

= Big Butte Creek =

Big Butte Creek is a 12 @-@ mile @-@ long (19 km) tributary of the Rogue River in the U.S. state of Oregon . It drains approximately 245 square miles (635 km²) of Jackson County . Its two forks , the North Fork and the South Fork , both begin high in the Cascade Range near Mount McLoughlin . Flowing predominantly west , they meet near the city of Butte Falls . The main stem flows generally northwest until it empties into the Rogue Falls was incorporated in 1911 , and remains the only incorporated town within the watershed 's boundaries .

Big Butte Springs , located in the watershed , provides clean drinking water to more than 115 @,@ 000 residents of the Rogue Valley . It emits over 26 million US gallons (98 @,@ 000 @,@ 000 L) of water per day . Water from Big Butte Creek is also diverted for irrigation at several other locations .

The water quality of the Big Butte Creek watershed is generally high , and it supports several species of trout and salmon . The watershed is also home to more than 152 species of birds , 63 species of mammals , 19 species of reptiles , and numerous plants . The Poverty Flats region was designated an Area of Critical Environmental Concern by the Bureau of Land Management in 1995 to protect several rare species of plants .

= = Course = =

Big Butte Creek begins in the Cascade Range near Butte Falls . It flows generally northwest over approximately 12 miles (19 km) to its confluence with the Rogue River . The two main forks of Big Butte Creek , the North Fork and the South Fork , merge at 2 @,@ 244 feet (684 m) above sea level , while the creek 's mouth is located at an elevation of 1 @,@ 562 feet (476 @.@ 1 m) .

The North Fork 's headwaters are located on the slopes of the 6 @,@ 207 @-@ foot @-@ tall (1 @,@ 892 m) Rustler Peak . It flows southwest , receiving many small tributaries such as Jackass , Eighty Acre , and Friese creeks . Turning west , it flows just north of Butte Falls before merging with the South Fork .

The South Fork begins at the confluence of two of its tributaries , Twincheria and Rancheria creeks . It flows southwest , receiving Fourbit Creek on the left . Fourbit Creek begins near Mount McLoughlin , where massive faults may allow water to seep into it from nearby Fourmile Lake in the Klamath River watershed . The South Fork turns west and receives Willow Creek on the left . Big Butte Springs are located on Willow Creek , and the Medford Aqueduct , which carries drinking water to cities in the Rogue Valley , parallels the South Fork from there all the way to Butte Falls . The South Fork flows over the 15 @-@ foot @-@ tall (4 @.@ 6 m) Butte Falls ? the nearby city 's namesake ? and merges with the North Fork about 1 mile (1 @.@ 6 km) downstream .

Big Butte Creek travels northwest , gathering McNeil Creek on the left and Clark Creek on the right , along with many other minor tributaries . This region contains many Class II and III rapids , as rated on the International Scale of River Difficulty . The stream is crossed by Cobleigh Road at river mile (RM) 9 @.@ 5 or river kilometer (RK) 15 , and Netherlands Road at RM 3 (RK 4 @.@ 8) . About 0 @.@ 6 miles (1 km) before its mouth , Big Butte Creek cascades over Crowfoot Falls and is crossed by Crowfoot Road . It then flows into the Rogue River 155 miles (249 km) from its mouth at the Pacific Ocean . Big Butte Creek 's mouth is about one mile southwest of William L. Jess Dam , and Oregon Route 62 passes just north of it .

= = = Discharge = = =

The United States Geological Survey monitors the flow of Big Butte Creek at three different stream gauges : two on the South Fork , and one on the main stem . Both South Fork gauges were shut down in 1991 , but the gauge located near the mouth of Big Butte Creek continues to operate . The main stem often discharges less water than the South Fork alone in the summer months because of numerous diversions .

= = Watershed = =

Big Butte Creek drains approximately 245 square miles (635 km²) of southern Oregon . Elevations range from 1 @, @ 562 feet (476 @. @ 1 m) at the creek 's mouth to 9 @, @ 495 feet (2 @, @ 894 m) at the summit of Mount McLoughlin , with an average of 3 @, @ 528 feet (1 @, @ 075 m) . About 56 percent is federally owned by the Bureau of Land Management and the United States Forest Service , 44 percent is privately owned , and a small fraction belongs to the City of Medford .

