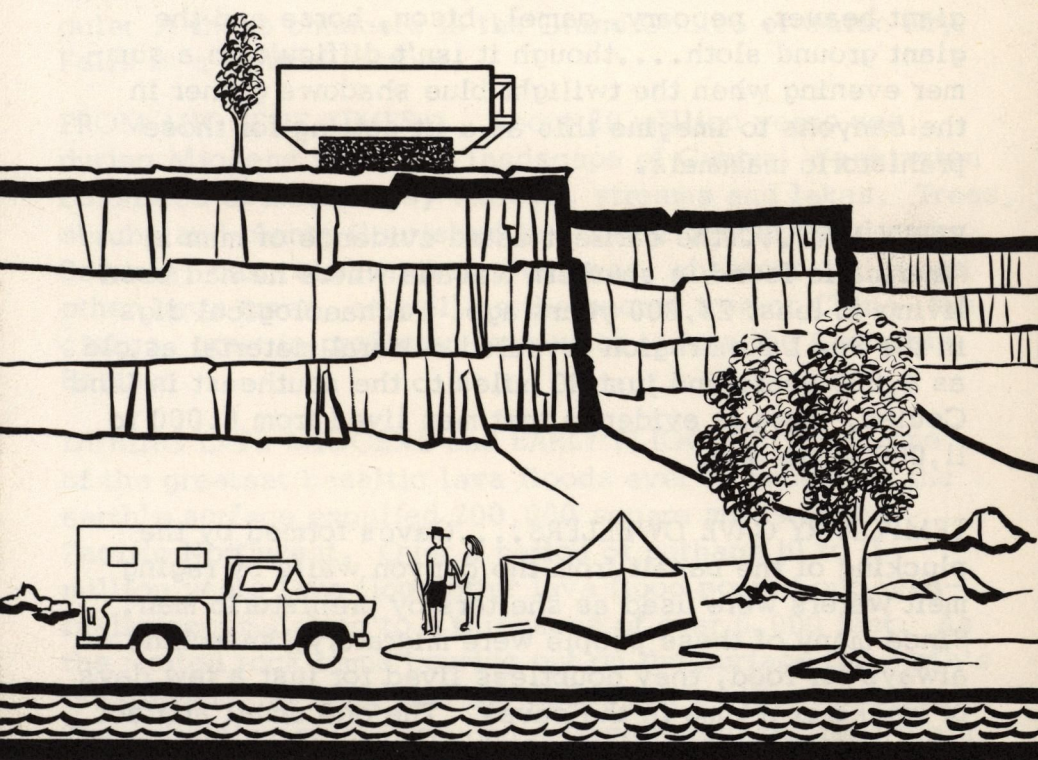


# Dry Falls and Sun Lakes State Park



WASHINGTON STATE PARKS  
AND RECREATION COMMISSION



## THE STORY OF DRY FALLS IS THE STORY OF THE ENTIRE GRAND COULEE AREA

TODAY as you travel through this weirdly beautiful channeled scablands of North Central Washington the geological story unfolds before your very eyes. The cathedral like spires, the long talus slopes, the monoclines and anticlines, the haystack rocks and the caves....these geological features of the landscape are all products of the relentless changes that are constantly taking place around us.

MAMMAL LIFE in some forms has long since gone with the extinction of the great lion, the short-faced bear, the dire wolf and the saber-toothed tiger. Gone are the giant beaver, peccary, camel, bison, horse and the giant ground sloth....though it isn't difficult on a summer evening when the twilight blue shadows gather in the canyons to imagine this as a fit setting for those prehistoric mammals.

EARLY MAN....the earliest dated evidence of man in America is found in southern Nevada where he had been living at least 23,800 years ago. Archaeological digs in the Sun Lakes region revealed cultural material as old as 4,000 years and just 40 miles to the southeast in Lind Coulee, there is evidence that man lived from 6,000 to 11,000 years ago.

TEMPORARY CAVE DWELLERS....Caves formed by the plucking of the basalt from the canyon walls by raging melt waters were used as shelters by prehistoric man. Since many of these people were migratory, searching always for food, they doubtless lived for just a few days or weeks at a time in the caves. The one small artifact from their limited supply still found are scrapers used in the preparation of skins.

PETROGLYPHS AND PICTOGRAPHS were left by these people but neither contribute much to a better understanding of Indian life. The PETROGLYPHS were designs etched into

the rock while PICTOGRAPHS or PAINTINGS were done with native paints.

## THE STORY OF DRY FALLS

GLACIAL ICE of the PLEISTOCENE EPOCH, commonly known as the Ice Age, advanced south from Canada and reached the lava plateau of Central Washington where it dammed the ancient Columbia River near the present site of Grand Coulee Dam.

Thus dammed, the river overflowed its banks and spilled across the plateau in a series of huge floods. The tremendous volume of water had enormous eroding power and carved into the lava plateau a network of gashes we know as "Channeled Scablands." The largest and most spectacular of these channels is the Grand Coulee of which Dry Falls is a central feature.

FROM MIOCENE TIMES....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, tulip and other large trees, as well as the sacred tree of China, the ginkgo, grew in profusion over what is now the Columbia Basin.

DURING LATE MIOCENE and EARLY PLIOCENE TIME, one of the greatest 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 crust produced a large depressed lava plain, now known as the Columbia Basin (Plateau). The ancient Columbia River was forced by the northwesterly advancing lava into its present course between the Basin and the granite mountains to the west and north of the Big Bend Country.



