

= Oregon Caves National Monument and Preserve =

Oregon Caves National Monument and Preserve is a National Monument and Preserve in the northern Siskiyou Mountains of southwestern Oregon in the United States . The main part of the 4 @, @ 558 @-@ acre (1 @, @ 845 ha) park , including the marble cave and a visitor center , is located 20 miles (32 km) east of Cave Junction , on Oregon Route 46 . A separate visitor center in Cave Junction occupies 4 acres (1 @. @ 6 ha) of the total . Both parts of the monument , managed by the National Park Service , are in southwestern Josephine County , near the Oregon ? California border . The climate is generally mild even at the cave 's elevation of about 4 @, @ 000 feet (1 @, @ 200 m) above sea level , but icicles can form at the cave entrance , and winter snow sometimes blocks the park highway .

Elijah Davidson , a resident of nearby Williams , discovered the cave in 1874 . Over the next two decades , private investors failed in efforts to run successful tourist ventures at the publicly owned site . After passage of the Antiquities Act by the United States Congress , President William Howard Taft established Oregon Caves National Monument , to be managed by the United States Forest Service , in 1909 . The popularity of the automobile , construction of paved highways , and promotion of tourism by boosters from Grants Pass led to large increases in cave visitation during the late 1920s and thereafter . Among the attractions at the remote monument is the Oregon Caves Chateau , a six @-@ story hotel built in a rustic style in 1934 . It is a National Historic Landmark and is part of the Oregon Caves Historic District within the monument . The Park Service , which assumed control of the monument in 1933 , offers tours of the cave from mid @-@ April through early November . In 2014 , the monument was expanded by about 4 @, @ 000 acres (1 @, @ 600 ha) and re @-@ designated a National Monument and Preserve . In addition , the River Styx , which flows through the cave and emerges as Cave Creek , was named to the National Wild and Scenic Rivers System .

Oregon Caves is a solutional cave , with passages totaling about 15 @, @ 000 feet (4 @, @ 600 m) , that formed in marble . The parent rock was originally limestone that metamorphosed to marble during the geologic processes that created the Klamath Mountains , including the Siskiyou . Although the limestone formed about 190 million years ago , the cave itself is no older than a few million years . Valued as a tourist cave , the cavern also has scientific value ; sections of the cave that are not on tour routes contain fossils of national importance .

In addition to cave touring , activities at the park include hiking , photography , and wildlife viewing . One of the park trails leads through the forest to Big Tree , which at 13 feet (4 @. @ 0 m) is the thickest Douglas @-@ fir known in Oregon . Lodging and food are available at The Chateau and in Cave Junction . Camping is available at Forest Service campgrounds and private sites in the area .

= = Geography = =

Oregon Caves National Monument and Preserve is in the Siskiyou Mountains , a coastal range that is part of the Klamath Mountains of northwestern California and southwestern Oregon . The main part of the park originally consisted of 484 acres (196 ha) in the Rogue River ? Siskiyou National Forest , about 6 miles (10 km) north of the Oregon ? California border in Josephine County , Oregon . An additional visitor center occupies 4 acres (1 @. @ 6 ha) in the city of Cave Junction . The city is in the Illinois River valley , about 40 miles (64 km) east of the Pacific Ocean . Elevations within the main part of the monument range from 3 @, @ 680 to 5 @, @ 480 feet (1 @, @ 120 to 1 @, @ 670 m) ; the visitor center in Cave Junction is 1 @, @ 800 feet (550 m) above sea level .

In December 2014 , the U.S. Congress enlarged the protected area that includes the cave and changed its name to Oregon Caves National Monument and Preserve . This means that two distinct contiguous units of the national park system share the Oregon Caves name . The preserve covers 4 @, @ 070 acres (1 @, @ 650 ha) , and both it and the monument are administered by the same staff .

By highway , Oregon Caves is 55 miles (89 km) southwest of Grants Pass , 300 miles (480 km) south of Portland and 450 miles (720 km) north of San Francisco . The caves are 20 miles (32 km)

) east of Cave Junction via Oregon Route 46 , which intersects U.S. Route 199 at Cave Junction .

