



# California State Parks Video Transcript



## ***Falls Trail Nature Saunter at McArthur-Burney Falls Memorial State Park***

Welcome folks. I'd like to welcome everyone to McArthur-Burney Falls Memorial State Park. I'm Ranger Lori, and I'd like to take you on a walk today along the Burney Falls Loop Trail. We'll be going down into Burney Canyon, down to the base of the falls, back up around the other side. It's a loop trail. And it shouldn't take us too long.

What I hope for folks to gain from today's walk is enjoyment, understanding, and appreciation of the falls themselves--why the falls are unique and how the area is affected by the constant water source. The plants that you see up above the canyon or above the falls, there's going to be a big difference when we get down into the canyon, by the base of the falls and along the creek. You'll see that because of the constant water source, the vegetation will vary.

What makes this area unique is that we are a part of the Cascade Range. Where we are standing now is on top of an old lava flow. As we go down the trail, we'll be walking down through that lava flow--it's made up of basalt lava--and we'll see why the falls are so unique is because of how they flow over and through that ancient basalt lava flow. So, why don't we head on down to the next stop, and we'll get an idea of the geology of this area and Burney Falls.

On our next stop, as well as the geology of Burney Falls, I'll explain what makes the falls unique. From the heights, to the depths, to the daily flow, as well as some of the plants and animals we'll be seeing on our hike today.

Well these are the falls--Burney Falls. They are 129 feet tall, the plunge pool down below is about 22 feet deep, and what's interesting about the water coming over the falls is on average 100 million gallons flow a day. Now because we've had late rains this spring we have more coming over the face of the falls; but if you take a look, Burney Falls is really made up of two sets of waterfalls. And that's what makes the falls so unique. Because the falls are made up of two separate falls, the water stays at about a constant temperature of 42 to 48 degrees year-round. And the reason why the falls are made up of two sets of waterfalls is because right now we're standing on top of that lava flow that I was talking about. Upstream, due to rainfall and snowmelt on this basaltic basalt, with it being so porous, the water readily soaks in. Then when it gets beneath that top, or most recent, lava flow, the water will accumulate and flow due to gravity. When it gets to the face of the falls, the water will come straight out of the face of that basalt between the two lava flows.

What we've just done now is walked down the trail. What you see above you is that most

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recent lava flow that I referred to. Because it is so porous, the water seeps down through it, and over the course of many years, with the freezing, the thawing, the freezing, and the thawing, it breaks up this layer into the jumbles that you see. Right now we're at the same elevation as where you see the water springing out of the face of the falls. And it's because we're at that junction, or between the separation, of the most recent layer and a more dense, less permeable layer just below. This is an example that's easy for visitors to see from the trail of where the two rock layers meet--this being the most recent lava flow from the Pleistocene Era of geologic time to the more dense older rock layer beneath, where the water then accumulates to spring out of the face of the falls. Because we're at that elevation just now of where the spring-fed falls come out of the face.

As we make it further down into the canyon, you'll notice that it's starting to get shadier, not just from the walls of the canyon but we're starting to make it under the canopy of some of the larger trees in the park, which are Doug fir. The Doug fir thrive in this canyon because of the constant water source--the spray from the falls as well as Lower Burney Creek itself. Doug fir is found throughout the West Coast, growing with many other species of trees. They do well here because they're a shade-tolerant tree, and as we get further into the canyon and closer to the falls, you'll see that they'll get much larger.

Now that we're closer to the falls and further down into the canyon, you can see where the Douglas firs are starting to get much larger. What I have are the needles of the Doug fir--they're a darker green on the top and a lighter green on the bottom--and the Douglas fir cone. Because the falls flow on the average of about 100 million gallons a day, whether it's August or April, you'll get mist coming off the falls and blowing up canyon. And that's what provides the moisture for the plants that grow so well along Burney Creek.

The water coming out of the base of the rock is spring fed. It will flow like this year round, and because of this constant water flow many different varieties of moss, lichen, and ferns are found along the face of the falls. What's interesting about the opposite side of the falls is further along the trail it takes you up above and you're actually walking on a lava flow where below you water is flowing.

