

Nature At Work Today



At the foot of cliffs or other very steep slopes, where the bare rock is exposed, fragments of rock that have been produced by the work of the various agents of mechanical weathering accumulate into what are known as talus slopes. Given sufficient time, the slopes of valley sides become more and more gentle and valley floors become broader.

The Blue Lake Rhino



One of the most unusual fossils ever found in the Columbia Plateau is a mold and a few bones of a small rhinoceros. In 1935, a group of hikers found it in a cavity in the vicinity of Blue Lake, a few miles south of Dry Falls. This fossil is commonly known as the "Blue Lake Rhino". The mold is preserved in pillow basalt overlying a thin sand bed. Probably the rhino, which was dead at the time, was lying in a small pond and as molten lava flowed into the lake and became chilled, a mold was formed around the dead body.

Lake Lenore Caves

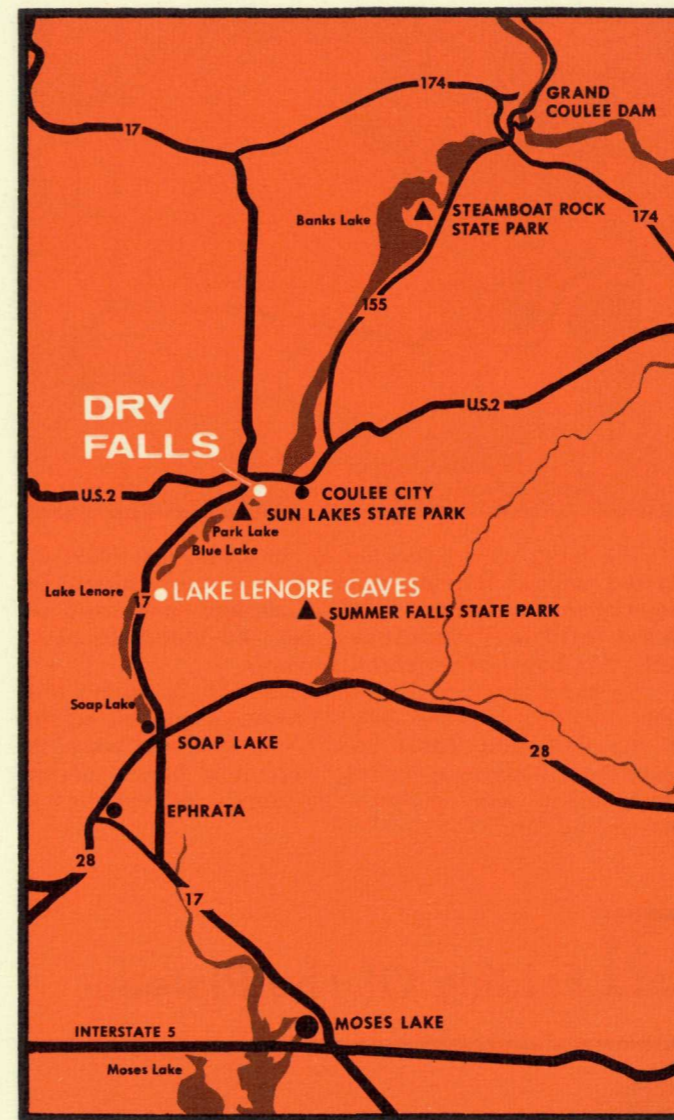
Caves formed by the plucking of basalt from the walls of the coulees by the rush of melt waters were later used as shelters by prehistoric man. A band on the move would be limited to just the bare essentials in the way of material culture, and a family spending a few days in a cave would know what they brought with them and would be sure to leave with the same. Therefore, the absence of any large or valuable artifacts such as pestles in the caves today suggests they were used by a temporary and migratory population. The type of artifact most likely to be lost would be the small scraper used in the preparation of skins. This tool is the artifact most commonly found in the caves.

The population of this area undoubtedly was small, but because the people were hunters and gatherers of plant food, they must have been nomadic. Hunting and gathering peoples must have been almost constantly on the move in search of food.

A trail leading to some of these caves has been developed near the north end of Lake Lenore. These caves are about 10 miles south of the Interpretive Center, just off Highway 17.