The lava, as it flowed over the area, first filled the stream valleys forming dams that in turn caused enpondments or lakes. In or associated with, 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, with perhaps thousands of variations of insects and fish.

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FOLDING OF THE PLATEAU....With 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 to the north and the entire Plateau was tilted slightly to the south. This tilting and associated stairstep rockfolds, called monoclines, in the vicinity of Coulee City and Soap Lake played a very important role in the formation of the Grand Coulee.

MOUNTAINS ARE FORMED....Regions which have been divided by faulting into alternating steep mountains and deep valleys are said to be block-faulted. These blocks as we see them have been more or less modified by erosion. Debris worn from the high masses tend to bury those at low elevations.

Most sediments were originally deposited on flat, very slightly inclined surfaces. But in many regions stratum of great thickness have been compressed and folded so they now lie in steeply inclined positions, sometimes for many miles. Some mountain chains consist of rocks that have been folded into a series of waves.

VOLCANOES ARE UNIQUE among mountains because they are built up by succeeding layers of lava and ash instead of being sculptured from pre-existing rock. They may stand some distance from other mountains and exhibit unusual perfection of symmetry. For these reasons some volcanoes, such as Rainier, Adams, St. Helens, Baker and Glacier here in Washington State are among the best known and most beautiful mountains.

THE ICE AGE....With the beginning of 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.

ICE FIELDS....Over the centuries as snowfall exceeded melting and evaporation, a great accumulation of snow covered part of the continent resettling in the formation of extensive icefields. 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 a few miles to the north near the 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 waters 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, raging river plucked the basalt from the face of the falls causing the falls eventually to retreat to its present location.



THIS CREATED DRY FALLS, the skeleton 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. From the vantage of the museum building only two of the five huge alcoves which form the falls are clearly visible.

THE ICE RECEDES....With the 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. When this occurred, the lake which formerly was behind the dam vanished. The Grand Coulee and network of other water-courses across the Plateau were left high and dry several hundred feet above the Columbia River.

FOSSILS and THE BLUE LAKE RHINO....Two requirements for preservation through fossilization are quick burial to prevent decay and the presence of hard parts such as shell, wood, bones or teeth. Fossils, though often preserved unchanged are also found where the original material has been dissolved and carried away by circulating solution as in the case of petrified wood where the original woody material has been chemically replaced by silica.

THE BLUE LAKE RHINO is the most unusual fossil found in the Columbia Plateau. It is a mold and a few bones of a small rhinoceros. In 1935 a group of hikers found it in the vicinity of Blue Lake south of Dry Falls. The eight-foot rhino was probably lying dead in a small pond into which molten lava flowed and chilled upon striking the water. A mold was formed about the body. Paleontologists made a cast of the mold in a reconstruction effort. A model of that cast is shown in the Dry Falls Center.

BASALT is iron-rich lava which has welled to the surface through long fissures with little or no explosive activity. Being fluid the lava is able to spread swiftly and widely almost like water. As the lava cools and solidifies contraction cracks sometimes developed on many of the coulee walls. Columnar basalt develops perpendicular to the cooling surface. Pillow basalt is formed when lava flows into a body of water which causes the lava to cool and solidify resembling a pile of pillows.

#### THE SUN LAKES STATE PARK\* \* \* \* \*

This state park consists of 3,365 acres, seven beautiful lakes -- Park, Deep, Rainbow, Perch, Dry Falls, Mirror and Spring -- and 250 campsites set in the middle of the greatest scabland channel of them all....GRAND COULEE. It is 16 miles north of Soap Lake and only 6 miles south of Coulee City which overlooks Dry Falls.

SUN LAKES is one of the most popular state parks in Washington, offering camping, fishing, boating, picnicking, water skiing, horseback riding, swimming, golfing on a nine-hole course and exploring. Cabin and boat rentals, cafe and grocery store as well as stagecoach rides are available at the concession within the park.

On the floor of the coulee in which Sun Lakes State Park is located there is a rare White Fallow Deer herd that is the only free roaming herd of this type in the United States.

SUMMER FALLS is one of the interesting side trips reached by a road just south out of Coulee City. It flows into Long Lake from May through September....perfect for the photographer who wants local color.

#### STEAMBOAT ROCK STATE PARK\* \* \* \* \*

This park is located north of Coulee City about 20 miles on Banks Lake, in the upper GRAND COULEE. It offers boat launching facilities, picnic tables, comfort station all for day use. The top of the Rock contains about 12 acres once used by a sheep rancher for grazing before the equalizing reservoir....BANKS LAKE....made Steamboat Rock an island. Now this is one of the finest fishing spots in the state.



GRAND COULEE TODAY....a gigantic concrete dam now blocks the Columbia where once the ice block dammed it. It produces millions of kilowatts of hydro-electric power and eventually will irrigate more than a million acres of semi-arid land. Canals to the Columbia Basin follow the ancient network of scabland channels once furrowed by the flood waters.



DRY FALLS INTERPRETIVE CENTER, SUN LAKES and STEAMBOAT ROCK STATE PARKS are operated and maintained by WASHINGTON STATE PARKS and RECREATION COMMISSION. For further information write: P. O. Box 1128, Olympia, Washington 98501 or Phone: (206) 753-5755.