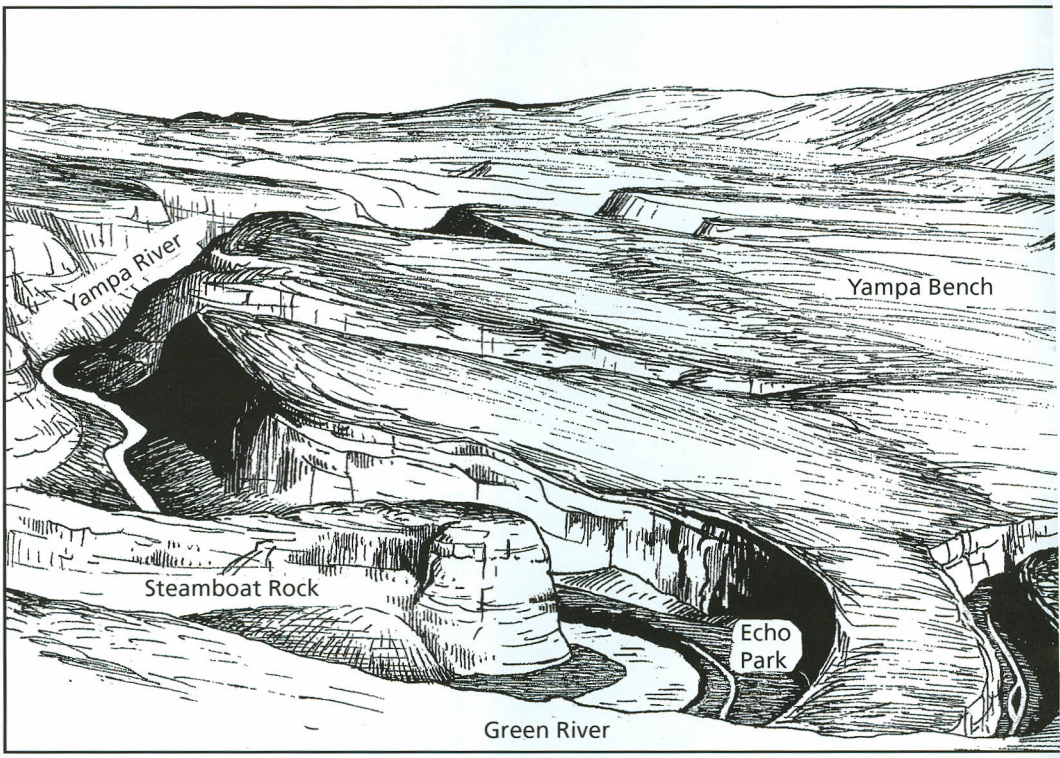
3 What killed the big tree at the last stop? There are several possibilities: insects, disease, old age, a lightning strike, or maybe even a porcupine. Look for the yellow or gray scars on many of the tree trunks along the trail, signs of porcupine gnawings. In winter, when other food is scarce, porcupines relish the tender inner bark of piñons. Stripping only a little bark, porcupines usually do **not** harm the tree. If the animal chews all the way around the trunk (known as girdling), the tree's food and water transport systems will be cut off and it will soon die.

4 If you were going to homestead, would you settle here on this high ridge or down by the river? Near the rivers, or any place with a reliable water supply, would be a better choice. See if you can spot the buildings of the Chew Ranch far below on a small tributary of the Green River called Pool Creek. The Chew family settled this pioneer cattle and sheep ranch around 1900. Today, it is maintained as an historic site.


Sheep Wagon

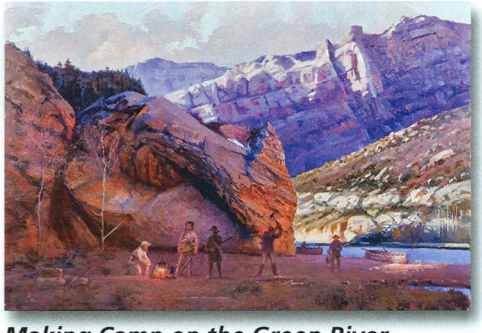
Before the Chew family came to the area, Pool Creek was the home of a colorful character named Pat Lynch. Pat wandered into the area in the early 1880s and for 30 years lived a hermit's life in caves and cabins along the lower Yampa Canyon and Pool Creek. The latter area is often called Pat's Hole after him.