The Interpretive Center

The Washington State Parks and Recreation Commission has constructed an Interpretive Center at Dry Falls which houses exhibits and tells the story of the creation of this geological phenomenon. The building overlooks the giant precipice and affords a magnificent view through picture windows.



A Registered Natural Landmark

The Grand Coulee, of which Dry Falls is a central feature, has been designated a Registered Natural Landmark by the U. S. Department of the Interior. A bronze plaque to this effect is located in the small vista house adjacent to the parking area.

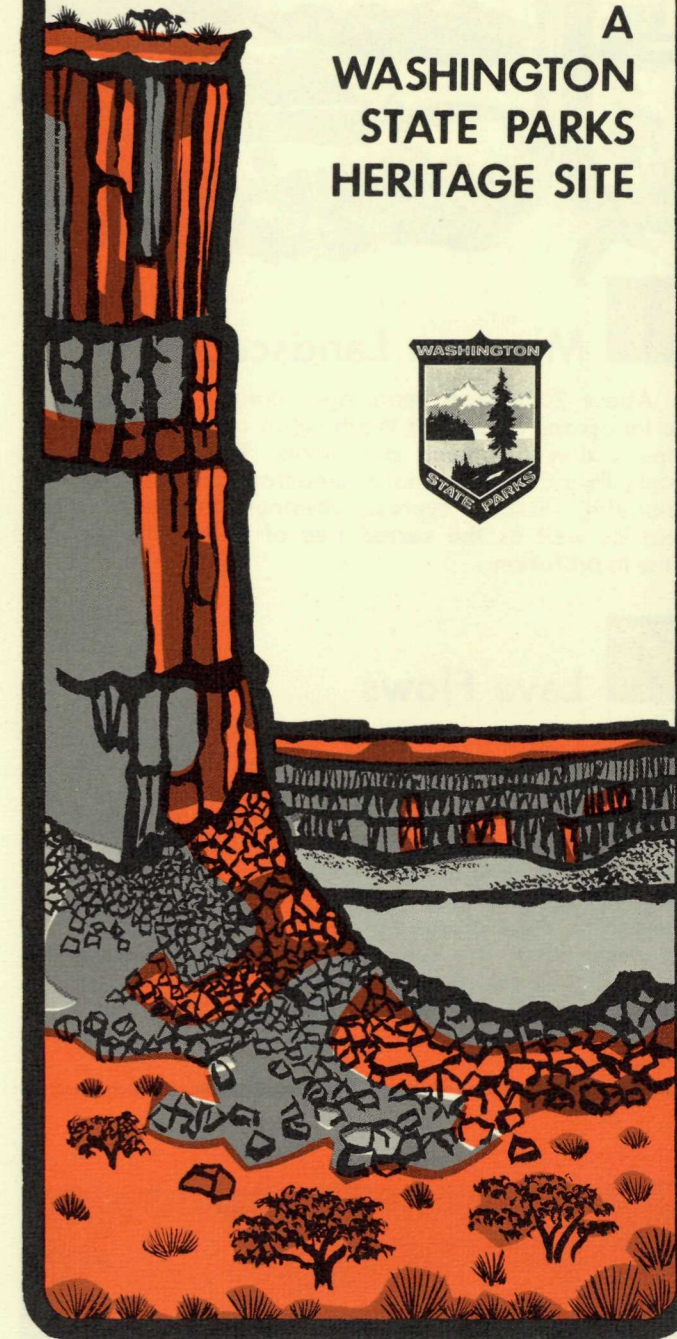
For further information contact:

Washington State Parks and Recreation Commission
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DRY FALLS

