

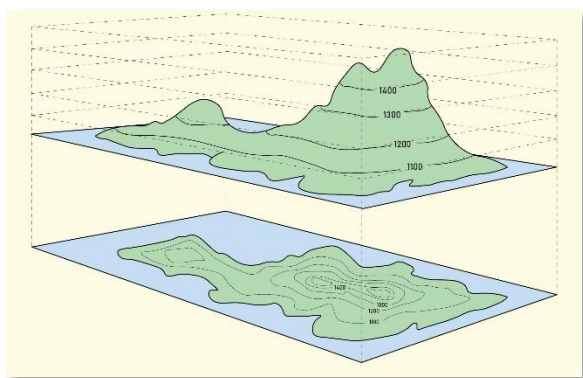
• What is Whiteoak Sinks

The name implies that Whiteoak Sinks is a “*sinkhole*”. But geologically, it is not. There are numerous sinkholes within Whiteoak Sinks, as you will see. But Whiteoak Sinks itself is not a sinkhole. According to geologists, Whiteoak Sinks is a geological feature called a *Karst*, a type of landscape in which the bedrock has been dissolved creating sinkholes, sinking streams, caves, springs, and other geological features.

A Karst is associated with soluble rock types such as limestone. In general, a typical karst landscape forms when much of the water falling on, or flowing over, the surface interacts with and enters the subsurface through cracks, fractures, and holes that have been dissolved into the bedrock. After traveling underground, sometimes for long distances, this water is then discharged from springs, often at cave entrances.

• Geologic Features of Whiteoak Sinks

If you are not familiar with Topographic Maps (Topo Maps) let's spend just a moment on information revealed by “Contour Lines” and “Contour Intervals”. Using the model of a mountain below:



- The “*contour interval*”, the difference in elevation between lines. In this illustration, 100 feet.
- The distance between “Contour lines” drawn on a map shows the rate of elevation change (gain/loss) between point on the map. The greater the separation between contour lines, the gentler the slope.

On the map showing the location of Whiteoak Sinks relative to the immediate surrounding area, the contour interval is 33 feet.

While it is difficult to see on this map, the first contour line to close around Whiteoak Sinks is 1,805 feet. It closes at Waypoint #1 on the map. The point on the Schoolhouse Gap Trail that marks the junction with the trail into Whiteoak Sinks. At this point the Schoolhouse Gap Trail is on a ridge as it crosses Dosey Gap.

Also, of interest (and again difficult to see on this map), is where one of the streams flowing into Whiteoak Sinks begins. It emerges from a spring in Dosey gap, on the west side of the Schoolhouse Gap Trail, and flows to waypoint #4, at which point goes underground. Given the route taken by the stream, it is possibly going back into the same underground water source from which it flowed out as a spring. That may or may not be true but it would be consistent with what could be expected in a Karst.

Back to “contour lines”. By subtracting 33 feet from each successive contour line we reach the lowest elevation in Whiteoak Sinks, 1,641 ft. Now, one more point. There is a fair amount of area contained within the last contour line. That means either, 1) the area is flat, or 2) it continues to slope down, just not 33 feet.

Now that we know the shape of Whiteoak Sinks, let's use the topo map to put it in context with the surrounding mountains. We know that the elevation of Scott Mountain is 3,626 feet (not shown on our map). We also know that the stream that ends at waypoint #5 flows from near the summit of Scott Mountain. Therefore, the floor of Whiteoak Sinks is nearly 2,000 feet below the summit of Scott Mountain.

Going to the other side of Whiteoak Sinks, the elevation of Chestnut Top Mountain is 2,614 feet, nearly 1,000 feet higher than the floor of Whiteoak Sinks.

• What can we see in Whiteoak Sinks?

The Great Smoky Mountains National Park is known for having the most diverse collection of wildflower species in North America. With over 1,600 different flowering plants, no other park comes close. The book, *Wildflowers of the Smokies*, found in all of the visitor centers, covers over 250 species of wildflowers that are found in the national park. A significant number of these are found in Whiteoak Sinks.

There are also a number of cave openings, an impressive waterfall below which the stream disappears into a cave, and the grave of a settler who lived and farmed in Whiteoak Sinks.