The canyon walls have sheltered people since ancient times. Drawings pecked into Pool Creek's cliffs show that the Fremont people, who were hunters and farmers, lived here nearly 1000 years ago. They were probably lured by the magic of water in a thirsty land, just as many people have been since then.

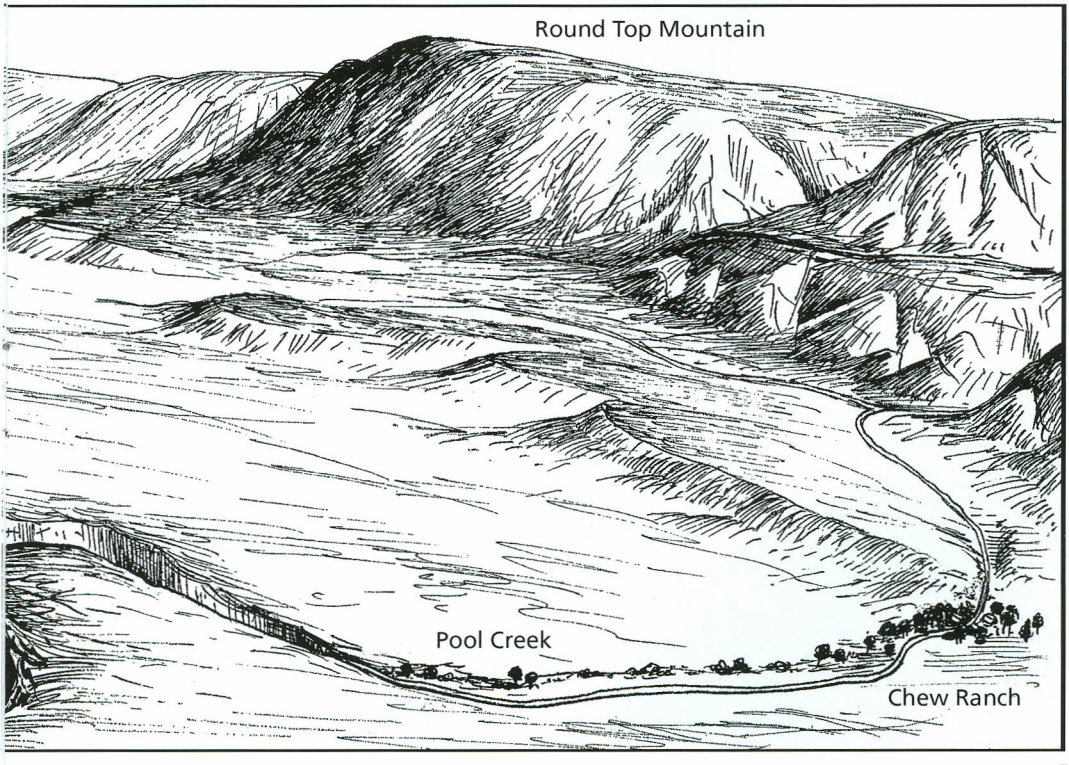


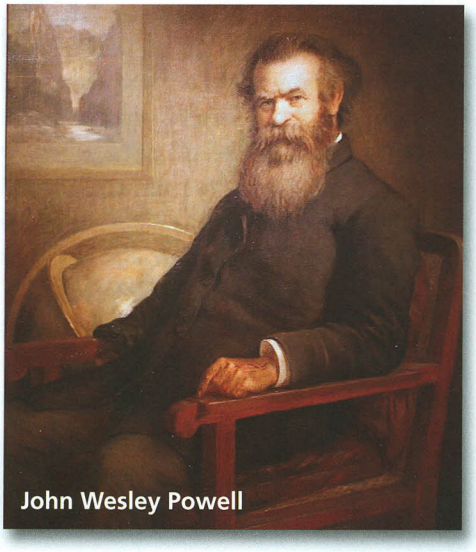
5 Echo Park, at the junction of the Green and Yampa Rivers, is not only the geographic heart of Dinosaur National Monument, but a key location in the area's history. The ruggedness of the land limited exploration by routes other than by water. William H. Ashley, a trapper looking for beaver pelts, conducted the first recorded expedition down the Green River in 1825. In the weeks that it took his party to pass through these canyons, the rapids nearly wiped out his small, hide covered bullboats. Having survived the ordeal, Ashley and his men went on to explore other areas of the American West.