Some of the animals that call the area around Burney Falls and Burney Creek home--one of the most unique is the black swift. It's a small bird that nests along the face of the falls in the spring and the summer. It will make its nest out of the moss and lichens. It's the only place it lands, and it darts back and forth along the face of the falls catching insects. In the plunge pool below the falls, as well as Lower Burney Creek, are native rainbow trout. And several times a year visitors are able to see river otters on the opposite banks below the falls.

Because of this constant mist coming off of the base of the falls, you get a great variety of mosses and ferns that grow not only along the trail but throughout the face of the falls.

A shrub that's suited well for the conditions in Burney Canyon is thimbleberry. You can tell thimbleberry has soft, fuzzy leaves, and it will get a big beautiful white flower on it here in the canyon. Just starting to emerge for the spring are the flowers of the flowering currant, which is found along the banks of Lower Burney Creek. It's a shade-tolerant shrub that does well in other parts of California, usually along the coast. But again, it is suited well to the constant water source and shade found in the canyon along Burney Creek. Later in the season the

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flowers will bloom and then berry, the berries of which are edible.

Here is one of the adult insects that's just emerged and shed his exoskeleton. In its larval form it will be food for the trout that live in Burney Creek. The trout thrive on stonefly, caddis fly, and mayfly. Let's see if I can get him to fly. Will you fly? Sometimes they have a hard time flying right after having just emerged because their wings are still heavy with moisture.

As we make our way down canyon, you'll see evidence of erosion where the lava layers have collapsed into talus slopes. And what the talus slopes, or the jumbles of the basalt rock, what that tells us is of the erosive action of the falls themselves retreating further and further upstream. At one point, a while ago in geologic time, the face of the falls is where we are standing. But because of the constant action of the water coming over the falls, it's pushed the boulders over, eroded the layer beneath the lava flow, creating the talus slope.

On this talus slope is a great example of a variety of moss, lichen, and ferns similar to what you would find on the face of the falls.

Along this section of the Falls Loop Trail we're under a canopy of vine maple. It's real easy to distinguish because of the five sections of its leaves. It's a beautiful, nice, shady canopy all along this section of the canyon.

In the tree just above the trail is the osprey, or fish hawk. They'll hunt on the wing for the native rainbow trout that you can find all along Lower Burney Creek as well as the plunge pool at the base of the falls. The osprey will nest in wide, spread-y nests at the very tops of snags or trees with dead tops to them. You can even find them on power line towers throughout the area. All an osprey, or fish hawk, will eat are fish.

This is Rainbow Bridge. This is where it crosses Lower Burney Creek, and then we'll be taking switchbacks up the other side of the canyon to continue with the Falls Loop Trail. Should you continue to follow Burney Creek little over half a mile, you'll make it down to Lake Britton, which was created by the damming of the Pitt River just downstream from where Burney Creek converges with the Pitt River. So we'll continue from Rainbow Bridge back up the other side of Burney Canyon.

Now that we're on the opposite side of Burney Creek, we'll be pointing out several other shade-tolerant shrubs and trees that make up the forest floor and canopy. One of them is the wild rose. It grows really well along the trail. Soon it will bud out into pale pink rosebuds. Carpeting the forest floor in the shade along Burney Creek is miner's lettuce. And what's interesting to note along this hike is the canyon side that we're on now is the shady side of the canyon. And what I've noticed is the miner's lettuce on this side of the canyon the flowers are blooming where as they're not 30 yards away on the other side of the canyon.

As I pointed out earlier on the opposite side of the canyon, we walked under a canopy of vine maple. This side of the trail we can find dogwood. It will bloom a pale white, maybe even a pale pink, in the spring and add to the shade and canopy that we walk under as we continue up the trail.

What I have for you is the adult form of a giant stonefly, and I know that he's just emerged from

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Burney Creek, where the giant stonefly as well as other stoneflies, mayflies, caddis flies spend there larval phase living in the creek and they're a prime, or a major, food source for the trout. And how I know that he's just emerged is, one way I can tell is, his coloring is so vibrant.

Where we are now is right at the level of the falls, 129 feet above the plunge pool and about across from where we started our hike. What's interesting to note is from this vantage point we have a real good view of the falls coming from Upper Burney Creek over the top. What you cannot see that's interesting is through the next lava layer below us, we're standing above springs that are coming out from the canyon wall just below us.

