

National Natural Landmarks in Idaho

Eleven areas in Idaho have been designated as National Natural Landmarks. These sites exemplify landscapes unique to the nation's geological and biological heritage. The natural features showcased in Idaho include crustal tectonics, fossil beds, springs from aquifers in lava rock, granitic landforms, erosional rock forms, and volcanic flows, craters, and cones.

The correlation between geology and biology is a cornerstone of the National Natural Landmarks (NNL) Program. Established in 1962, the program seeks out the best specimens of biotic communities or geologic features in the nation's physiographic provinces. A province defines a geographic region of similar geology and climate notably different from adjoining areas. Scientists have subdivided the United States and its territories into thirty-three physiographic provinces. Examples in the West are the Basin and Range Province that includes parts of Oregon, Nevada, Utah, and Idaho, and the Rocky Mountain Province that forms the backbone of the North American continent.

The goal of the NNL Program is to encourage public awareness of the natural forces that have produced the nation's landscape and to record the outstanding examples for posterity. A site is chosen primarily for how well it illustrates specific features of a landform. Also weighed in the selection are its rarity, diversity, and value for science and education.

The National Park Service initiates the designation process and makes a strong effort to accommodate all interests, both public and private. Common sources that recommend areas for landmark status are conservation groups and the natural heritage programs of individual states. A site on private land must have the landowner's approval before evaluations can be conducted. The investigations and subsequent scientific reviews are purposely rigorous so that only deserving sites are chosen for landmark status. Once designated, the site is listed in the National Registry of Natural Landmarks. Thus far, the NNL program has named nearly 600 landmarks throughout the country. Thirty-four of these currently exist in the Pacific Northwest.

Idaho Landmarks

1. Big Southern Butte

The isolated volcanic dome of light-colored silicic rocks dominates the flat terrain for 50 miles in nearly all directions. The butte stands 2,500 feet above the low relief surface of the eastern Snake River Plain. The site is an ecological "island" supporting vegetation such as lodgepole pine, aspen, Douglas fir, and manzanita not common to this region. The landmark is in Butte County about 37 miles northwest of Blackfoot.

2. Big Springs

Water issues forth from one of the largest rhyolite lava fields in the United States—lava rock of the Madison Plateau in the Targhee National Forest. Big Springs is the headwater of the south fork of the Henry's Fork. It is one of only sixty-five first-order springs in the U.S., and the only one occurring in rhyolite lava flows. First-order means that its flow exceeds 100 cubic feet per second. The landmark is in Fremont County about 64 miles northeast of Rexburg.

3. Cassia Silent City of Rocks

Located in the Cotterel Range, the site contains monolithic, cathedral-like landforms created by exfoliation, a weathering of the exposed massive granitic plutons or batholiths. The site has the best example of inselbergs in this region. Inselbergs are isolated rock towers surrounded by arid or semiarid lowlands in the late stage of erosion. These features are also found in Arabia and the deserts of southern Africa. The landmark is in Cassia County about 16 miles southeast of Oakley.

4. Crater Rings

Two adjacent circular pits about a half-mile wide provide a rare example of a volcanic crater in the continental U.S. The rings are larger than, but similar to, pit craters along Chain of Craters Road on the southeast flank of Kilauea Volcano, Hawaii. The landmark is in Elmore County about 8 miles northwest of Mountain Home.

