



California State Parks

Video Transcript



The South Nature Trail at Indian Grinding Rock State Historic Park

Hi, my name is Michelle Hofmann. I'm the State Park Interpreter here. I'd like to welcome you all to Chaw'se, or Indian Grinding Rock, State Historic Park. Behind us is the park's namesake. This is the grinding rock where a variety of different plant foods were processed for many generations by the Miwok people. Acorn was probably one of the most heavily used plants in this area. What we're going to do today is we're going to take a hike on the south trail, and we're going to look at a lot of different plants that were used by the Miwok in this big outdoor kitchen that you see here. And, today, we're going to discover, as the native people knew for many, many generations, is that every plant has a gift if you learn to unlock its power. So we're going to look at many of the "gifts" that the Sierra foothill region provided the native people in this area. We're also going to talk about how this practice of securing and preparing foods and medicines evolved over time—there's a lot of trial and error that went into that. We're also going to see why having a diversity of plants was so important to the Miwok, but also important to us today.

Now the first plant that we're going to look at did offer gifts of food and medicine, but it also had a very special gift for the Miwok, and it was called the "tree of music." So we're going to go look at the gift of music for the Miwok. As I said, the Miwok referred to this as the tree of music. This is the elderberry. Now you see that it's flowering right now. In the fall there will be juicy, dark, purplish-blue berries on there, and those were in fact edible, taste very good, very high in vitamin C. They would also use the bark and the leaves and brew that into a tea, which would be used medicinally to cure or to help alleviate colds or flu-like symptoms. Anytime you're sick you could use the elderberry to help build up your immune system.

But the most valued use of this tree probably would be that of the music that it provides. This is called a clapper stick. Are either of you musicians? Well, okay, does one of you want to try and learn how to play the clapper stick? Okay, it's pretty easy, Roger. You're just going to take it and hit it against your hand or you can shake it in the air, just letting your wrist shake. So why don't you try that. There you go, you got it. Now the reason the clapper stick was made from the elderberry, is because if you were to cut one of the branches off of this tree and then shave off all the outside, what you would find is that the inside of this plant, or the pith, is very soft. You can push on it with your fingernail and make a little dent, you can dig it right out with a stick. So what they would do is cut it off, slice down about two-thirds of the way down, and then dig all that inside out, and then you were able to make your clapper stick. So what other musical instruments do you think they would make from the elderberry? A flute, exactly. Any sort of hollow type of musical instrument—flute or clapper stick. They didn't have bamboo. They had some kinds of reeds, but the elderberry worked very well to make these

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kinds of things. So we've seen that this one plant, of course, has more than just the one use. It was used as a food, a medicine, and a musical instrument.

Another category of uses by the different plants in this area was for tools and then also shelter. So at our next couple stops we're going to look at some of the different plants and how they were processed and used as tools, and to provide places for the Miwok to live. Were there any questions about the elderberry before we move on? Okay, let's go to our next stop.

Okay, see anything here that could be used as a tool? Kind of a tricky one. It's a plant. How about this tall plant right here with the long stalk? Does anyone know what that plant is? This is milkweed, and if you've ever seen the sap of that plant, it's that milky white, that's why it has that name milkweed. Well, the native people used the sap from that plant, mixed it in with some deer fat or salmon fat and made chewing gum. Sounds good, huh? They would also use that sap and apply it to their skin to heal ringworm, warts and stuff like that. But this was a very, very important tool. And what they would do is they would wait until it had dried out in the late fall, and then if you crack the stalk open, you see all those fibers that are peeling away from that? Well, you would have to remove the outside bark and then take all those fibers out, if you took all of those and just rolled them into a twine- have you ever seen string being made before? Boy Scouts or anything like that? If you rolled that into a twine, you would have a really strong material to make rope and other kinds of fibers. See, I can't pull that apart, just what I've twined right there—so that's really strong. Now this was how the Miwok tied their world together. They didn't have nuts and bolts and anything else to hold things together, so it was all tied together with fibers, and milkweed was very important for that. They also used dogbane and sinew, which comes from the tendons of the deer, but milkweed of course was very important.

There are a couple more plants that I'd like to point out at this stop. One is this flower right here called brodiaea, and this flower was mostly used as a food. They would dig up the bulb of this plant, and that's where we would get Indian potatoes. That was their potato. Interestingly enough, they say that the California Indians were not cultivators—they didn't plant things. We've actually learned that they would replant the smaller bulbs of the brodiaea on hillsides, and the next year when you came back, you would have many more of those. So there was a little bit of cultivating and manipulating their plant resources when we previously thought they didn't do any of that. So brodiaea is important to note because of that.