Nearly half a century passed before the Green River was seriously challenged again, this time by John Wesley Powell in 1869. Powell's group lost a wooden boat in a rapid upstream from here, which they appropriately named Disaster Falls. Echo Park, where they listened to their voices bouncing off Steamboat Rock, was a welcome rest after days of battling white water. The party followed the Green to its junction with the Colorado River and continued on through the Grand Canyon. Echo Park, where Powell camped, remains a peaceful retreat.



Making Camp on the Green River
by A.D. Shaw

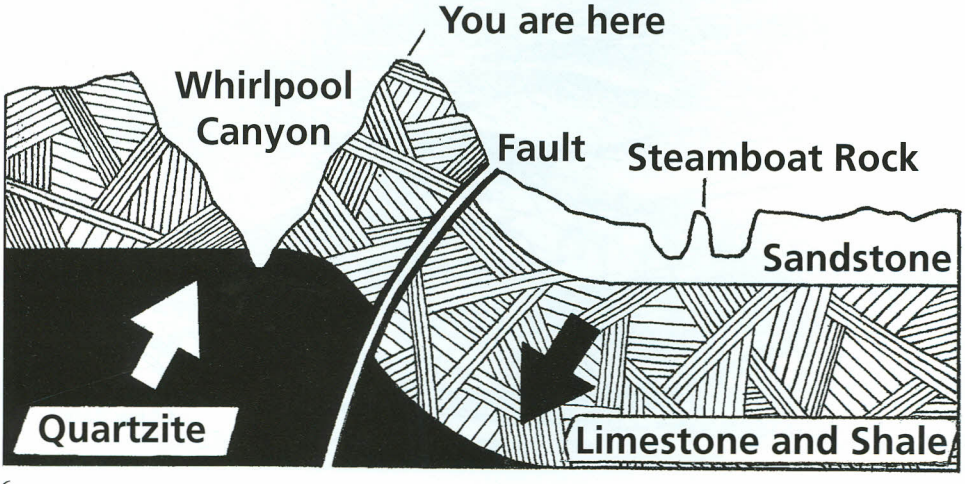



John Wesley Powell

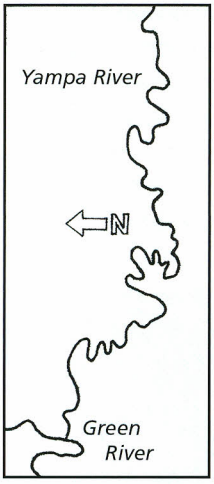
6 "All this volume of water, confined as it is, in a narrow channel and rushing with great velocity, is set eddying and spinning in whirlpools by projecting rocks and short curves, and the waters waltz their way through the canyon, making their own rippling, rushing, roaring music."

Thus wrote Powell of Whirlpool Canyon below you. Listen... on a calm day you can still hear the distant music of the river.

7 Have you noticed the contrast between the rocks of Whirlpool Canyon to the west with the rocks of the Yampa Canyon to the east? Whirlpool's walls are dark and sheer and are made up mostly of limestones and shales left by ancient seas. As the seas retreated, windswept sand dunes piled up to become the light colored Weber sandstone of the Yampa Canyon's cliffs and domes. When geologic forces uplifted this area to its present elevation, faulting occurred. The rock layers were bent and broken as some blocks of land were pushed higher than others. You are standing on the edge of one of the high blocks from which the younger sandstone has been eroded away. In the low block to the east erosion has not progressed as far. The older limestone and shale are still buried beneath the sandstone, Faults contribute to the vastly different appearance of each canyon.



8 Can you pick out the course of the Yampa River? Its junction with the Green River is hidden by the ridge of Steamboat Rock, and above that, the river is lost in a maze of sandstone. Such a winding course is more typical of a slow, sluggish stream flowing across flat land than of a swift canyon cutting river. Some geologists have suggested that the Yampa River had already established courses on fairly level land before the region was uplifted. The rivers held course and sliced down through the rocks even as the land rose, forming deep, winding canyons.



