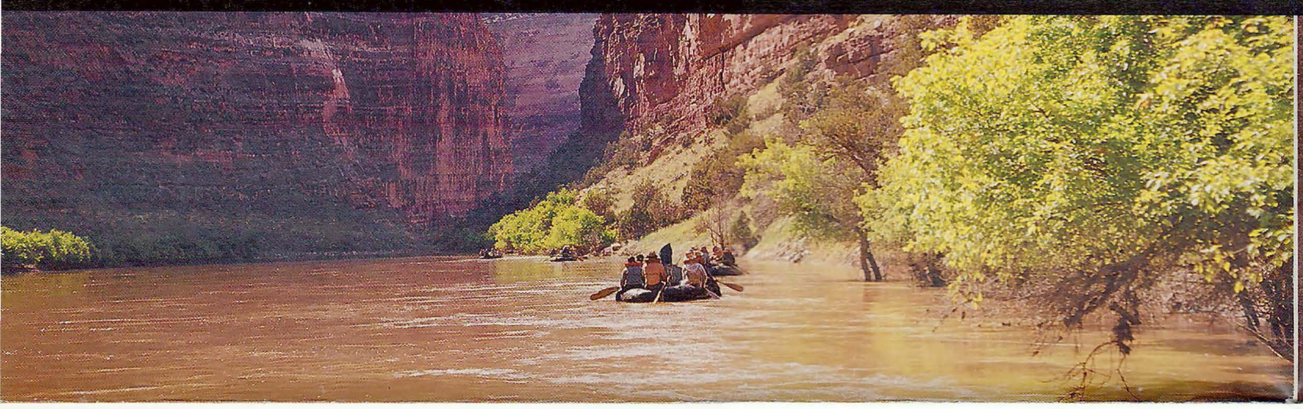
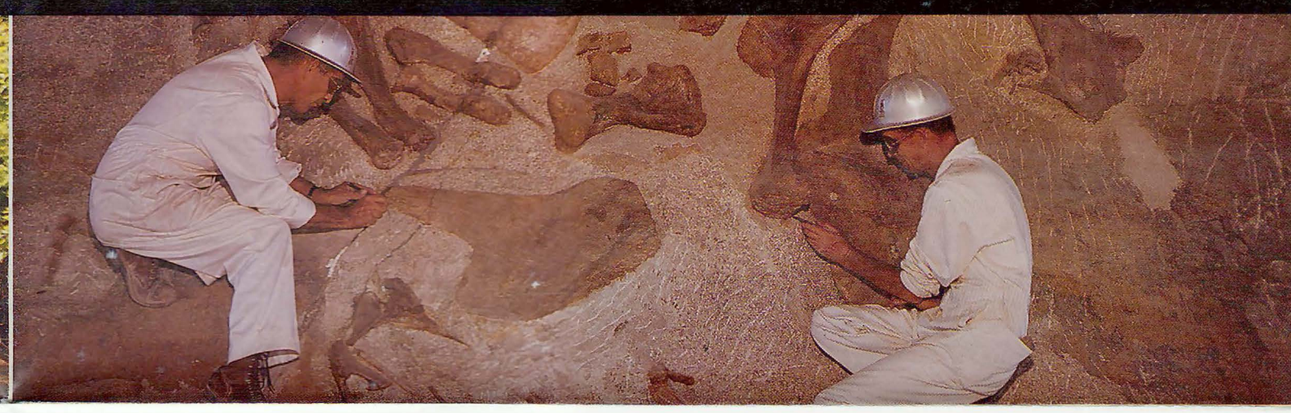
Dinosaur

National Monument
Colorado/Utah

National Park Service
U.S. Department of the Interior





Dinosaur National Monument is the legacy of rivers, past and present. Here, preserved in the sands of an ancient river, is a time capsule from the world of dinosaurs: the fossil bone deposit that gives the park its name. The Dinosaur Quarry has revealed many secrets of the past, but the remote and rugged land around it, created by today's rivers, is a secret of the present, known to few travelers.

Stand on the tip of Harpers Corner and look down at the rivers far below; your gaze is spanning time as well as space. In the rocks beneath you are fossils of sea creatures two or three times older than the dinosaurs. Upheavals that began about the time that the last dinosaur died jolted these shells far above sea level and downward cutting rivers stranded them on this promontory in the sky.