This shrub right here that you see growing up there, that's coffee berry, and that tree would be brewed into a tea, with the leaves and the bark, that was used as a laxative and to treat intestinal problems. So, lots of different medicines from the different plants that we find out here. When we move on to our next stop, we're going to talk about another element that the plants provide for us and that is shelter. So we'll look at our U'machas, our bark houses up there, and talk about that.

We're actually going to go inside the U'macha and talk about all the different plants that went into making a structure like this. The U'macha is a Miwok word that roughly translates to "bark house." You can see that this entire structure is made from bark and the poles of trees. Now this differs from a teepee in that a teepee is covered with the skins of animals and is something that you could transport while the Indians of the plains would follow the herds around while they were hunting. Well, the Miwok had everything that they needed right here, so they had

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more permanent structures made out of incense cedar bark, and the poles here are also made from the incense cedar. Now incense cedar is where you get pencils from—if you've ever smelled that pencil smell, that's incense cedar. Well, insects don't really like that smell, so not only did this work as a good shelter to keep out the elements, but it also kept out insect pests because of the fragrance of the wood. What's holding this structure together are these vines that you see right here, and these are wild grape vines. A willow could also be used if that was the resource you had in a certain area. But the wild grape vines worked great to sort of weave the entire structure together. So that's two plants that were used to build the outside of the structure.

Now to keep this place warm and cozy, there were a couple of other different plants that they would use. The floor of this house, if you were living in here, would be covered with about one or two feet of pine needles and then hides would be placed on top of that so you'd have a nice soft warm bed. In the center there would be a fire pit dug out for cooking and also for warmth. Now the type of wood that the Miwok would use for cooking fires were hardwoods, oak and madrone. So oak was a very important tree to them, not just because it was a good, long burning wood that would keep their houses heated and their cooking fires going for a long time, but the oak was also one of the most important species that they had as far as food resources, medicines, and basket materials. At our next stop we're going to look at a beautiful specimen of valley oak that we find here at the park and talk about all those other different uses that the oak trees provided the California Indian.

VISITOR: Did they live here year round?

HOFMANN: We believe yes, pretty much so. They may have migrated a little bit up into the mountains in the summertime to follow the deer and harvest the later blooming plants up there and then down into the valley in the winter to get salmon and tule, but they pretty much had everything they needed right here so they could reside here year round.

This is probably our largest valley oak that we have in the park. Any ideas how old this tree might be?

VISITOR: 300 years?

HOFMANN: That's a really good guess. It can be anywhere between 300 and 500 years. They sometimes live to be 600 years old, so we don't really know how old this tree is, but it's been here a long time. It's seen a lot of history here at this park. You see I have two different types of acorn here—the long skinny one is from the valley oak, the tree that we're standing under right now; the shorter rounder one is from the black oak. Both were used, in fact ten different types of oak throughout California were used for food, and we'll talk later about why that diversity was so important. But here in this area the preferred oak was the black oak acorn. It has a harder shell, and it stores a lot better. This shell is very soft, you're not going to be able to store your valley oak for very long. This could store for up to ten years, of course they would eat it before that happened, but if you needed to, you could store the black oak for a very long time. It also made a very sweet tasting acorn soup and mush compared to all of the other varieties of oak that they could eat. Now the black oak was an excellent trade item because it grew in this area and didn't grow all over California, but it was also the favored acorn by other native groups, too, so they had a really hot trade item here with the black oaks.

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Once we move down into the forest, which is where we're going to be heading next, we'll see a completely different variety of plants and those were also utilized by the Miwok. They knew they were going to find different things when they went down into the forest and by the creek. So at our next stop we're going to look at some of those water-loving plants and talk about how they were important for medicinal and other uses, too.

Okay, here are all of our water-loving plants growing right along the creek, or riparian zone. You have a diversity of plants down here, so many different uses by the Miwok and the other native people. This beautiful little flower right here, anyone know what that one is? It's called columbine, and columbine had a pretty interesting use. They would take the seed of this flower, mash it up, and rub it into their hair to discourage lice. So when we talk about evolution of plants, how did they figure that out? Well, Indian women, it was known that they would in the springtime decorate their hair with flowers, all different kinds of flowers. So, who knows, maybe somewhere along the line they figured out that this columbine would get rid of lice, so that's what that plant was used for.

