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"In praise of hunters"

Some hikers tend to be a bit cavalier about sharing the trail with hunters. "They have four months to hunt...so why should we stay off of the trail today?" said a fellow hiker. And he said it on opening day of rifle in PA. Opening day of rifle! I was aghast at his naivete. We don't even have a high-powered rifle season in Delaware; there's simply not enough open land to hunt with rifle safely. So, I quickly explained to my hiking friend that for most firearm hunters, the season is limited to two weeks. Opening day is the hot ticket. We can hike 365 days of the year. Respect that.

Unlike the Appalachian Trail, we do not have a dedicated corridor protected from hunters. Much of the Mason-Dixon Trail is on gamelands and state parks. We consider ourselves fortunate to have access to these properties and we work with the game wardens and state park rangers to keep the trails maintained and safe on public lands. PA law requires that anyone in gamelands must wear 250 square inches

of blaze orange from November 15 to December 15. "Even if you're not a hunter?" a woman hiking at Lum's Pond State Park asked me yesterday. "Especially if you're not a hunter!" I answered. Most of us wear blaze orange October through January as we hike or ride our horses, as do our dogs. Some horses sport blaze orange saddle pads and orange "sissy ears" And yeah, I've been known to top my riding hat with an orange cover. Kinda nerdy, but it helps!

So here's the real point of my message: do you know where your state's wildlife conservation budget gets 80% of it's money? Hunting and fishing licenses and taxes on gear. Yup.

Hunters heavily fund conservation, not the American taxpayer. Wildlife conservation includes protection of endangered species, not just game animal control. The monarch butterfly and the Florida panther benefit from hunting licenses. As do a whole bunch of other beloved American species.

(Continued...)



Trivia time: can you name any of the top ten endangered species? www.ecowatch.com/most-endangered-animals-united-states.html

The crisis now is that the number of folks hunting and fishing has steadily declined in the past few years. A state park ranger lamented to me that youth are not interested in hunting...as sedentary pursuits dominate. In addition, the deer population is being squeezed by development. Add to that the increase in fertility as we "feed" our deer herds with farmers' robust corn crops. Higher energy diets beget higher ovulation rates. As a large animal veterinarian, I can assure you this leads to more twins and triplets. The sheep breeders call this "flushing". Sadly, this all leads to more roadkill. Not to mention rampant crop damage as deer ravage the cornfields. There is hope for wildlife conservation on the horizon. RAWA, the Recovering America's Wildlife Act has passed the House and at this writing is in the Senate. This act would grant a total of \$1.4 billion a year to state budgets to sustain their Wildlife Action Plans. This is the biggest piece of legislation since 1973 when the Endangered Species Act saved the wolves and grizzlies. If you remember this Act, you will be satisfied to know that it was wildly (no pun intended) successful. Of the entire list of species on the brink of extinction, 99% were saved!

I enjoy riding and hiking on public land. I once had an early-afternoon bow hunter politely step out from the brush to present himself as I rode my horse past. He did this so my horse wouldn't see him at the last minute and be startled. I thanked him and announced that there was only myself, my horse and my dog on the trail. A little

courtesy goes a long way. Please enjoy this season of lustrous autumn colors on the trail. But be mindful and respectful of others who enjoy the outdoors in a different endeavor. Hunting schedules are complicated, so take a look before you leap! Here's some help from the PA game commission: www.pgc.pa.gov/HuntTrap/Law/Pages/SeasonsandBagLimits.aspx



Ruthie Franczek, retired and happy DVM

President's Message

Our next fun hike location:

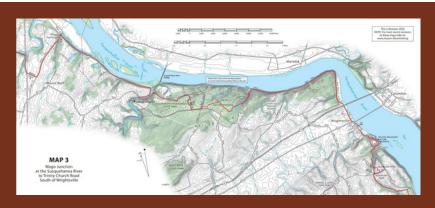
Eastern Terminus

April 17

9am Easter Sunday

Hellam Hills

On your set of maps, check out Map 3...the center of the page. Exciting new trails are happening!



The M-DTS/YHC Thursday work crew together with the Lancaster Conservancy has been working on a relocation in Hellam Hills. The reroute will double the distance in Hellam Hills and include going over Buzzards Roost and along Wildcat Run. There is talk about providing a camp site or lean too at the site of the old water company dam on Wildcat Run.





Thursday Work Crew: Jim McCoy, Jim Hooper, Tim Schmidt, Leo Herbert, Tim Altieri, Bernie Frick

Future lean-to location at the ruins of the old water company dam

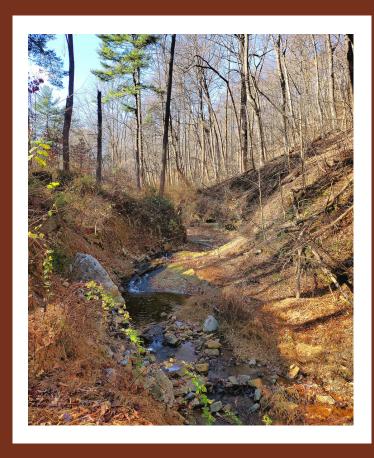
The project was completed on Nov 19. It includes hand built climbs and old woods roads. One climb is from Wildcat Run up to the pipe line, the other is above the downriver side of Buzzards Roost.