Seen in this context, the Age of Dinosaurs is but a brief chapter in a long story, and only a paragraph about the dinosaurs themselves is written in the rocks here. Not until about the midpoint of dinosaur history, about 145 million years ago, did a suitable habitat develop here—a low-lying plain crossed by several large rivers and many intermittent streams, clad in a variety of ferns, cycads, clubmosses, and clumps of tall conifers. This was home to dinosaurs such as *Apatosaurus* (better known as *Brontosaurus*), *Diplodocus*, *Stegosaurus*, and other vegetarians, and to the sharp-toothed carnivores—*Allosaurus* was the largest at this time—that preyed upon them. As these animals lived and died, most of their skeletons decayed without a trace, but in at least one spot, river floodwaters washed a great number of carcasses and bones onto a sandbar. There, mixed with the remains of turtles, crocodiles, and clams that lived in the river, the bones were preserved in the sand. This layer itself was not very thick, but thousands more meters of sediments piled up on top of it as the sea crept in and out during the last part of dinosaur times. Dissolved silica percolating through the strata turned the ancient riverbed into a hard sandstone and mineralized the bones buried within it.

When the Rocky Mountains began to rise to the east, this area went along for the ride. Here, the mountain-building did not push up the rock layers from below, but instead it squeezed them from the sides, warping and tilting them, sometimes cracking and shifting them along fault lines. Rain, frost, wind, and gravity slowly but steadily wore away layer after layer of the uppermost strata, revealing the older rocks beneath. In this way, a bit of the long-buried riverbed and its fossil treasure began to show up on the top of a jagged ridge.

Not far from that ridge, the prehistoric Fremont people carved elaborate drawings into the cliffs about 1000 A.D. Fur trader William H. Ashley floated down the Green River not far from that ridge in 1825. Explorer-scientist John Wesley Powell followed the same route in 1869. But it remained for Earl Douglass to take a close enough look at the ridge to notice what was weathering out on its surface. Douglass, a paleontologist from the Carnegie Museum in Pittsburgh, Penna., had not come here by accident. He knew that similar rocks in Colorado and Wyoming had yielded great dinosaur finds, and he began to search this area in 1908. On August 17, 1909, he wrote in his diary: "At last in the top of the ledge . . . I saw eight of the tail bones of a *Brontosaurus* in exact position. It was a beautiful sight." Those were the first of thousands of bones, including several nearly complete skeletons, that Douglass and his workers dug from this single ridge. Many of them are now on display in the Carnegie Museum.

The quarry site was designated a national monument in 1915, and though Douglass continued to excavate for several more years, he did not remove everything. Today the remainder of the bone-bearing layer forms one wall of the Quarry Visitor Center. Here the fossil bones are still being exposed in, but not removed from, the sandstone cliff, creating a unique exhibit of the bones in their natural setting. In the summer, you can watch the quarry technicians as they expose the fossils in high relief. The canyons of the Green and Yampa Rivers were added to the original park in 1938, but, isolated from main-traveled routes and perhaps overshadowed by the uniqueness of the quarry, they have remained relatively unexplored. A few hardy souls settled in the canyons around the turn of the century, but most of the land is still wilderness.

Erosion has stripped away the "younger" rocks from most of the canyon country, accentuating the contrast, in both time and environments, between past and present. Land that was once a sea floor where corals and shellfish thrived is now far away from moist ocean winds, and a semi-desert climate prevails. The temperature can vary by nearly 85°C (155°F) between January and July, and though snow cloaks the ground in winter, it contains little water. Rain, when it comes, is often in the form of brief, localized thundershowers, drenching the ground in one place and filling the gullies with flash floods, while dust devils rise in the hot breeze nearby. In this setting, life must be tolerant of extremes.

Good looks, as humans rate them, are not very important in the desert. Most of the dry basin-and-plateau land of the park is covered with sagebrush, greasewood, and saltbush, graduating into "pygmy forests" of pinyon pine and juniper at the higher elevations. Drab as these plants may seem to our eyes, they are beautifully adapted for their special tasks: conserving water, resisting extreme temperatures, and eking out a living from poor soils.