Let's first take a look at some of the more common wildflowers:

Columbine



Trout Lilly



Crested Dwarf Iris



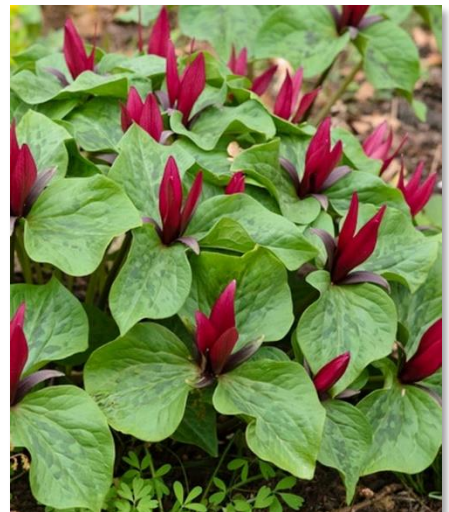
Pink Lady's Slipper



Phlox Covering Forest Floor



Wake Robin



Trout Lily

And so many more...

- **Now, A Bit More Whiteoak Sinks Geology:**

One of the most unique features is found at Waypoint #3, the point at which one of the streams entering Whiteoak Sinks comes in over a waterfall and immediately disappears into the mouth of a cave.



Recalling the geological description of Whiteoak Sinks given above:

"A Karst, a type of landscape in which the bedrock has been dissolved creating sinkholes, sinking streams, caves, springs, and other geological features."

The bedrock, the underlying rock here in the Smokies, is *limestone*. This is the same rock found in the "*limestone window*" that makes up Cades Cove, Tuckaleechee Cove, and Wear Cove.

With that description in mind, let's apply some new terms to the photo below. This is a closeup view of the same waterfall. Near the bottom of the photo, we can see a clear separation, a Fault Line, running from left to right, between the rock above (the metamorphic rock, rock that has undergone change) and the rock below, the limestone bedrock. The sedimentary strata of the rock on top are also at an angle, slopping up from right to left, relative to the rock below. It has been *pushed over* the limestone bedrock beneath. The geologic term is "Over Thrust".

We have four new terms to add to our vocabulary. Terms that describe what God has done in His creation. Know with certainty that man did not create what the picture reveals. Neither is it the result of a series of undirected random events. These terms simply help us examine the clues that God has provided to guide our study, to Glorify Him and to reveal His Power in creation. Quoting the 17th century astronomer Johannes Kepler, to "*thinking God's thoughts after Him*."



Bedrock, Metamorphic Rock, Sedimentary Strata, Fault Line, Over Thrust

We will define what each describes...

- **Human Activity in Whiteoak Sinks**

Abraham Law, 1790 - 1864

I'm not able to find much information about Mr. Abraham Law. What I have found says that he was married to Delilah McCrosky (1786-1860) and they had nine or ten children. Also, Mr. Law did not want to be buried in



Whiteoak Sinks, preferring instead a cemetery in Townsend. However, when he died (his wife had predeceased him by four-years) a recent heavy snowstorm made it impossible to get his body from Whiteoak Sinks to Townsend. So, here he lies.

His grave is marked by the primitive stone in the photo. The stone with his name, date of birth, and date of death were added later by relatives. There is some controversy with respect to both dates, but I will leave that to others.

Finally, I find no record of other residents in Whiteoak Sinks. But, again, I will leave that to others.

Cave Openings

Again, consistent with our understanding of the features of a Karst, we find numerous cave entrances in Whiteoak Sinks. All of the ones that are large enough for humans to enter have been blocked as shown in the photo. There are two reasons for this:



1) Avoiding problems that arise when people who don't know what they are doing go into places where they should not go.

2) More important, to protect bats from a disease that came to this country in the early 2,000's from Asia. The disease is White-Nose Syndrome, and its target is hibernating and nursing bats.

Affected bat species in the park include the tricolored bat, northern long-eared bat, big brown bat, eastern small-footed bat and little brown bats. Bats on the endangered species list that are found in the park are Indiana bats

and gray bats, raising concerns about the impacts on these species already at risk.

- **Check with the park before you go...**

Before you plan a trip to Whiteoak Sinks check with the park to see if the area is open. The size and number of groups wanting to see wildflowers in the spring may be a factor. Bat protection may also be a factor in the winter that would restrict access to certain areas of Whiteoak Sinks.