



Scotts Bluff National Monument Badlands



Formation of the Badlands

The badland area within Scotts Bluff National Monument is 500 acres of remarkable erosional phenomena, consisting of domes, tortuous ravines, plateaus, tunnels, and arches. This area contains very little vegetation. When the humidity is high, this whole area, normally pale yellow, turns to various lovely hues of pink and red. Many fossilized animal remains have been found here, principally turtle shells and Oredont skulls.

This tortured land led the Indians to name the bluffs “Me-a-pa-te”, or “hill hard to go around”. It also forced wagon trains to journey further south to find a way back to the river.

The badlands are also of exceptional geologic interest as an example of rapid erosion in soft rock beds of comparatively uniform composition. The principal formation in this section is Brule clay. This material is very soft and sand-like, submitting rapidly to erosion. When this clay is unprotected by more durable formations, erosion has produced a pattern of irregular gullies known as “badlands”. The area is of special interest paleontologically because of the wealth of Oligocene fossils to be found there.

The area of badlands visible from the North Overlook resulted from rapid erosion of interbedded thin sandstones and clay siltstone of the Orella Member of the Brule Formation.

The oldest exposed rocks (33 million years old) are of the Orella Member of the Brule Formation and White River Group. This is the badlands area of the Monument and consists of siltstones and mudstones with interbedded wide variety of sedimentary structures, diagenetic features, trace fossils and volcanoclastic sediments. Here the Orella Member of the Brule Formation is exposed. It consists of interbedded sandstone and siltstone layers that represent floodplain and channel deposits of ancient streams that flowed eastward from the uplifting Rocky Mountains.



FOSSILS IN THE BADLANDS

The geology of the badlands area is significant not only for being a barrier to the pioneer wagon trains, but also for the fossils it contains.

The majority of fossils found at Scotts Bluff National Monument are located in the Monument's badlands. Here the Orella Member of the Brule Formation is exposed. This is the oldest rock outcrop at the Monument. Fossils of horses, oreodonts (extinct, sheep-sized, four-toed mammals), prairie dogs, foxes, turtles, rodents, beavers, and cats have been found in the badlands.

Some of the richest fossil-bearing strata in Nebraska are found here. The Monument's fossils have become type, or indicator, fossils for the Oligocene Epoch (40-25 million years before present) of the Cenozoic Era (65 million years to present). Most of these fossils were collected prior to the establishment of the Monument in 1919. Many other fossils may still exist within the Monument, so further paleontological research could be productive.

Removing any fossil from its surrounding rock and fossil collection is prohibited.



DETOUR FROM THE OREGON TRAIL

The geology of Scotts Bluff is also significant for historical reasons. Emigrants typically traveled within the Platte River Valley on both sides of the river; however, at Scotts Bluff the geology of the Badlands forced the emigrants travelling along the south side of the river out of the valley. The badlands presented a barrier to travel because they stretched from the base of the bluff to the river itself.

Once the emigrants moved out of the valley, the bluff formations forced them to move eight miles to the south through Robidoux Pass. In 1851, improvements were made to the pass at Scotts Bluff and the emigrants continued their westward journey through Mitchell Pass.



Location

The Badlands lie at the north base of Scotts Bluff between the steep bluff and the river.

You can view the Badlands area by driving or walking to the summit and taking the North Overlook Trail. The overlook is about 800 feet above the North Platte River and provides a panoramic view of the badland area, plus the fertile cropland of the North Platte Valley. The Gering Canal bisects a portion of the badlands.

A dirt graded road within the monument boundaries follows the Gering Canal through the badland area.

Although driving is not allowed on this road, visitors with a valid entry permit may walk on the road and walk through the badlands.