Despite the monument 's name , the main cave is a single system with known passages totaling about 15 @, @ 000 feet (4 @, @ 600 m) in length . Eight separate smaller caves have also been discovered in the monument .

Runoff from the heavily wooded monument forms small headwater streams of the Illinois River , a major tributary of the Rogue River . One of five small springs in the monument becomes Upper Cave Creek , which flows on the surface before disappearing into its bed and entering the cave . Supplemented by water entering the cave from above , the stream emerges from the main entrance as Cave Creek . Within the cave , Cave Creek is known as the River Styx . In late 2014 , as part of other changes to the protected area and its name , Congress added the River Styx to the National Wild and Scenic Rivers System . It is the only subterranean river in the Wild Rivers system .

= = History = =

Archeologists believe the first humans to inhabit the Rogue River region were nomadic hunters and gatherers . Radiocarbon dating suggests that they arrived in southwestern Oregon at least 8 @, @ 500 years ago . At least 1 @, @ 500 years before the first contact with whites , the natives established permanent villages along streams . Even so , no evidence has been found to suggest that any of the native peoples , such as the Takelma who lived along the Rogue and Applegate rivers in the 19th century , used the cave .

Largely bypassed by the early non @-@ native explorers , fur traders , and settlers because of its remote location , the region attracted newcomers in quantity when prospectors found gold near Jacksonville in the Rogue River valley in 1851 . This led to the creation of Jackson County in 1852 and , after gold discoveries near Waldo in the Illinois River valley , to the creation of Josephine County , named for the daughter of a gold miner . Even with an influx of miners and of settlers who farmed donation land claims , Josephine County 's population was only 1 @, @ 204 in 1870 .

Elijah Jones Davidson , who discovered the cave in 1874 , emigrated from Illinois to Oregon with his parents , who eventually settled along Williams Creek in Josephine County . Williams , as the community came to be called , is about 12 miles (19 km) northeast of the cave .

Only a few people visited the cave during the next decade . Among them was Thomas Condon , professor of geology at the University of Oregon . Guided by Davidson 's brother , in 1884 he and a group of students hiked from Williams to the cavern , which they inspected by candlelight . Shortly thereafter , Walter Burch , an acquaintance of the Davidson family , tried to develop the cave as a business . Burch and his partners opened what they called Limestone Caves and charged visitors \$ 1 each for a guided cave trip , a camping spot , pasture for horses , and cave water they described as medicinal . Although Burch and others hacked crude trails to the cave from Cave Junction and Williams , the trip was too difficult for most tourists , and Limestone Caves ceased operations in 1888 .

In the early 1890s , the Oregon Caves Improvement Company , headed by Alfonso B. Smith of San Diego and two men from Kerby , Oregon , tried to raise capital for a larger tourist business at Oregon Caves . Smith made outlandish claims about the cave and its business potential , saying that it was 22 miles (35 km) long , that an ordinary horse and buggy could be driven through 10 miles (16 km) of it , that it had 600 separate chambers , and that the company planned to build something like a streetcar line from Williams to the cave . Smith succeeded in wooing The San Francisco Examiner , which twice sent reporters to the site . The second occasion involved a cave expedition that lasted about 10 days and involved " an orgy of destruction " in which passages were widened , formations broken or deliberately removed , and directional arrows added to the cave walls . After Smith had spent all of the company 's money and borrowed more in its name , he disappeared in 1894 , and the business collapsed .

Neither Burch nor Smith had owned the cave or the land around it , which belonged to the public . Beginning in the 1890s , the Federal government began regulating the use of public lands like these . In 1903 , President Theodore Roosevelt designated millions of acres of forest lands for protection , including what became Siskiyou National Forest , which surrounds the cave . The United States

Forest Service was created in 1905 to manage these reserves . Three years later , Congress passed the Antiquities Act , which allowed the President to designate protected areas called National Monuments on public lands . In 1909 , President William Howard Taft established Oregon Caves National Monument , to be managed by the Forest Service . A year later the Forest Service employed men to guard the cave and to serve as tour guides .