The Big Butte Creek watershed experiences a Mediterranean climate . Temperatures range from 10 ° F (? 12 ° C) in the winter to 100 ° F (38 ° C) in the summer . Precipitation averages between 35 and 80 inches (890 and 2 @, @ 000 mm) annually . Most precipitation occurs between November and March . Nine percent of the watershed 's surface runoff is collected from rain , 35 percent from rain on snow , and 56 percent from snow . The watershed contains the largest groundwater source in the entire Rogue River basin ; one major outlet is at Big Butte Springs .

The watershed is split into two geographic regions : the High Cascades and the Western Cascades , both volcanic in origin . The Western Cascades compose the western two thirds of the watershed . This region is highly eroded , being between 17 and 38 million years old . Its unstable slopes are primarily made of pyroclastic rock . Due to the rock 's high ability to absorb moisture , earthflows are common . The High Cascades are much younger , around three to seven million years old . Mount McLoughlin is the most prominent High Cascade volcano in the watershed , last erupting between 20 @, @ 000 and 15 @, @ 000 years ago . Basalt and andesite are the most common rock types in this region .

Nearby watersheds include Little Butte Creek to the south , small Klamath River tributaries such as Fourmile Creek to the east , the South Fork Rogue River to the east and north , and minor tributaries of the Rogue River including Reese and Indian creeks to the west .

= = Flora and fauna = =

Some of the most common trees that grow in the Big Butte Creek watershed include four species of fir , two species of pine , incense cedar , and western hemlock . The understory contains plants such as Pacific yew , Pacific madrone , chinquapin , and vine maple . Several invasive species have been reported in the Big Butte Creek watershed , such as Kentucky bluegrass , common bent , drooping brome , and redbud . The spread of these species is most likely due to overgrazing . Sensitive species that grow in the watershed include Howell 's yampah , Egg Lake monkeyflower , clustered lady 's slipper , green @-@ flowered ginger , Mount Mazama collomia , and Detling 's microseris . Mallow and popcorn flower have also been discovered in riparian zones . The Poverty Flats Area of Critical Environmental Concern (ACEC) is home to several rare species of plants , including Bellinger 's meadowfoam , Howell 's yampah , and Rocky Mountain woodsia .

Over 152 species of birds are known or suspected to live in the Big Butte Creek watershed , including the northern goshawk and the northern spotted owl , a vulnerable species . Bald eagles nest around Willow Lake . Amphibians such as the vulnerable Oregon spotted frog and the near threatened Cascades frog inhabit some regions of the watershed . Black @-@ tailed deer , Roosevelt elk , cougars , and black bears are the most common of the 63 species of mammals found in the watershed . Fishers and American martens have also been spotted . The gray wolf and the vulnerable grizzly bear once lived in the watershed , but are now considered extirpated . Nineteen species of reptiles live in the area . Other sensitive species include the wolverine , the western pond turtle , the sandhill crane , and Townsend 's big @-@ eared bat .

Rainbow trout , chinook and coho salmon , and Pacific Lamprey are the most common anadromous fish that inhabit Big Butte Creek . They travel as far as Butte Falls , sometimes passing over it during high flows . Because of the cold , sterile conditions of the water and the difficulty of jumping over the waterfall , streams above Butte Falls have very low populations of anadromous fish . Native , resident fish in this area include coastal cutthroat and rainbow trout . Willow Lake contains largemouth bass and rainbow , cutthroat , and brook trout . Overall , the number of fish in the Big Butte Creek watershed has declined in recent years , possibly due to the clearing of riparian zones

and rising water temperatures .

== History ==

Humans have lived in the Big Butte Creek area for at least 8 @, @ 000 years . The Klamath , Upper Umpqua , Takelma , and Latgawa tribes of Native Americans inhabited the watershed until they were driven out in the Rogue River Wars of the 1850s . On Christmas Eve , December 24 , 1855 , Captain E. A. Rice along with 34 other men attacked a Native American encampment near the creek 's mouth . Eighteen Native American men were killed , all the women and children were captured , and the camp was burned to the ground . Most were relocated to Indian reservations . Non @-@ indigenous settlers first arrived in the early 1860s , and agriculture , ranching , and logging industries quickly developed . Big Butte Creek was named by early settlers for its close proximity to Mount McLoughlin (also known as Snowy Butte) , as was nearby Little Butte Creek .

In 1904 , a water @-@ powered sawmill was constructed at Butte Falls . The town of Butte Falls was established in 1906 , and incorporated in 1911 . The Pacific and Eastern Railway was constructed to Butte Falls in 1910 . Butte Falls also received water rights to Ginger Springs , providing high quality drinking water for the town .