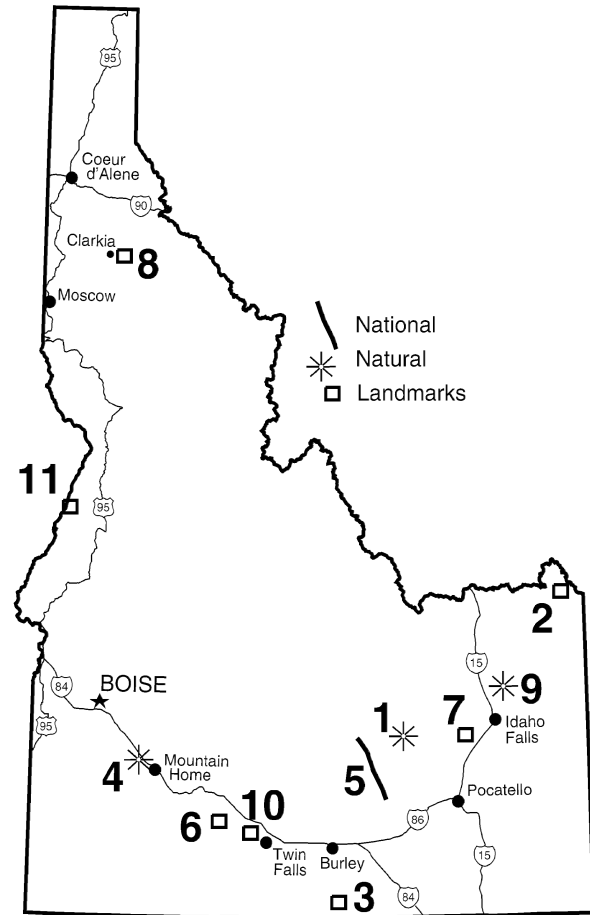
5. Great Rift System

The long fissure in the eastern Snake River Plain is a dramatic example of extensional tectonic forces in the earth's crust that may extend to the crust-mantle interface. The rift system involves four areas that merge into one another. From north to south, these areas are the Craters of the Moon National Monument, the Open-Crack Set, the King's Bowl Set, and the Wapi Lava Field. Basaltic magma has risen along the fracture and erupted as cinder cones, spatter cones, and pit craters. Numerous mosses and lichens are evidence of primary vegetation succession. The landmark is in Power, Blaine, and Minidoka counties about 43 miles northwest of Pocatello.

6. Hagerman Fauna Sites

The fossil beds contain the world's richest known deposits of upper Pliocene (4.5 to 1.9 million years ago) terrestrial remains. The site is best known for the famous Horse Quarry locale, which has produced fossil bones of horses, ground sloths, mastodons, camels, deer, saber-toothed cats, and various rodents. Lake-marsh sediments scattered throughout the area have

produced fossil bones of muskrats, voles, fish, frogs, snakes, turtles, and birds. These sites may eventually prove to be as important to paleontology as the Horse Quarry. The landmark is in Twin Falls County about 2½ miles west of Hagerman.



Locations of National Natural Landmarks in Idaho

7. Hell's Half Acre Lava Field

The lava field is an outstanding example of a geologic process. It is a completely preserved pahoehoe lava flow that covers 44,000 acres and probably occurred about 28,000 years ago. Fractures, depressions, and small lava caves are common features on the flow, which otherwise has a fairly smooth surface. The center of the landmark is in Bingham and Bonneville counties about 20 miles west-southwest of Idaho Falls.

8. Hobo Cedar Grove Botanical Area

This landmark contains a grove of old growth western red cedar in near natural condition. Two biologic communities are represented: mainly western red cedar and Oregon boxwood on the uplands, and western red cedar and lady fern on the lowlands. The grove's upper soil is described as "loess-cap," a silt loam topsoil laid down through wind action over the existing subsoils. Topsoil depths range from 18 to 36 inches. The landmark is in Shoshone County about 12 miles northeast of Clarkia.

9. Menan Buttes

The volcanic cones, rising 500 to 800 feet above the Snake River Plain, are striking examples of glassy olivine-basalt tuff found in only a few places in the world. The cones are composed of small fragments of basaltic glass formed by a sudden chilling of the magma. Stream gravels mixed with the volcanic fragments are evidence that Menan Buttes erupted through the channel of the Snake River. The landmark is along the border of Madison and Jefferson counties about 10 miles west of Rexburg.

10. Niagara Springs

Water flows from the northern cliffs along this spot of the Snake River canyon into the Snake River. These large springs, among others in the canyon, illustrate the enormous volume of water transmitted through the Snake River Plain aquifer. For a distance of more than 250 miles not a single tributary enters the Snake River from the north, although a large area of moderately high precipitation in central Idaho drains into this area. All of the water sinks into the ground-water system and percolates through the vesicular basalts and permeable interbasalt sediments of the Snake River volcanics. Some large streams simply disappear, such as the Big Lost River that vanishes in the Lost River Sinks. The landmark is in Gooding County about 20 miles west of Twin Falls.

11. Sheep Rock

Horizontally layered lavas represent successive flows of Columbia River basalt. Flows of the Columbia River Basalt Group cover an area of 200,000 square miles in Idaho, Washington, and Oregon. The flows embody one of the great lava extrusions of geologic time. The landmark is in Adams County about 35 miles north-northwest of Council.

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