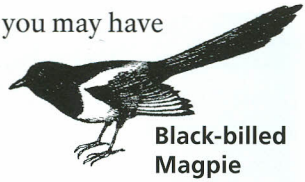
9 The reddish rocks alongside the trail are made of a hard sandstone called quartzite, which also appears at the very bottom of Whirlpool Canyon. Did they roll up here from down there? Not likely, but their rounded shape does suggest that they rolled a long way from somewhere. The same quartzite forms much of the Uinta Mountains west of here, so these rocks may have been washed down from the mountains long before the Green River had carved Whirlpool Canyon. Now, stranded far from their source; they add another element of mystery to a landscape which has puzzled geologists since Powell's time.

10 Take a closer look at the rocks along the trail; many of them bear a colorful crust of lichens. Small as they are, lichens are important pioneers, for they can grow on bare rock where most other things cannot. Their secret is that they are actually two organisms in one; a fungus whose sticky filaments anchor it to the rock, and an alga which uses the energy of sunlight to produce food through photosynthesis. The fungus provides a foothold and the alga feeds them both. Lichens prepare the way for other plants by slowly breaking down the rock through chemical and physical weathering and creating soil.


Lichen

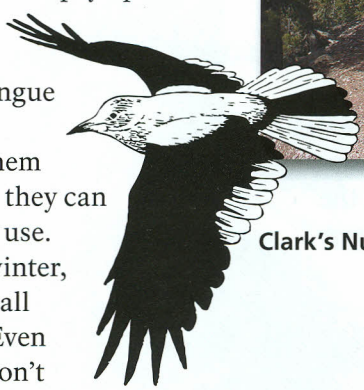

Uintah Mountain Group Quartzite

11 By now you may have spotted some of the local wildlife. The higher elevations of Harpers Corner are home to a variety of birds, some of which can be found fairly easily and others that are a bit more inconspicuous. Look for dark black ravens that are at home in the canyon country you see before you. Typically traveling in pairs, they are generalist species and are able to survive in almost all the environments found in the monument, from high forests to low dry deserts. Other birds you may encounter along the trail include the melodious Mountain Chickadee, the vibrant blue Scrub Jay, the mischievous Black-billed Magpie, and the boisterous Dark Eyed Junco.



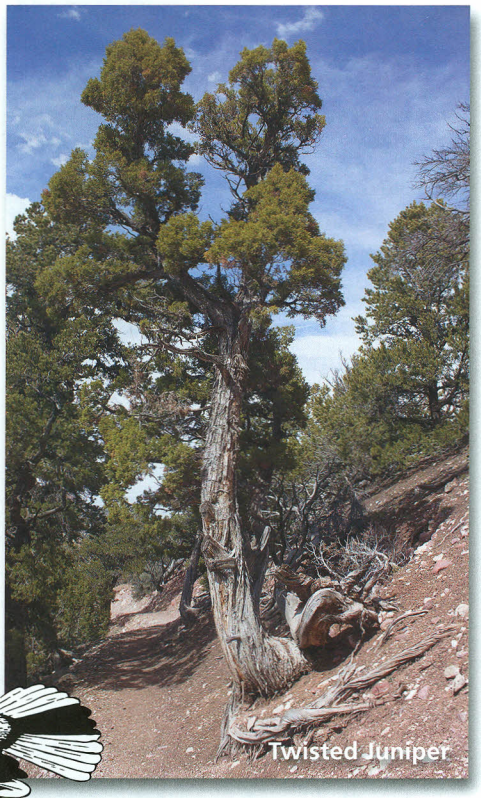
Black-billed Magpie

If you glance behind you into the trees, you might see a bird that is uniquely adapted to this environment. In high forests across the west, the black and gray Clark's Nutcracker can be seen flashing from tree to tree. They have a specially designed beak that allows them to pry open pinecones and remove their seeds; underneath their tongue they have a unique pouch that allows them to store the seeds so they can cache them for later use. In preparation for winter, they will hide seeds all around the forest. Even the smartest birds don't remember exactly where they left all of them and over the years many will grow to become new trees.