Beginning to bloom along the hillside is scarlet fritillary. Along this canyon wall is the only place that I've seen the fritillary bloom at McArthur-Burney Falls Memorial State Park. As we continue up the last switchback up out of the canyon, it's interesting to notice that we're going to be leaving the influence of Burney Creek and noticing for the most part the vegetation changing. We're leaving the shaded under canopy of the Doug fir and moving up into a forest that's predominately ponderosa pine mixed with white oak.

Up above the canyon what makes up the ground cover on the forest floor is a sun-tolerant, drought-tolerant groundcover called mountain misery. And in the early spring it will bloom a bright yellow flower. And in the summertime as it begins to dry out, it has a real distinctive smell that you notice as you walk along the trail.

From the trail we'll be able to see several different tree species found in the park. One of them is the incense cedar. And how you distinguish the cedar from the other tree species is that it will have scales as opposed to true needles, and the scales will be a lighter green, as opposed to the darker green of the ponderosa.

McArthur-Burney Falls Memorial State Park is located in the southern Cascade Range. And this area is home to a healthy population of deer. They're pretty prevalent and easy to spot in the early evenings or just after sunrise in various places throughout the park.

Now that we're up above Burney Falls, we're along a section of Burney Creek. It's a great place for fishing. During fishing season, Fish and Game will plant different species of trout--rainbow trout, brook trout, and brown trout--anywhere along this section of creek from here up about half a mile to headwaters.

Well, another predominant plant found throughout the region is manzanita. The reason why it does so well in this area it's a fire-resistant, drought-resistant, and sun-resistant plant. An easy way to distinguish manzanita is its smooth, brownish-red bark, its flat, oval-shaped leaves that are usually a little bit lighter color on one side, the flowers, which then give way to the little apple fruit. Hence the name "manzanita."

A predominant tree species found in the park that does well in the dry open forest is the ponderosa pine. It is the predominant lumber tree species in the region. It has a bark that people refer to when it flakes off as looking like jigsaw puzzle pieces. The bark can have a yellow or reddish tint to it, and the needles grow in bunches of three. And this is the cone of the ponderosa. How you can distinguish the cone of the ponderosa pine is folks refer to it as the prickly ponderosa, because if you pick it up and rub it in your hands, it has sharp little

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prickles on the ends of the cone's brackets. And you can feel why they refer to it as the prickly ponderosa.

This is where the trail will be taking us, across Fisherman's Bridge, just to the last few hundred yards of the Falls Loop Trail. As we go across Fisherman's Bridge, take a look upstream. See if we see folks fishing. It's a great place to come fishing--end of April through the beginning of the fall. Also take a look in the riffles and see if we can catch a glimpse of some of the trout.

Well, because we've had such a wet spring the creek, is running at a high level. You'll see places throughout the creek, on the lava rock, bunch grass is growing. They'll stay year-round throughout the year, and as the level of the creek goes down, more and more of the bunches will emerge.

Another example of incense cedar, one that's had a chance to grow for a while, is straight across from the trail. It's a nice example of a grown incense cedar and another way to compare its scale-like leaves to the needles of ponderosas that you see in the background.

Toward the end of the Falls Loop Trail is a nice place to stop and get a beautiful view looking down the canyon below Burney Falls as well as another aspect of the top of the falls themselves. Because it's at the end of the Falls Loop Trail, it's easily accessible from the developed side of the park--either the falls parking lot or the Fishermen's Bridge parking lot.

Well we've made it to the end of the Falls Loop Trail, back at the entrance, just up above the parking lot for the Falls Trail. One last view of the falls. I'd like to thank you for joining me on our walk today. I hope you've enjoyed the walk and really gotten an idea of why the falls are not only beautiful yet significant to the area and to the plants and animals that are dependant upon the falls for their constant water source and the shade that the canyon provides for them do so well in an area that, if you look around, for the most part can be sunny, hot, and dry for more than half of the year. So thanks again. I just thought I'd mention that the park is open year round and the falls are accessible from the parking lot year round. Thank you.

Running Time: 27:30

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