This giant chain fern is also called *Woodwardia*. Now this one was really neat, a neat plant used in basket materials. What was so special about the *Woodwardia* is that if you took off all of the leaves here and just took the long skinny base of it, you split that open, on the inside would be two long perfectly-sized fibers, two in each one. They needed no further stripping or processing, they were ready to weave into their baskets. Of course, often times they would dye them using the bark of the alder and we have an alder growing right here out of the creek and that would dye these yellow, long fibers into more of an orange-rust color, and that's where they would get that color for their baskets. So very important as a basket plant.

There's a plant that was used by the men quite frequently here and that's the horsetail, and we have some horsetail right here. This is a very old plant. Horsetail has been around since the dinosaurs. What's interesting about this plant is that if you crush the stem, you hear it kind of cracking inside of there—you can feel it when you crush it. This plant is very high in silica. So what the Indians would do is they would take the horsetail and process it and dry it out, and that high silica content made it a very excellent sandpaper. So they used this to polish their arrows and any other kind of wood that needed polishing—from the horsetail. So lots of different plants with lots of different uses here.

We're going to go look at this hazelnut that's growing right over the bridge, so you can stop and feel the leaf of this plant. It's got a very soft, fuzzy leaf. Hazelnut does produce a little nut that is edible, although it wasn't very common. It would be more of a back-up food source. This plant was primarily used to weave baskets.

We'll talk about that plant and how a plant can help them catch a deer when we get to our next stop.

Well, what most native people did, in California anyway, was they did a lot of fasting, sweat ceremonies, purification ceremonies, before they would go out on a hunt. Now when they were fasting, they wouldn't eat any kind of meat. They might eat a little bit of acorn soup and they would also eat the fiddleheads, which are the very young fronds in the spring before they've uncurled, and they look kind of like a fiddlehead. What they would do is they would

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take those and eat those because that was one of the deer's favorite food. The idea was that by eating that plant that the deer was eating, they were not only masking their human scent but becoming more like the deer by eating his food. And that way they were able to get in closer to the animals when they finally went out to hunt. So fiddleheads were very important for that. Now the root of this plant, too, of the bracken fern, was also used in making baskets. A lot of the plants that we have here were used for making baskets. They would dig that up and process those for that kind of thing.

The next plant I want to talk about, talks about how medicine is a practice. Even today our doctors practice medicine—doesn't mean they're perfect at it—they practice it. So there's a lot of trial and error involved with that. And the next plant we're going to look at is an interesting plant to note when you talk about evolution of medicine because it was used by the Miwok to treat a new disease that was brought in by the newcomers to this area. So let's go take a look at that one.

This little plant right here is called mountain misery, and the Miwok word for it is kit-kit-dizze, and this plant was used to treat smallpox. Smallpox was something that didn't come along until the settlers starting moving into this area. That shows you how they would have to come up with new medicines, try new things, for new diseases just like our doctors do today. In fact, had the Europeans known more about the plants in this area they probably could have saved themselves from a couple of ailments that were afflicting them. The next stop we're going to look at several different plants that could have been used in the treatment of scurvy, and had those settlers only knew that, they may have been able to save some lives back then.

Okay, this first tree that we're going to look at is called a Douglas fir. If you notice the fresh green growth on here, what the Miwok would do is take this and brew it from the green leaves into a coffee-type drink, so it had a stimulating effect. But what would have benefited the pioneers to know is that this plant is also very high in vitamin C. In fact, we also have our manzanita right up here, also high in vitamin C. When the berries come out on this plant, the Miwok would mash them and strain them through water and it would make a drink that tastes kind of like Kool-Aid—so a very refreshing summer drink, very high in vitamin C. Behind us if you look at that tall tree growing right there with the very handsome, plate-y like bark, that's ponderosa pine. You could also chew on those fresh green needles and get your vitamin C from that.

So when we move on to our next stop, I want to talk about our dependence on a few plants. If you think globally, worldwide, there are ten plants standing between humanity and starvation. We have narrowed the kinds of plants that we grow—instead of having a diverse number, we've got about ten plants worldwide that if anything were to happen to one of those plants, there would be mass starvation in that area of the world. It's called mono-cropping, and we've been doing a lot of that. Instead of having a diverse resource of plant foods to eat, we've made ourselves real dependent on these plants. So I want you to think about it, if you can come up with what those ten plants might be worldwide that stand between humanity and starvation.

