Hello! I'm Bert, the Abert Squirrel- I am going to be your guide today along the Pinegrove Interpretation Trail. This trail will be about a mile long with uneven terrain. Please come prepared with your outdoor gear, water, and snacks.

You are within the world's largest Ponderosa Pine Forest, which I am lucky enough to call home! These Ponderosa Pine trees can be identified by their towering height, pine needles in groups of three, and dark bark that yellows with age. Ponderosas can live 300-600 years! This stretch of forest you are in is young due to logging in the 70's. Despite the continuity of this landscape, you might be surprised by how we identify a healthy Ponderosa Forest as you move along the trail. Head to stop # 2 to see what I mean.

Stop #2:

Meadows, such as this one in front of you, are an important part of a healthy Ponderosa Forest. Open spaces add ecological diversity to the landscape. Close your eyes and listen to the sounds of the meadow. Meadows attract a variety of prey animals, from the tiny insects you might be hearing, to impressively quiet large elk. The open canopy provides space for birds to hunt for small rodents. This meadow holds space to naturally help support the forest ecosystem. Sometimes, helping the ecosystem can require a more active role- head to stop #3 to witness human management of our Ponderosa Forest.

Stop #3:

Part of a land management technique in fire prone environments such as this, is to aid the forest in creating open spaces like the meadow we were just in. As you can see some of the trees in this area have been recently felled by the Forest Service. Historically fires would run through this landscape every 3-5 years removing brush and young trees to create open spaces and balance the resources naturally, but in our changing climate it's become necessary to fell trees towards the same affect. Ponderosas have adapted to living in harmony with fire. Get up close and check out the thick bark of this downed tree. The bark is fire resistant to help protect healthier ponderosas from low heat wildfires. While the life cycle of the felled tree in front of you looks as if it has ended, it's contribution to the forest is far from over.

Dead trees play an important role in a healthy Ponderosa Pine Forest. These trees provide habitat for insects, small mammals (like me!), and a variety of bird species. As they decompose nutrients enrich the soil creating healthy conditions for growing plants. These downed trees also continue the work of clearing space and make way for young trees. Having ponderosa coexisting at diverse ages keeps the ecosystem balanced. While you walk to our next stop, see if you can spot the difference between an older tree and the many younger trees here.

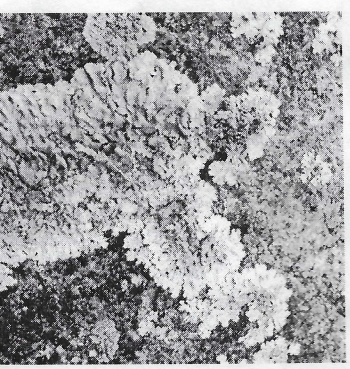
Stop #5:

Did you see any older trees on your way here? Take a moment and look around. Apply the knowledge you have gained so far. What do you see at this stop that contributes to a healthy forest? Is there anything that you see that could indicate this section of forest is unhealthy? What strategies have we discussed that could improve the health of this patch of the forest? As you walk to the next stop, think about other signs of a healthy ecosystem outside of the Ponderosas themselves.

Stop #6:

This path that is intersecting with the trail here was created by the residents of the forest like myself. Animals use game trails to travel for resources such as water, protection from predators, and surviving the changing conditions. Take a moment to look around and find evidence of wildlife. Do you see any wildlife? Any scat or tracks? Beyond the game trail you may have notice another wider path that was created by humans. This is a dozer line that was put into place to help contain the Newman Fire in 2019 while also utilizing this wildfire to help restore forest health. There are so many stories in the forest!

Stop #7:



Everything you have seen so far has contributed to the forest ecosystem, from the largest tree to the smaliest plants. On the rocks in front of you is another storyteller, my good friend-Lichen. This plant like growth is a result of a symbiotic relationship between algae and fungus, and they tell us about the health of the forest. Lichen is a very sensitive guy. If there's a lot of pollution, they let us know through strange color changes, a decline in survival, or an unusual uptick in growth. Lichen holds onto pollutants that scientist can then detect. This kind of role warning system is especially helpful in such a young forest. Head to our next stop to check out a mature Ponderosa.

This is one of our oldest trees in my neighborhood! You can tell because of the size, and also because it is what we call a yellow belly. In addition to color change, mature ponderosa's have a much stronger and very distinct scent than younger trees. Go up and smell this tree! What do you think it smells like? Many folks say things like vanilla, butterscotch, or even cinnamon, to me it smells like home! Part of the reason you see age diversity in a healthy Ponderosa Forest is because they work together as a community. Trees can send resources to each other, like food, through the fungi filaments in the underwater world of their roots. 15-20 trees per acre is ideal for resource allocation and cooperation. Despite the ways Ponderosas support each other, sometimes outside forces can interfere in the heath of a tree. As you walk to our next stop, hypothesize on what other natural factors could impact the health of a tree.

Stop # 9

Lightning! You see the scar on that tree you just passed? This tree was struck by lightning- and lived to tell the tale. You may also note a bustling ant city at the base of the tree and crawling up the scar-don't get to close! Trees like this that have open wounds are very susceptible to becoming insect havens. The sap provides these ants with nutrients for their queen and larvae. Trees that are sick are also prime targets. While this is an important part of the insects function in the ecosystem, other imbalances can create a larger problem. For example- if you've been out west for a bit you may have heard of the infamous bark beetle. Did you know, in many cases this bark beetle is not invasive? They are actually needed! But, due to climate change, their numbers are out of control, and that's when they become a problem. Talk about an infestation! Luckily, we are not looking at that kind of situation right now. Somehow this tree survived- head to our final stop to conclude out story of resilience.

Stop # 10

Before you is my home. Snags, or standing dead or dying trees, are one of the most important types of trees in the forest. They house creatures such as myself, and many birds. There is room for me to store food and raise the kiddos. Do you see my noisy neighbor- the woodpecker! He makes very helpful openings for critters that don't build our own dens, but that guy works all hours of the day. That said, he is an important part of keeping this forest well balanced and in harmony- and so are you! As you finish up your hike and head back to your homes, keep mine in mind. How can you help keep the forest happy? Thanks for visiting and have fun out there!