Ohiopyle Geology Walking Tour: The Formation of Ferncliff

Birth of the Peninsula

Begin at Ohiopyle Falls

Ohiopyle Falls is made of Homewood Sandstone. It is this rock layer that makes the Ferncliff Peninsula. Here at the falls it is resisting the downcutting power of the river. We can see the Ferncliff Peninsula that has formed directly across the river from us. It is essentially a large tongue of Homewood Sandstone that the river is forced to go around. It wasn't always this way. Believe it or not, Meadow Run used to flow past this point flowing in the opposite direction of the river. It dumped into the Youghiogheny close to where the low bridge is now. On this walking tour we will explore how we know that the river has a different path today than it did in the past. The Ferncliff story is literally anchored in the Homewood sandstone. Along the way we will look more closely at this rock and uncover the story that it tells.

Walk along the river towards the low bridge. Turn right at the Falls Market. Get on the low bridge at the Train Station. Cross the bridge and take the set of steps that head down to the left.

Stop #6: Ferncliff Fossils

As we walk along the river's edge we are walking along the Homewood sandstone. As the name implies this rock is based on sand. At one point 310 million years ago, this area was a low lying coastal plain located near the equator. This area was covered with swamps and lakes and drained by stream channels whose banks were covered by large treelike plants. These plants fell and left their imprint in the sandy bottom. Overtime these imprints have turned to stone, along with the sandy swamp bottom while the North American continent migrated to its current location. We now see them as trace fossils along our path. These fossils are found throughout this rock layer and are quite easy to find. Watch as you walk along the shore here and see the remnants of an ancient ecosystem. Continue along the shore line until you pass the main Falls.

After you pass the Falls bear right along the tree line and you will see a path. Continue along the trail past the fences until you reach a clearing on top of a large rock.

Stop#7: Lover's Leap

As we stand a top Lover's leap we can see the river flowing below us. Believe it or not you are still standing on Homewood Sandstone. This is the same rock layer that makes up the falls. Here we are standing at the top of the Homewood layer. In some places this rock layer can be up to 80 feet thick but more commonly it is between 40-60 feet in thickness. Geologists believe that the river was once flowing up on top of this peninsula. How do we know this? Our next stops will help to support our theory.

Turn around and follow the middle trail behind you. Take it up to the top of the hill.

Stop #8: Long Run

Take a look at this rounded-Long Run conglomerate boulder with large oval pebbles that look kind of like squished white jelly beans. Nothing too flashy about it, but it is the "smoking gun" to support our theory. This rock does not outcrop, or come to the surface, on Ferncliff. In fact, it doesn't outcrop in the Meadow Run or Cucumber Run drainages either.

Stop #8: Continued

If you travel upstream in the Yough River Valley towards the town of Confluence you will find a small run, or stream, that is called Long Run. This is the area where the conglomerate comes from and gets its name. So how on earth did it get to this spot on top of Ferncliff? One possible answer is that the mighty Youghiogheny River brought it here. At some point these rocks fell into Long Run and the Youghiogheny River. They were carried by the power of fast moving water until the river slowed down enough to drop them here. Obviously, we are currently standing quite high above the present day river level. A logical explanation is that at some point the river was flowing through here.

Turn right at the trail intersection up ahead and continue on this trail for roughly a quarter of a mile. You will reach a trail intersection where you can see the bike trail ahead of you and a three sided sign. Head in that direction. Just before you the bike trail look for a marker on your right.

Stop #9: River Rocks

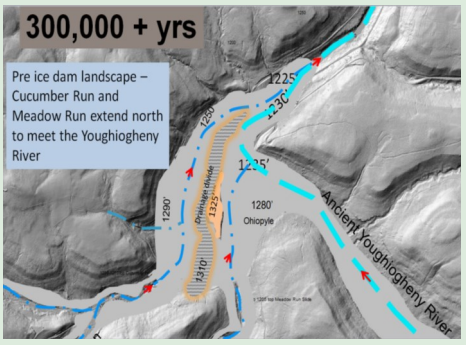
If you look here you will see rounded Carmichael sandstone boulders. How did these large stones get to be so rounded? They were once in the river. As you walk along the bike path you are tracing the original path of the river, before the formation of the Peninsula. Here at the neck of the Peninsula the river used to flow across instead of around. While we walk along the old railroad bed (bike trail) we can see how much lower the landscape was and how much the railroad builders had to fill in to get the trail to its current height. So what caused the formation of the Peninsula?

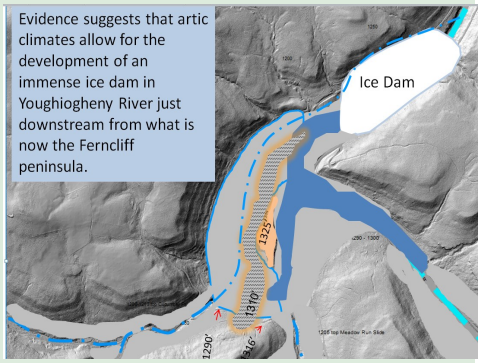
Head to the bike path and turn left until you reach the High Bridge.

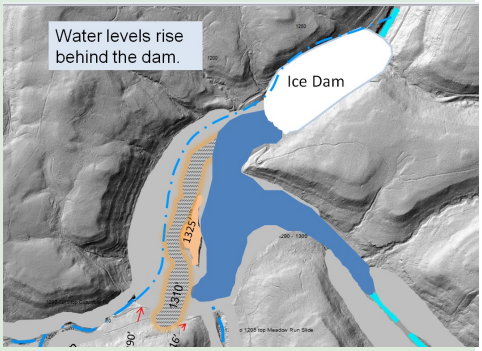
Stop #10: Ice Dam

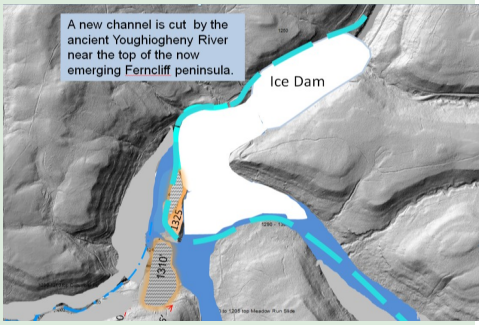
What caused the river to backup and flow over the Ferncliff Peninsula? The River flowed over the neck of the Peninsula until one or more ice dams formed just downstream of the high bridge. This dam caused the river to back up and its channel flowed on top of Ferncliff. Eventually the ice dam melted and in an act of stream piracy, the Youghiogheny captured the lower parts of Meadow Run and Cucumber Run and made them its own creating what we know today as the Ferncliff Peninsula.

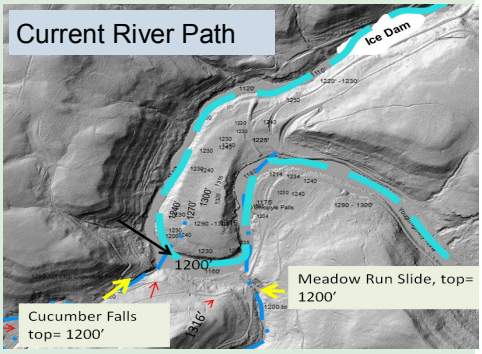
Turn back the way you came, take the bike trail back to the low bridge to return to the VC.











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