Isolated and difficult to reach , the monument attracted only 1 @, @ 800 visitors in 1920 . The situation changed markedly when large numbers of Americans began to travel by automobile on roads paid for largely with government funds . One highway connected Grants Pass with the California coast at Crescent City . Another new road , the Oregon Caves Highway , led from the Grants Pass ? Crescent City highway to the cave . Campaigns to attract car @-@ driving tourists included those of the Cavemen , a booster group from Grants Pass that dressed in animal skins , posed along tour routes , and staged annual events to promote the monument . By 1928 , the number of visitors to the cave had risen to about 24 @, @ 000 a year .

The visitors ' need for overnight lodging led to creation of public and private campsites and rustic cabins along highways near Cave Junction and the monument . In 1923 , the Forest Service signed a contract with the Oregon Caves Company , based in Grants Pass , to run the cave tours and improve the park accommodations . The Chalet , a building with a kitchen , dining room , gift shop , ticket sales area , and a dormitory for women on the Oregon Caves Company staff , was completed later that year . Three years later , the company added seven two @-@ bedroom cabins for tourists and a dormitory for male employees . In 1928 , an Oregon Caves bill written by the Forest Service and introduced by Senator Charles McNary of Oregon won Congressional approval . It provided funds for electric lights , a power plant , a formation @-@ washing system , and an artificial exit tunnel to eliminate the crowding that occurred when two groups on round @-@ trip tours had to pass one another in the cave . The 500 @-@ foot (150 m) tunnel was completed in 1931 .

Management of the monument was transferred from the Forest Service to the National Park Service in 1933 , and a six @-@ story hotel , the Oregon Caves Chateau , was completed at the site in 1934 . Gust Lium , a builder from Grants Pass , oversaw construction of the Chateau and some of the park 's other buildings , which he designed in a rustic style . Mason Manufacturing of Los Angeles produced the Chateau 's furniture in a style called Monterey , valued in the 21st century at up to \$ 5 @, @ 000 for a single chair . During the 1930s and early 1940s , the Civilian Conservation Corps (CCC) installed water and telephone lines , improved trails , and worked on landscaping at the park . The Chalet was rebuilt in 1942 to include a third story and a larger dormitory for women .

Although the Chateau suffered \$ 100 @, @ 000 in damage from a 1964 flood , it was repaired . By 1968 , a total of one million people had visited the cave . In 1987 , the Chateau was declared a National Historic Landmark , and in 1992 , 60 acres (24 ha) of the monument , including the Chateau and other rustic structures , were listed as the Oregon Caves Historic District on the National Register of Historic Places . In 2001 , the Park Service began running the cave tours formerly offered by private contractors , and two years later all the structures at the monument became public property managed by the Park Service . The Illinois Valley Community Development Organization , a non @-@ profit based in Cave Junction , runs the monument 's gift shop . In 2014 , the protected area was expanded by 4 @, @ 070 acres (1 @, @ 650 ha) to include the preserve as well as the monument .

= = Geology and paleontology = =

Oregon Caves is unusual in that it was formed in marble . Most caves created by dissolving of rocks are formed in limestone or dolomite . Of the more than 3 @, @ 900 caves managed by the National Park Service , only those in Oregon Caves National Monument and Preserve , Kings Canyon National Park , and Great Basin National Park have marble caves .

The parent rock in which the cave developed was formed about 190 million years ago as limestone that was part of a tectonic plate beneath the Pacific Ocean . Granitic plutons intruded this part of the ocean crust , the Applegate terrane , about 160 million years ago . As the oceanic crust carrying the terrane subducted under the North American plate , the terrane accreted onto the North American

Plate and the limestone was subjected to heat and pressure that metamorphosed it to marble . Further tectonic movements eventually lifted the marble to about 4 @, @ 000 feet (1 @, @ 200 m) above sea level . The marble block containing the cave is at least 1 @, @ 080 feet (330 m) long , 490 feet (150 m) wide , and about 390 feet (120 m) high .