Clark's Nutcracker

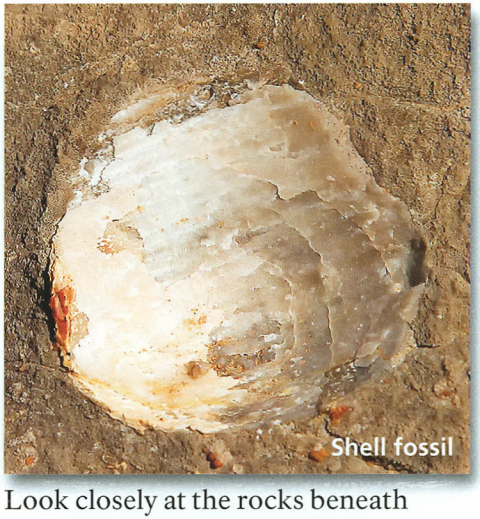
12 Don't build a house where you see trees like this one. Soil on this steep slope tends to slip downward and the movement would eventually topple a wall, telephone pole, or other nonliving object. A tree however, if the sliding is slow enough, keeps trying to straighten up as it grows resulting in a curved trunk. If you look around, you may notice many of the trees in this area have bent trunks near their base. While trees may slow erosion, they cannot stop it on a slope like this.



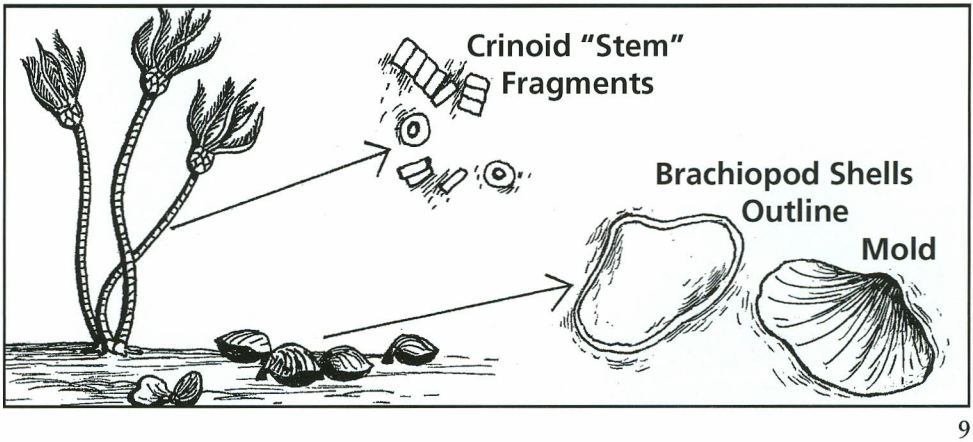
Twisted Juniper

13 Trees respond to many environmental influences – some so subtle that we may hardly notice them. You might see some trees that are taller than the piñons and junipers you have been walking through. They also have spruce like needles and dangling, thin-scaled cones. These are Douglas fir, important timber trees in the Pacific Northwest, and common in the high Uinta Mountains, but almost out of their range here. They require a bit more moisture and cooler temperatures than other trees in the area. North-facing slopes, like these around Harpers Corner, receive slightly less sunlight, and more moisture which apparently makes just enough difference for Douglas firs to live here.

14 Back at stop number seven, it was noted that the rocks in Whirlpool Canyon were formed in ancient seas. How do we know this? First, the rocks are made up of fine grained sediments like the muds usually found on sea bottoms; and second, they sometimes are embedded with fossils of seas creatures.