A
WASHINGTON
STATE PARKS
HERITAGE SITE



THE DRY FALLS STORY

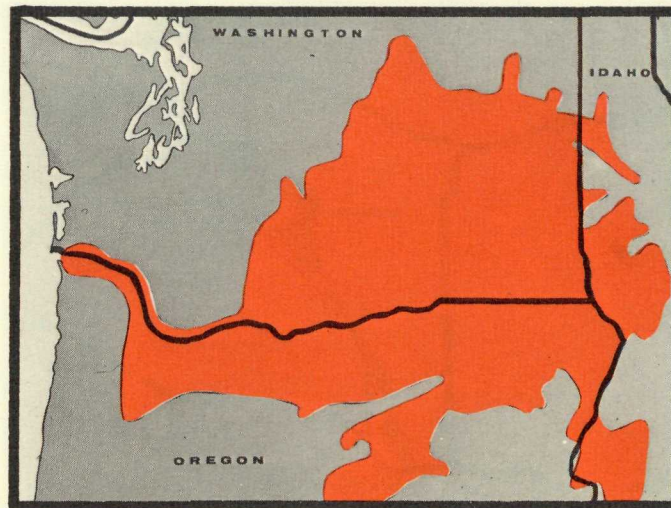
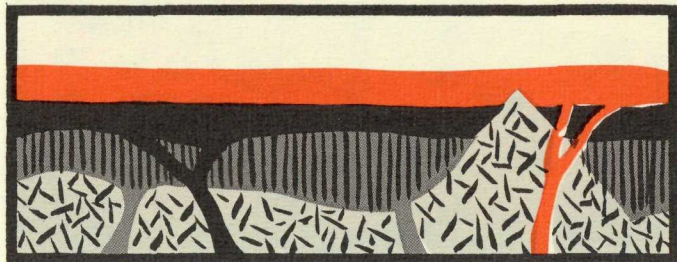


1 Miocene Landscape

About 20 million years ago, during Miocene time, the landscape of Central Washington consisted of mountains, valleys, streams and lakes. Trees, shrubs and plants flourished in a moist temperate climate. Sequoia, oak, elm, hickory, cypress, chestnut and other large trees as well as the sacred tree of China, the ginkgo, grew in profusion.

2 Lava Flows

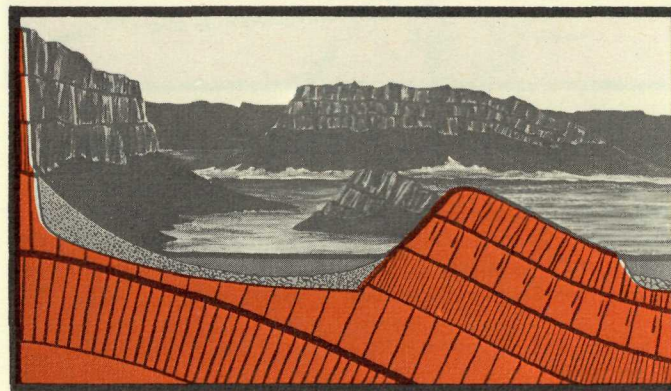
During late Miocene and early Pliocene time, one of the largest basaltic lava floods ever to appear on the earth's surface engulfed 200,000 square miles of the Pacific Northwest. Over a period of perhaps 10 to 15 million years lava flood after lava flood poured out eventually accumulating to a thickness of over 6,000 feet. As the molten rock came pouring out on the surface the earth's crust gradually sank into the space left by the rising lava. The subsiding of the crust produced a large, slightly depressed lava plain, now known as the Columbia Basin (Plateau). The ancient Columbia River was forced into its present course by the northwesterly advancing lava.



The lava, as it flowed over the area, first filled the stream valleys forming dams that in turn caused impoundments or lakes. In these ancient lake beds are found fossil leaf impressions, petrified wood, fossil insects, and bones of vertebrate animals.

Between one and 25 million years ago, during Miocene and Pliocene time, several types of animals existed in the Columbia Basin area. Among these were the elephant, rhinoceros, camel, miniature horse, ground sloth, along with perhaps thousands of varieties of insects and fish.