The Cat Hill Burn destroyed 30 @, @ 000 acres (120 km²) of forest on Rustler Peak in 1910 . In 1915 , the Eagle Point Irrigation Canal was constructed , diverting approximately 100 cubic feet per second (2 @. @ 83 m³ / s) of water for irrigation in the Little Butte Creek watershed . The canal begins just below Butte Falls . The Butte Falls Fish Hatchery was also constructed in 1915 . Originally , the hatchery impounded water from Ginger Creek , however in 1923 a canal was built transferring 15 @. @ 5 cubic feet per second (0 @. @ 439 m³ / s) of water from the South Fork of Big Butte Creek . The Medford Aqueduct , a 31 @-@ inch @-@ wide (79 cm) pipeline , was constructed in 1927 . It delivers about 40 cubic feet per second (1 @. @ 1 m³ / s) of drinking water from Big Butte Springs south to the Bear Creek watershed . In 1951 , a second pipeline was added , and Willow Dam was constructed , creating Willow Lake . The springs serve over 115 @, @ 000 customers throughout the Rogue Valley .

Loggers felled massive amounts of forest in the 1920s and 1930s . Reforestation efforts began in the 1940s because natural regeneration could not keep pace with the rate of logging . In 1962 , the Columbus Day Storm knocked many more large trees to the ground . Today , old @-@ growth forest covers only about five percent of the watershed .

In 1995 , the Poverty Flats region was designated an Area of Critical Environmental Concern (ACEC) by the Bureau of Land Management . Located about 3 @. @ 5 miles (5 @. @ 6 km) west of Butte Falls , the ACEC is home to several rare species of plants . It was fenced off in 1996 to protect the area from roaming cattle .

The Butte Falls Fish Hatchery was scheduled to be closed by the Oregon Department of Fish and Wildlife in July 2009 as part of a statewide effort to decrease the department 's budget , but on July 3 it was announced that the hatchery would continue to operate with only one employee . However , the hatchery was closed permanently in October 2010 .

A 160 @-@ foot (49 m) portion of the Eagle Point Irrigation Canal failed on October 2 , 2011 , sending 86 cubic feet per second (2 @. @ 4 m³ / s) of muddy water down a hillside , across a road , and into lower Big Butte Creek , a vital salmon spawning area . A stream gauge on the Rogue River about 15 miles (24 km) downstream reported turbidity levels twenty times higher than before the breach . The canal was repaired by October 28 .

== Pollution ==

The Oregon Department of Environmental Quality (DEQ) has monitored Big Butte Creek for eight different parameters that affect water quality : temperature , oxygen saturation , pH , nutrients , bacteria , chemical contaminants such as pesticides and metals , turbidity , and alkalinity . Streams that exceed the standard level are placed on the DEQ 303d list in accordance with the Clean Water Act . About 54 @. @ 2 miles (87 @. @ 2 km) of the streams in the Big Butte Creek watershed were

listed on the 2004 / 2006 DEQ 303d list . The entire main stem exceeded the standard level for temperature , oxygen saturation , and E. coli , a type of bacteria . The lower 13 @. @ 9 miles (22 @. @ 4 km) of the North Fork were listed for high temperature , along with many other minor tributaries . The South Fork was not listed , although some of its tributaries were .

Overall , water quality in the Big Butte Creek watershed is generally high , however road construction and logging can cause severe erosion , leading to high levels of sedimentation and turbidity . The Willow Creek region often experiences high turbidity , but Willow Lake traps the sediment before it can travel downstream . Big Butte Springs provides clean water that requires minimal treatment to meet water quality standards . Water from the springs has very little chemical pollution , low turbidity , and temperatures averaging between 44 and 46 ° F (6 @. @ 7 and 7 @. @ 8 ° C) .

= = Recreation = =

Popular recreational activities in the Big Butte Creek watershed include hunting , camping , hiking , and horseback riding . Many tourists also come to sight @- @ see . The most heavily used trail in the area is the Blue Canyon Trail , leading to the Sky Lakes Wilderness , and ultimately the larger Pacific Crest Trail . The city of Butte Falls has organized the Butte Falls Discovery Loop Tour , a half @- @ day @- @ long drive through the Rogue River ? Siskiyou National Forest . The loop starts in Butte Falls , and has several stops for hiking and viewing the landscape , including Mount McLoughlin .

Water recreation on Willow Lake includes boating , swimming , fishing , and waterskiing . Fishing is also popular in other streams , especially Fourbit Creek . Cross @- @ country skiing and snowmobiling are popular in the winter .