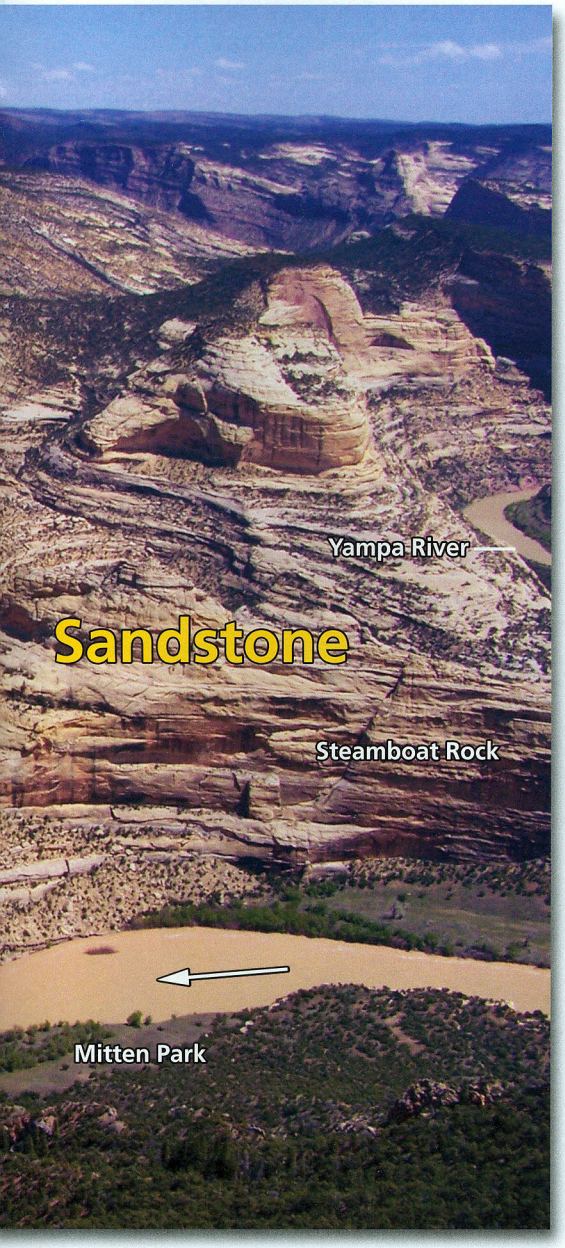


Look closely at the rocks beneath your feet, you may be able to spot the clam-like shells of brachiopods, and pieces of the stems of crinoids or "sea lilies," animals actually related to starfish. Though they lived hundreds of millions of years ago, even before the dinosaurs, their remains help us piece together the jigsaw puzzle of the past.



15 Seashells far above the sea, great blocks of rock bent and broken, deep and tortuous canyons - was this land the site of some great cataclysm? To us, accustomed as we are to thinking in terms of minutes, hours, and days, the scene may look like the result of some chaotic upheaval but it wasn't. All around us the forces that shaped it are still in action. Rivers deepen their channels grain by grain; minor earth tremors occur daily in one place or another; and lands have risen or fallen, slowly but measurably, within historic times. We measure our history in years, but the Earth measures time in millions of years, enough time for each tiny change to be multiplied over and over into a major change. The upturned

layers of the Mitten Park Fault below you dramatize such a change. This is the same fault noted at stop number seven, but here the Green River has sliced through it to reveal the broken rocks in cross section. Movement along the fault probably began with the uplifting of the region around 50 million years ago, and may have continued off and on almost to the present. Each shift, perhaps accompanied by what we would call a major earthquake, might have been only a few inches, but over the ages many little shifts added up to a total displacement of about 3,000 feet (920 meters) from one side of the fault to the other.