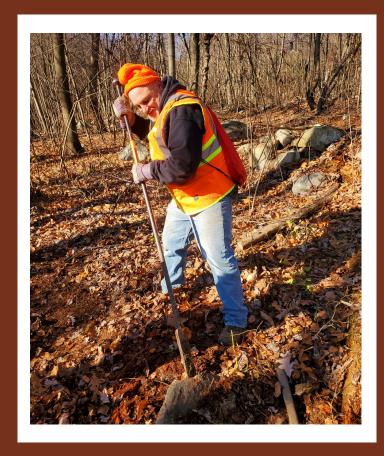
Since the Hellam Hills relocation is finished, the Thursday work crew will start exploration of the new state park, the Susquehanna Riverlands State Park. The objective is to map out a proposed relocation off the road it is now on.

Hellam Hills









Urey Overlook. Maybe you've gotten there the easy way, taking the short stroll from the nearby parking area along Route 425. Or perhaps you worked up a sweat on a long Mason-Dixon Trail hike, climbing up the steep ascent from Otter Creek to reach this high point. Along with the Pinnacle Overlook on the other side of the river, Urey Overlook is one of the more popular scenic vistas in the lower Susquehanna valley. From the vantage of the Urey and Pinnacle Overlooks, a hiker has an excellent view of the river landscape where it flows through the Susquehanna Piedmont Gorge.

The Susquehanna River is regarded as one of the oldest rivers in the world and drains a large portion of Pennsylvania. It flows from branches that reach western New York State and northeastern Pennsylvania to the mouth of the Chesapeake Bay, running next to and cutting through numerous ridges of the Appalachian Mountains along the

way. Between Columbia and the river



mouth, the lower Susquehanna valley narrows and steepens, forming a gorge. Where the river meets the bay at Havre de Grace, its again widens and the fresh river water mixes with the salty water of the wider upper bay. However, though superficially different, the bay itself is really just an extension of the Susquehanna River valley, formed by flooding of the seas into the seaward portion of the valley eroded during the ice ages of the Pleistocene epoch.

The scenery we enjoy from Urey Overlook is one section of a series of bedrock gorges that the mighty Susquehanna eroded through the hard Piedmont rocks of southern Lancaster and York Counties in Pennsylvania and the northern part of neighboring Cecil and Harford Counties in Maryland. The valley is quite narrow in many locations, well under 1 mile wide and more than 500 ft deep from the bottom of the deepest channel cuts to the top of the bordering hillsides. The river has a steep gradient (around 6 ft per mile) where it passes through the Piedmont, dropping more than 200 ft in elevation between Turkey Hill and the mouth of the Chesapeake Bay (1).

Sections of this striking valley have been flooded in the last century by hydroelectric dam reservoirs. However, in areas such as the Holtwood Gorge, just downstream of Lake Aldred and the Holtwood Dam, the natural bottom of the valley can be seen to be made up of deep channel scours and intervening bedrock islands. Mostly unseen beneath the river surface

is a series of deeply eroded channels and holes. The deeps have been described as spoon-shaped excavations that occur along the east side of the river and reach depths of 120 ft or more. The river bottom in this area also has features called potholes, which are distinctive circular holes in the rock of the riverbed that are as much as 20 ft across and range from inches to 30 ft deep (2).

How did the Susquehanna Piedmont Gorge form? In a sense, it has been shaped by the power of fire and ice. The making of these features dates back into the Paleozoic Era, more than 400 million years ago. The Piedmont rocks that hold up Urey Overlook were formed by mountain building processes deep in the earth beneath the Taconic orogeny, ancestor of our modern Appalachian Mountains. These rocks are called schists and were forged deep in the earth by the intense heat and pressure of the earth's tectonic forces, creating the strong resistant rock types we trip over along the Mason-Dixon Trail today.

Eons after these rocks formed, they were uplifted and exposed to weather and erosional forces at the surface of the earth. Evidence is strong for the age of the ancient Susquehanna River to extend back 200 million years to a time when the Atlantic Ocean began to form in a rift where eastern North America and northwest Africa were previously fused (3). Some workers believe it may be even older, perhaps more than 300 million years. Over these hundreds of millions of years, the river may have eroded as much as a thousand feet or more deep into the underlying rocks. Scientists believe that the erosion occurred in several phases. During the first phase, prior to 200 million years or so ago, the oldest forerunner of the Susquehanna may have flowed northward from the ancestral Appalachian Mountains. At perhaps 200 million years ago, it is hypothesized that the river system was captured through a period of rapid erosion of those mountains and began flowing southward toward the embryonic Atlantic Ocean (4). Since that time, scientists have found clues to the history of its flow in analysis of the volume of eroded sediment that was carried to areas along and off the Atlantic coastline. This analysis suggests

that the river eroded its course more quickly between 90 and 65 million years ago, more slowly from 65 to 20 million years ago, and again more vigorously beginning around 20 million years ago (1), with the last phase being especially pronounced in the Susquehanna Piedmont Gorge. Current scientific thought is that the faster erosion of the last 20 million years has been caused by the Susquehanna River responding to slow uplift of the east side of North America and an overall lowering of global sea levels during this time (5). (Continued)