Okay, this is a beautiful little spot to stop and take a rest under the madrone and talk about those ten plants. So let's go over those ten plants again—we had wheat, barley, oats, rye, potatoes, rice, corn, millet, soy, and sorghum. That's ten of them. So if anything were to

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happen to any one of those crops that we've been mono-cropping, we would have mass starvation. It teaches us that it's important for us to have diversity and hopefully we will realize that before something so serious as mass starvation happens.

Just in this area right here the Miwok knew of other plants that could be eaten if something were to happen to one of their oaks growing all around here. But this California holly, you could also eat the berries on this plant. You think, when you see them, "bright red, poisonous," but actually a lot of things are edible if you know the right way to process it. And so if these were just cooked for a really long time, these berries could be edible. Same with this beautiful madrone that we see standing behind us—you could eat the berries from this tree with the proper preparation. You could eat them raw, but you'd get a stomachache if you ate too many of them.

So as we move on down to our next stop I want you to just look at all the different plants. You see many that we talked about and many that we didn't even have time to talk about. But all of these plants provided gifts for the Miwok. Then we're going to stop and look at one plant in particular because it's real interesting. It shows many different gifts that one plant can provide. And so we'll just look at that one before we wrap up our talk at the roundhouse.

Okay, this plant right here with the long, wavy leaves, you see different patches of it, it grows a lot better out in the sun, but we can at least look at it right here in the shade. This is called soap plant. So, from the name alone, what do you think it might have been used for? Yeah, as soap, washing and cleaning. What they would do is they would dig up the bulb of this plant, and here's a pretty dried out specimen that you see. It's got all these thick fibers here, but if you pulled all these fibers away, you would be left with a big, juicy bulb that the leaves peel away kind of like an artichoke. If you mashed up that bulb it would produce a very rich lather that you could use as soap for washing your body. You could also shampoo your hair with it. The early settlers washed their finer clothing in it because it's non-alkaline. The Miwok could also take that same bulb mashed up, spread it in an area of the creek, and it would clog the gills of the fish. So this plant illustrates many different uses you can get from one plant if you know what you're doing like the California Indians did. So we have soap, we have shampoo, we have a fish poison.

They did play a game similar to soccer, so they would stuff the ball with these fibers and wrap it with deer hide. These fibers could also be used to make this soap root brush that you see right here. You can see the resemblance here between the two fibers, but what is also interesting is that the handle of this brush is also made from the soap plant. If you took that same bulb that made glue, and you boiled it for a really long time it would turn all gooey and sticky and that was Indian glue. And so they would paint the handle, the fibers, they would paint it with several different coats, letting it dry in between, and then you would get this nice hard handle made out of the glue from that plant.

You could bake the bulb and eat it. So it was also edible. These leaves, in the springtime, the fresh shoots, could also be eaten raw. The longer leaves that we see now would be used to wrap around acorn cakes before you were baking them. It had a medicinal use. Right there you can see many different uses from one plant. So not only is it important to have a diversity of different plants, but for the Miwok and other California Indians it was important to know the diversity of uses for just one plant.

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As we move on we're going to stop at the roundhouse. We can't have a program here at Chaw'se without talking about the roundhouse because that is the place where the Miwok would show their appreciation and give thanks to all of these many gifts that the earth provided them. Why don't we go ahead and stop in the shade and talk about the roundhouse. Now the reason why we're not going to go in the roundhouse today is because this building serves the same function as we might use a church, temple, or synagogue. To the Miwok this is their house of worship, and they have certain rules that you need to follow. One of those rules is that no pictures or video cameras are allowed inside the roundhouse. But this is the place, like I said, where they would be giving thanks to all the plants and the animals for everything that they had given them.

So on today's tour we learned many of the different uses, both medicinal, food-wise. We've learned how they used the different plants for shelter, tools, all different kinds of things. So we learned many different gifts that the plants in the foothill region provide the Miwok people. We also learned that this is sort of an evolving science. Just as we practice medicine today, they were constantly practicing the art of securing these foods and medicines, and that diversity was extremely important with that, not just diversity of the plants themselves but diversity of uses that the plants would provide. One plant had many gifts to offer the people. Often there wasn't just one gift from one plant. But, most importantly, we did learn that every plant has a gift if you learn to unlock its power. And I hoped you enjoyed your visit today at Chaw'se. I hope this inspires you to continue to learn and to want to come back and visit our special park. Thank you very much.

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