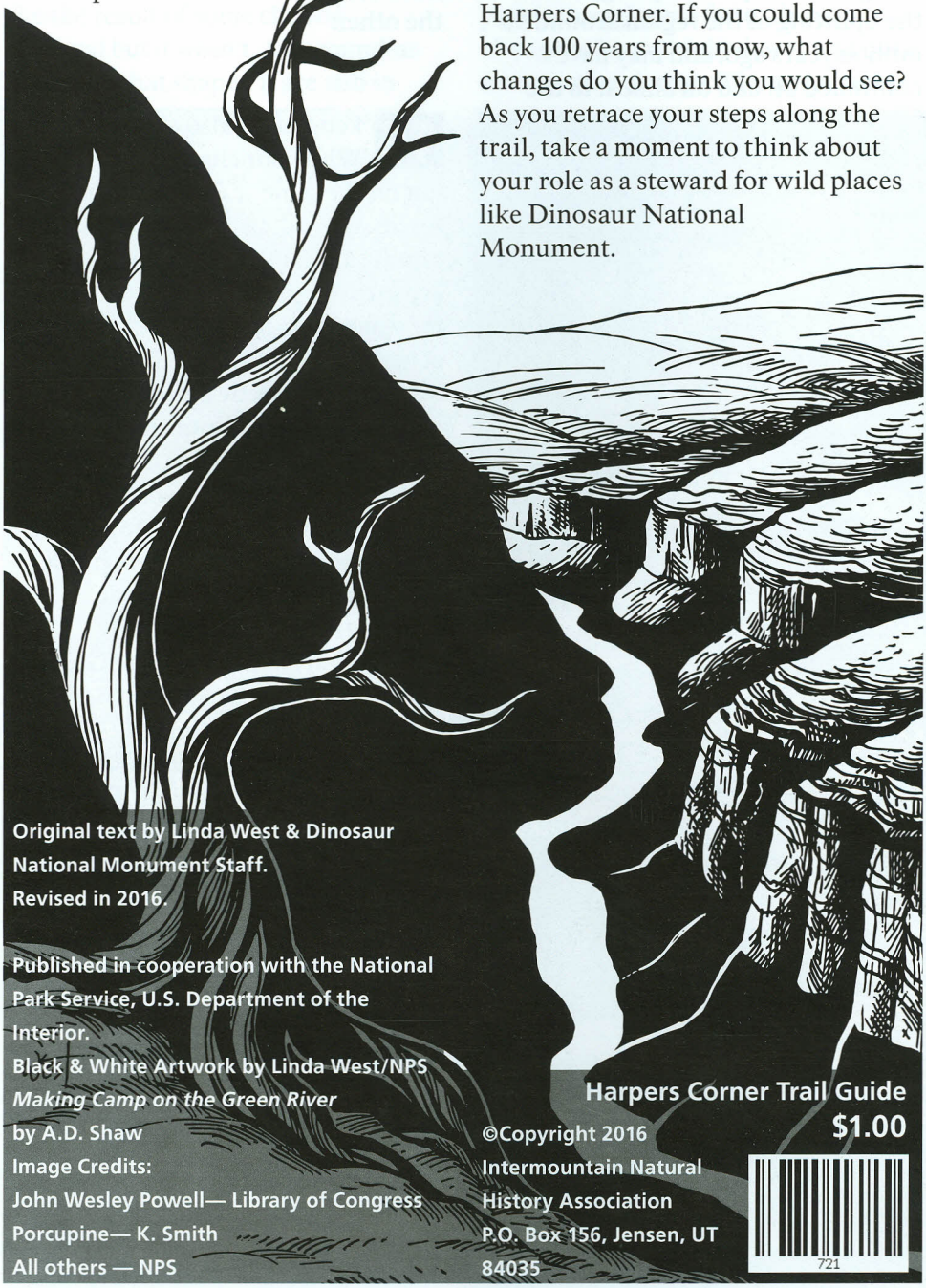
16 People can also alter the land. While our changes are usually not on the same scale as natural forces, they often occur much more rapidly. In the 1950s, controversy arose over a proposal to build a dam for water storage and power generation in Dinosaur National Monument directly below this point at the head of Whirlpool Canyon. Many people protested that the Green and Yampa Canyons deserved to remain in their natural state. Ultimately, the protests were heeded and a dam was instead built at Flaming Gorge, 70 miles (113 Kilometers) upstream on the Green River from here.

Even though the dam was located outside the monument, it still affects this area. Stream side plants, some considered invasive, are no longer scoured out by spring floods and are spreading. Native fish, adapted to muddy water, have retreated to the Yampa River because most of the Green River's sediment now settles behind the dam. Four of these fish are now Federally listed as Endangered Species.

Changes such as these may or may not seem significant, but they illustrate an important, sometimes forgotten fact: despite our power to shape our world, we are still subject to interdependent, natural processes.

Every change we make sets in motion more changes, often far reaching and acting faster than some natural systems can react.

National Parks and Monuments were created to preserve places like Harpers Corner. If you could come back 100 years from now, what changes do you think you would see? As you retrace your steps along the trail, take a moment to think about your role as a steward for wild places like Dinosaur National Monument.



Original text by Linda West & Dinosaur National Monument Staff.
Revised in 2016.

Published in cooperation with the National Park Service, U.S. Department of the Interior.
Black & White Artwork by Linda West/NPS
Making Camp on the Green River
by A.D. Shaw
Image Credits:
John Wesley Powell— Library of Congress
Porcupine— K. Smith
All others — NPS

Harpers Corner Trail Guide
$1.00

©Copyright 2016
Intermountain Natural History Association
P.O. Box 156, Jensen, UT 84035