The cave 's creation took place long after the marble formed . As groundwater seeped into cracks in the marble , it eventually dissolved enough rock to expand some of the cracks to the size of tunnels . Generally , the age of a cave cannot be determined directly because the cave itself is an empty space . However , scientists can sometimes determine the age of speleothems or sediments in a cave . An early 21st @-@ century study of speleothem development in Oregon Caves focused on the past 380 @, @ 000 years . Based on the available evidence , the cave is thought to be at least a million years old and " probably not much older than a few million " years .

Marble has a more coarse @-@ grained texture than limestone , but both are made of calcite (CaCO_3) . Caves often develop when slightly acidic groundwater dissolves calcite along natural fractures in the rock . A reversal of the dissolving process can create flowstone and dripstone such as stalactites , that hang from cave ceilings like icicles , and stalagmites , cone @-@ shaped masses that form on cave floors , usually directly below stalactites . These structures form when acidic groundwater with a high concentration of dissolved calcite drips slowly from the ceiling of an air @-@ filled cave , becomes less acidic , and leaves some of its calcite behind as a solid precipitate . Oregon Caves includes a variety of cave formations created through precipitation of calcite . Although many of the speleothems in the public sections of the cave have been broken , discolored by human skin oils , or otherwise damaged , the narrow twisting passages of the " show cave " provide enduring tourist value .

The cave is not pure marble . Dikes of diorite , an igneous rock that was part of a pluton , cut through the marble in places . Shales and sandstones , which are sedimentary rocks , are in places interbedded with the marble . In addition , streams have carried silts and gravels from the surface into the cave .

The monument has more than 50 paleontological sites ranging in age from Late Pleistocene to Holocene . A fossil of a grizzly bear more than 50 @, @ 000 years old and a jaguar fossil between 40 @, @ 000 and 20 @, @ 000 years old have been found in the cave . Other fossils include amphibians , and rare finds of the mountain beaver , and the blue grouse . The monument 's mammalian fossils , found in non @-@ public sections of the cave , are of national significance .

= = Climate = =

The main unit of the monument is located in the mountains at elevations varying from 3 @, @ 680 to 5 @, @ 480 feet (1 @, @ 120 to 1 @, @ 670 m) above sea level . The park 's nearness to the ocean contributes to its relatively mild climate . Temperatures generally range between 20 and 40 ° F (? 7 and 4 ° C) in winter and 50 and 90 ° F (10 and 32 ° C) in summer . However , inside the cave , the temperature is always about 44 ° F (7 ° C) . Annual precipitation , arriving mostly as wet snow , averages 55 inches (1 @, @ 400 mm) . Moderate winds are common .

The climate in Cave Junction , at 1 @, @ 800 feet (550 m) above sea level , is warmer and wetter than the climate at the main unit . December and January are the coldest months , when highs average about 50 ° F (10 ° C) and lows average about 33 ° F (1 ° C) . July and August are the warmest months , with an average high of 94 ° F (34 ° C) and an average low of about 50 ° F (10 ° C) . Between 1962 and 2015 , the highest recorded temperature at Cave Junction was 114 ° F (46 ° C) in 2008 , and the lowest was ? 6 ° F (? 21 ° C) in 1972 . November through January are the wettest , averaging about 10 to 11 inches (250 to 280 mm) each month .

= = Flora and fauna = =

Located within the Klamath ? Siskiyou region , known for its high biodiversity , the monument supports 391 vascular plant species as well as many species of bryophyte , lichen , and macrofungi . Trees in the monument include Douglas @-@ fir , oak , white fir , and alder . Among the oldest

trees is Big Tree , thought to be the thickest Douglas @-@ fir in the state . It is 41 feet (12 m) in circumference near the base . Its age is estimated at 600 to 800 years and it was described in the 1930s as 14 feet (4 @.@ 3 m) in diameter . The monument contains no plants with special conservation status .