Within this arid setting, the rivers and their canyons are linear oases, in which the green of cottonwoods and boxelders seems all the more vivid in contrast to the surroundings. Boaters drifting along a quiet stretch of water may be startled by the sound of a flock of Canada geese taking wing, or by the sight of a bighorn sheep high on a cliff. Around the next bend might be a surprise of another kind, as the river plunges madly into a foaming rapid. Roar—bounce—splash!—who would have expected this in the middle of the desert?

Perhaps the unexpected is what Dinosaur National Monument is all about—a gallery of dinosaur bones in solid rock, the whisper of flowing water heard from a sun-baked canyon rim, the aroma of Douglas-fir on the high mountain slopes. Time and the rivers have been long at work on this land. Take the time to discover its secrets.

Dinosaur's Dinosaurs

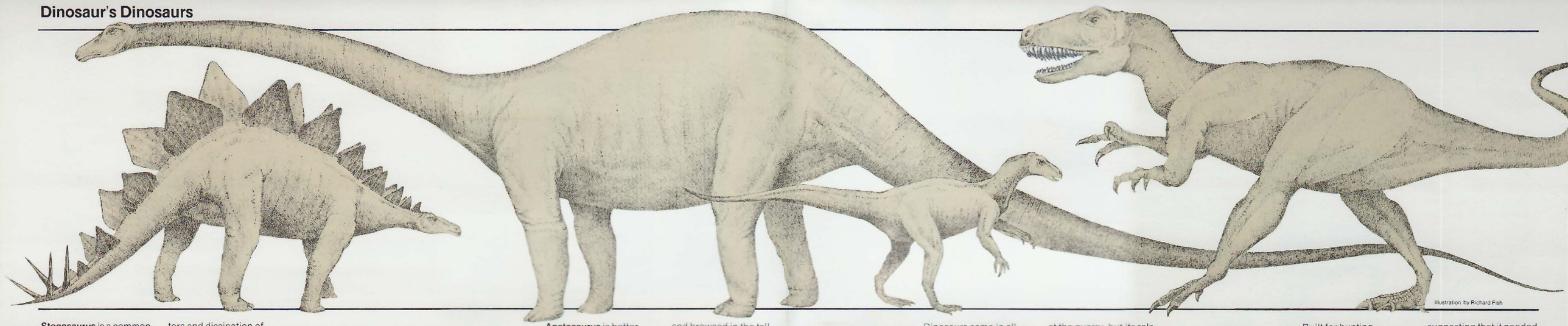


Illustration by Richard Fish

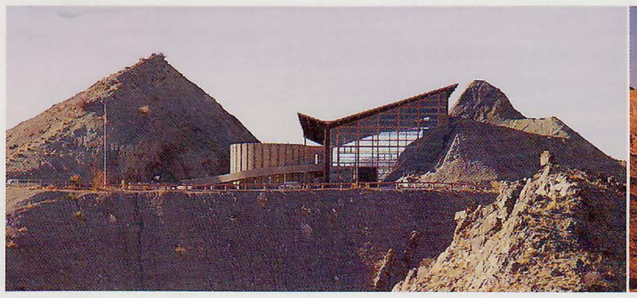
Stegosaurus is a common dinosaur at the quarry. Its bony plates may have served a dual purpose: protection against predators and dissipation of body heat.

Apatosaurus is better known as **Brontosaurus.** Often compared to elephants and giraffes, these giants traveled in herds and browsed in the tall conifers that dotted the landscape.

Dinosaurs came in all sizes—**Camptosaurus** didn't get much larger than a human being. This plant-eater is uncommon at the quarry, but its relatives flourished in later dinosaur times.

Built for hunting, **Allosaurus** was armed with sharp claws and knife-edged teeth. It is rare among quarry fossils, suggesting that it needed a large prey population to feed it.

A Park Sampler



The Quarry Visitor Center is the fulfillment of the dream of Earl Douglass who hoped in 1915 that some type of in-place museum could be built here.

Late afternoon sunlight enhances the colors of Split Mountain.

Arrowleaf balsamroot is a common wildflower that blooms in May and June.

The sage grouse is the largest grouse in North America.

The common tree lizard, found throughout the park, basks in the sunshine.

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Dinosaur

Dinosaur Quarry Visitor Center This center, 11 kilometers (7 miles) north of Jensen, Utah, is the only place in the park to see dinosaur bones. It is open every day of the year except January 1, Thanksgiving, and December 25. Because of limited parking space at the quarry, a shuttlebus operates daily in summer from the main parking area. During the rest of the year you may drive in directly.