3 Folding Of The Plateau

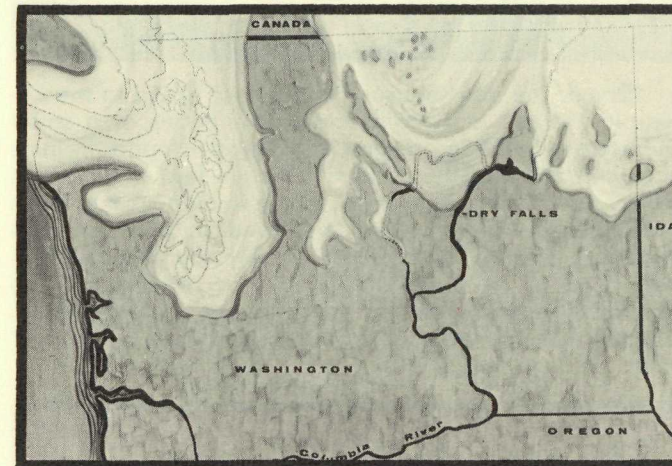


With the end of the outpouring of lava, tremendous forces deep within the earth began to warp the Plateau in several places. With a general uplift of the mountainous region in the north, the entire Plateau was tilted slightly to the south. This tilting and associated stair-step rockfolds, called monoclines, in the vicinity of Coulee City and Soap Lake played an important role in the formation of the Grand Coulee.

4 The Ice Age

With the beginning of the Pleistocene, about one million years ago, a cooling temperature provided conditions favorable for the creation of great sheets of moving ice called glaciers. Thus began the Ice Age.

Over the centuries, as snowfall exceeded melting and evaporation, a great accumulation of snow covered part of the continent resulting in the formation of extensive ice fields. Sufficient pressure on the ice caused it to start its outward flow as a glacier. This vast continental ice sheet reached a thickness of about 4,000 feet in some areas. It moved south out of Canada, blocked the Columbia River and forced a change in its course. The ice

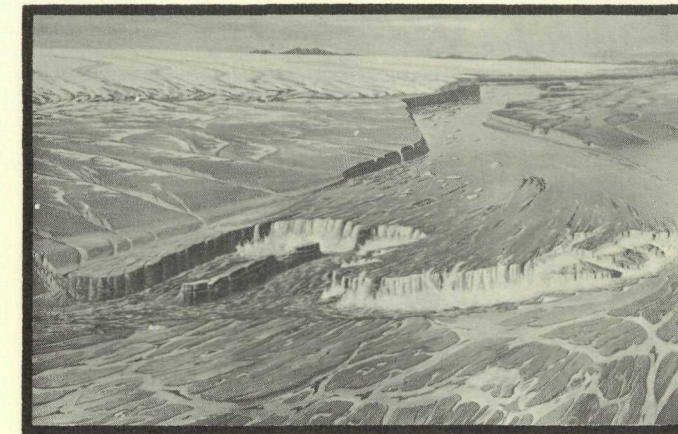


barrier was formed near the present site of Grand Coulee Dam.

The Columbia River of the Ice Age was many times greater than the stream of today. The dammed water spilled out across the southward-dipping lava plateau. Finding no previously eroded stream valley to follow, the flood water spread out across the Plateau. Ultimately by following lines of least resistance the raging torrent etched the coulees which characterize this region today.

As the main stream raced southward, two major cascades were formed along its course. One was just north of Coulee City and the other near Soap Lake. The larger cataract was that of the Upper Coulee where the river roared over an 800 foot precipice. The eroding power of the water plucked pieces of basalt from the precipice causing the falls eventually to retreat 20 miles and destroy itself upon cutting through to the valley of the Columbia near what is now the Grand Coulee Dam.

The other major cataract started near Soap Lake where less resistant basalt layers reacted to the great erosive power of this tremendous torrent, and waterfalls soon developed. As in the Upper Coulee, the raging river plucked the basalt from the face of the falls causing the falls eventually to retreat to its present location.



Here then, is Dry Falls, the skeleton of one of the greatest waterfalls in geologic history. It is three and one half miles wide, with a drop of over four hundred feet.

By way of comparison, Niagara, one mile wide and with a drop of only 165 feet, would be dwarfed by Dry Falls. The power of this diverted Columbia River was at least that of 100 Niagaras.

5 The Ice Recedes

With a moderation in the climate, the ice slowly retreated back to the north. The Columbia remained dammed for some time however; thus water continued to flow across the Plateau and through the Grand Coulee. Eventually, the ice dam disintegrated, permitting the Columbia to return to its original channel around the edge of the lava plateau in the Big Bend Country. The Grand Coulee and network of other watercourses across the Plateau were left high and dry several hundred feet above the Columbia River.

Today the traveler sees numerous coulees and small lakes as well as the giant precipice of Dry Falls, all of which are reminders of the raging torrent that once occupied this area. They stand as mute evidence of the relentless geological changes which are constantly taking place about us.