Species lists for the park include about 50 mammals , 86 birds , 11 reptiles and amphibians , 8 bats , more than 200 arthropods , 8 snails and slugs , 75 butterflies , more than 55 moths , and 8 aquatic macroinvertebrates . Of these species , 160 are found inside the cave . Outside the cave , black @-@ tailed deer , Steller 's jay , common raven , and Townsend 's chipmunk are among animals often seen in the park . Less commonly sighted are black bear , cougar , northern flying squirrel , and Pacific giant salamander . Springs and other wet places support flatworms , frogs , and snails .

Animal species in the park with special conservation status are the northern spotted owl , California mountain kingsnake , tailed frog , Del Norte salamander , northern goshawk , olive @-@ sided flycatcher , little willow flycatcher , Siskiyou gazelle beetle , and Pacific fisher . Five at @-@ risk species are found in the cave : Townsend 's big @-@ eared bat , long @-@ eared myotis , fringed myotis , long @-@ legged myotis , and Yuma myotis .

= = Activities = =

Oregon Caves National Monument and Preserve is open year @-@ round , although snow sometimes blocks the road to the park . Cave tours are offered from mid @-@ spring (mid @-@ April) to late fall (early November) , and the visitor center is open when the cave is open for tours . The schedule varies from season to season , but tours generally start no earlier than 9 a.m. and no later than 6 p.m. except for candlelight tours offered on Fridays and Saturdays at 6 : 30 p.m. between late May and early September .

Cave @-@ tour tickets are available only at the monument and are sold on a first @-@ come , first @-@ served basis . Tours are 0 @.@ 5 miles (0 @.@ 80 km) long and last 90 minutes , although visitors can choose to leave the cave about halfway through the tour . The route requires negotiating more than 500 steep and uneven stairs and passageways with as little as 45 inches (110 cm) between floor and ceiling . Not recommended by the Park Service for anyone with heart , lung , or mobility problems , the tour involves a total climb of 230 feet (70 m) . Children less than 42 inches (110 cm) tall or who are unable to climb a set of test stairs on their own are not allowed on the full cave tour . The Park Service offers a limited number of off @-@ trail " Introduction to Caving " tours by advanced reservation only .

Since the cave is only 44 ° F (7 ° C) inside regardless of the outdoor temperature , the Park Service recommends warm clothing for its tours . Good walking shoes are needed to negotiate slippery and uneven surfaces . Not allowed on the tours are flashlights , backpacks , large purses , tripods , or pets . To protect bats from white nose syndrome , visitors must not take any clothing or equipment into Oregon Caves that entered any cave in Europe or any cave , mine , or bat hibernation site east of the Rocky Mountains in North America after 2005 .

Several hiking trails wind through the monument and adjacent forest lands . Big Tree Trail , 3 @.@ 3 miles (5 @.@ 3 km) long , gains 1 @,@ 100 feet (340 m) in elevation between the visitor center and Big Tree . No Name Trail , 1 @.@ 3 miles (2 @.@ 1 km) long , begins behind the visitor center , follows Cave Creek , crosses it , and then climbs steeply to the west side of the monument . Two short side trails lead from the main trail to waterfalls along No Name Creek . Cliff Nature Trail , passing over marble outcrops and through fir forests , winds for about 1 mile (1 @.@ 6 km) from near the cave entrance past the cave exit to Big Tree Trail . Old Growth Trail , 0 @.@ 8 miles (1 @.@ 3 km) long , links the Chateau and visitor center to the main parking lot . Other named trails entering the park include Cave Creek , Mt . Elijah , and Limestone . In 2012 , the Oregon Caves Historic District was expanded to include several segments of the trail system .

Lodging is available in the monument at the six @-@ story Chateau , which has 23 rooms to rent . Hotels , bed and breakfasts , motels , and resorts in the vicinity offer a variety of accommodations . Although no camping is allowed in the monument , the Forest Service maintains two campgrounds nearby , and there are private campgrounds and recreational vehicle parks in the vicinity . The

Chateau , generally open from early May to late October , has a restaurant , coffee shop , and delicatessen , and Cave Junction has several restaurants . The monument grounds include several picnic tables .