Headquarters Visitor Center This center, 3 kilometers (2 miles) east of Dinosaur, Colorado, is the gateway to the canyon country and has no fossils. Exhibits and a short slide program provide orientation to the park. Headquarters is open daily in the summer and weekdays only in winter. During the summer the park offers a variety of programs to help you understand and enjoy the surroundings. Schedules are posted at both visitor centers.

Canyon Country No visit to the park is complete without at least a glimpse of the canyon country, and Harpers Corner Scenic Drive does just that. The round trip takes about two hours and lets you scan the landscape from roadside overlooks. If you have another hour or two, walk the trail at Harpers Corner itself, which gives stunning views of the canyons below. Some of the most scenic parts of the park are accessible on paved or well-graded roads: Gates of Lodore and Deerlodge Park, where the Green and Yampa Rivers begin their canyon plunges; and Jones Hole, an oasis-like tributary of Whirlpool Canyon with an easy hiking trail alongside a clear, rushing stream. Rougher roads, unsuitable for low-slung vehicles and trailers, lead farther into the backcountry. The most spectacular of these is 21-kilometer (13-mile) Echo Park Road. Before planning any backcountry travel, you should inquire at visitor centers for current information.

Campgrounds Split Mountain and Green River Campgrounds are developed. The sites can accommodate most recreational vehicles, but there are no hookups or sanitary dump stations. Firewood can be bought at both. Primitive campgrounds are at Echo Park, Gates of Lodore, Deerlodge, and Rainbow Park; drinking water is available at Echo Park and Lodore. Vehicle-based camping is limited to these designated campgrounds. Wood gathering is prohibited at all campgrounds.

Hiking There are only a few trails in this rugged, high-desert park, but they provide the most intimate look at the landscape. Check with a ranger for information about trails and backcountry permits. For any hiking, always carry plenty of water and let someone know where you're going and when you'll be back.

River running One of the best ways to see the canyon country is on the rivers themselves. Further information is available at both visitor centers.

Fishing The muddy water of the rivers somewhat limits fishing. A state fishing license is required. A number of endangered fish species inhabit these rivers. Check at the visitor centers or with a ranger for detailed information.

Regulations This park belongs to you and to everyone else. Do not collect or disturb any rock, fossil, plant, or artifact. Wildlife may not be hunted, trapped, or injured. Do not feed any wild animal. Pets must be leashed or otherwise physically restrained at all times; they are not allowed in public buildings or on trails. Firearms must be sealed, cased, broken down, or otherwise packed to prevent their use. Camp or picnic only at designated sites and dispose of all refuse in garbage cans. Never leave a campfire unattended; be sure it's out cold before you leave or go to bed. All vehicles, including four-wheel-drives and motorbikes, must stay on the roads. Off-road driving destroys plants and animals and leaves scars that are slow to heal.

Seasons The park lies on the edge of the Great Basin Desert, a region of greatly varied weather. Summers are hot with cool nights and thundershowers in July and August. Winters are cold with moderate snowfall. Roads to the visitor centers are kept open.

Gas, lodging, and supplies are not available in the park. Jensen, Utah, and Dinosaur, Colorado, have gas stations, small groceries, and cafes. Dinosaur also has limited lodging. Vernal, Utah, and Rangely and Craig, Colorado, have motels, restaurants, stores, and medical services. Transcontinental buses serve Vernal and Dinosaur, and a scheduled airline serves Vernal. Rental cars are available in Vernal and Craig.

Fossils can be seen only at Dinosaur Quarry Visitor Center

All unpaved roads are impassable when wet.

0 1 Kilometer 5

0 1 Mile 5

Unpaved road

Unpaved road—four wheel drive vehicles only

Trail

Rapids

Ranger station

Picnic area

Nature trail

Handicap access

Campground

Primitive campground

Distance indicator

2324 7625 Elevations are given in meters, with feet in *italics*.

Safety
Most accidents in the park take place when people are boating the rivers or climbing and hiking. Please be especially careful while engaged in one of these activities. One slip can change a pleasurable trip into an unpleasant, or even tragic, ordeal. Swimming in the rivers is not recommended because of the hazards of cold water and strong currents. Severe electrical storms occur occasionally at Dinosaur during the summer. Be alert to approaching storms and take necessary precautions.