Susquehanna Piedmont Gorge

If it can be said that the Piedmont rocks of the gorge were forged by fiery heat deep in the earth, it can also be said that it was the ice of immense Pleistocene glacial masses that caused their erosion. The Pleistocene ice ages began 2.6 million years ago and ended 14,000 years ago. During the Pleistocene, large, mile-thick glacial ice sheets covered the northern part of North America including northern Pennsylvania – for periods lasting thousands of years. In between these glacial intervals were comparably long interglacial periods of melting and glacial retreat. Dating of ancient river deposits and terraces at Holtwood Gorge suggests that erosion rates were not especially fast from 100,000 to 32,000 years before present, during the last interglacial period of the Pleistocene. However, during the last glacial period from 32,000 to 16,000 years ago, called the Wisconsin Glacial Episode, erosional rates sharply increased and further eroded the Susquehanna gorge (5).

Why did the power of erosion increase at this time? According to scientific analyses of this question, two factors might explain this (5). First, the growth of large continental glaciers removes water from the sea, lowering sea level. Lower sea level increases the elevation difference between river headlands and the sea, which increases the erosive power of the river. Second, piling up a mile-thick sheet of ice on northern Pennsylvania depresses the land under that ice but raises a "bulge" around the margins of the ice sheet. This bulge would have caused uplift of the Piedmont region by several tens



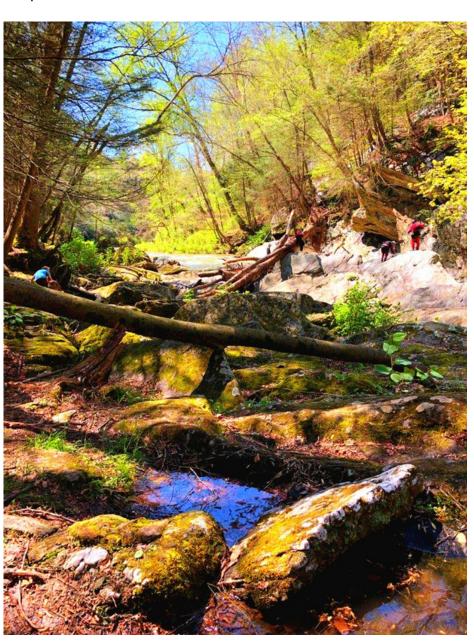
Photo of a "pot hole", courtesy of Mountaineer Michael Houck

of feet, raising the riverbed and causing the river to erode into it more rapidly. This explanation is supported by the occurrence of river gravels of Wisconsin age several tens of feet above river level, evidence of uplift by the bulge during the same time period.

The views from Urey Overlook provides an excellent vantage point to ponder the geological history of the lower Susquehanna valley while taking in the natural beauty. Think of the forces of fire and ice. In a sense, these forces shaped the landscape in front of you. The fiery heat of the earth beneath the Taconic mountains created the hard schists that make up the gorge walls and the rocks outcrops along the trail. The ice that was piled a mile deep to the north beyond the distant Blue Mountain ridge provided the forces needed to carve this steep notch in therocks. The mighty Susquehanna gives us this gorge-ouss ene to enjoy as we trip over the rocks of the Mason-Dixon Trail.

Sources

- Pazzaglia and others, 2006,
 Geological Society of
 America field trip guide.
- 2. Thompson, 1988, Harrisburg Area Geological Society field trip guide.
- 3. Morisawa, 1989, Rivers and Valleys of Pennsylvania, Revisited.
- 4. Sevon, 1986, Pennsylvania Geological Survey report
- 5. Reusser and others, 2004, Science Magazine



This treacherous spot: "The Gorge" along Muddy Run occasionally claims kayakers lives.

Big thanks to a few of the volunteers to maintain trail in the eastern section of the Mason-Dixon Trail

Dave Long: Dave is a Delaware ultramarathoner who has been known to organize beer runs. He battles the grass on his regular trail maintenance trips to power line sections south of Newark.

Jake Landon: Jake is a talented ultramarathon runner from Delaware who is a dedicated MDTS trail maintainer of sections from Elkton to Newark.

Maurice Tippett: Reece is a Marylandbased hiker who has put in a good bit of time keeping up the trail section in Perryville Community Park.

Nick Brock: You might find Nick hiking or you might find Nick running on the M-DT. You are also likely to find him working on it in Cecil County sections behind Whitaker Woods and the Principio Business Park.

Meet the volunteers!



DAVID LONG



JAKE LANDON



REECE TIPPETT



NICK BROCK

Eastern Trail Maintainers!

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