



The Hemlock

Volume 12 Issue 2 (Spring 2019)

“In the spring, at the end of the day, you should smell like dirt.” ~Margaret Atwood

Glorious Spring

The return of warm weather and green colors is always inspiring. In fact, if you're not thrilled by the annual miracle that's going on all around us, you've entered a dark, dark path, my friend. This spring there are lots of events on campus to motivate you to protect and enjoy the natural world.

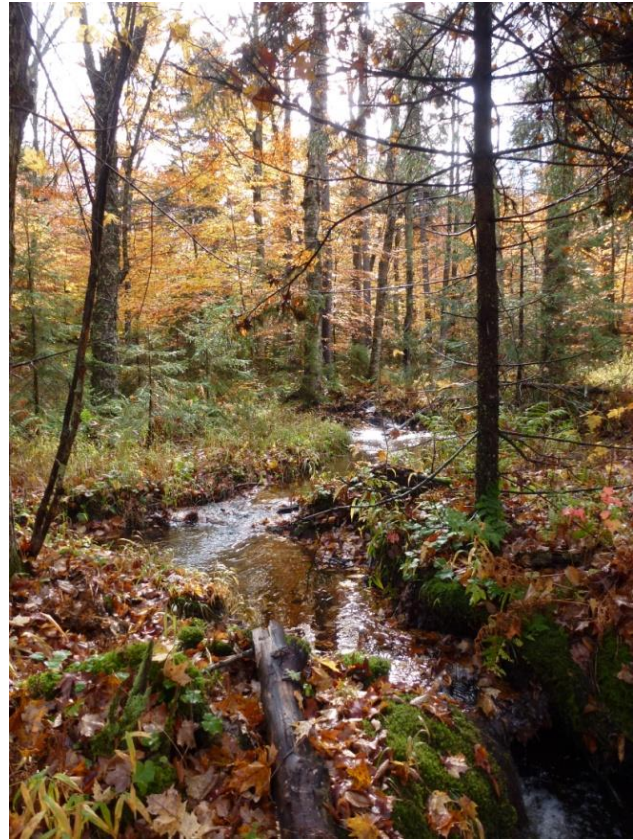
- **Nature and War Panel Discussion** (Monday, April 22, 7-8 pm, Hall of Flags): Dr. Heather Bechtold, Dr. Md. Khalequzzaman, and Dr. Bob Myers will be discussing the impact of war on the environment. This event is part of the Global Honors Program's global theme and is open to the entire university community.
- **Professor Edmund Russell on “War and Nature”**: The talk, which is free and open to the public, will be based on Russell's book, *War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring*. According to Cambridge University Press, “*War and Nature* combines discussion of technology, nature, and warfare to explain the impact of war on nature and vice versa.”
- **Nature Trail Work Day** (Saturday, May 4, 9am-1pm): We will meet in front of Robinson to begin our annual clean-up and work day on the trail. Contact Bob Myers (rmyers3@lockhaven.edu) if you're interested in participating.

In any case, I hope you get out and enjoy the beauty of central Pennsylvania and return with a commitment to protecting that beauty.

Can't See the Stream for the Trees

~Heather Bechtold (LHU Biology Professor)

The expression “you can't see the forest for the trees” is used when someone is too involved in the details of a problem to look at the situation as a whole. I try to remember this as an ecosystem ecologist, that the function of individual processes does not necessarily reflect the function of holistic processes. From the perspective of a stream this is worth noting, especially as we eagerly await the melting of snow and ice, the bright purple crocus poking their tiny faces through the hardened ground and the first waving blooms of daffodils and tulips signaling spring is near. If we look at the trees, we see the arrival of furry catkins on willows, buds enlarging on the branch tips of magnolia and dogwoods, and maples beginning to display a faint color of muted green throughout their canopies. The forests near Lock Haven house massive numbers of trees which are just starting to turn on, bud out, and begin to make a tremendous amount of biomass, and some of those trees are old growth.



Not a welcomed change?

This change in the season, and that tremendous amount of biomass, bring a different set of changes to the streams that flow through our forests. Light is an important source of energy to the stream. Sunlight that reaches the stream fuels growth of algae and plants living in the water. With new leaves forming on trees, light is now blocked from these streams and this then slows algal growth. Algae, yes the green slime on the rocks, conduct an important ecosystem service. Not only do algae provide food for invertebrates like mayflies and produce oxygen for fish, they balance out the nutrient content of the stream. Because algae use nutrients to grow, they remove nutrients. This ecosystem service (nutrient removal) slows in the summer when light is limited and more nutrients flow downstream.

Too much of a good thing, is a bad thing

It was hard for me to think that nutrients were both good and bad. Too many nutrients can cause out of control algal and bacterial blooms that deplete oxygen, and ruin habitat for fish and other organisms. On the flipside, not having enough nutrients causes problems too. Nutrient poor streams often are as lifeless as distilled water.

Seeing the light for the stream

Because more light can stimulate algae to grow (as long as other resources like nutrients are available) forests can change how streams take up nutrients. Brighter forests with openings in the canopies can stimulate algae to grow, leaves falling into streams can create habitat and food. Brighter forests and leaves feed the stream by stimulating invertebrates and fish to grow.

Old growth forests tend to be brighter and have healthier streams too. Old growth forests (300+ years) have been shaped by ice storms and forceful winds that knocked down trees and created gaps in the canopy. These gaps allow light to trickle down into the otherwise dark forest floor, and illuminate the stream flowing by. Much like a seasoned banker, mature forests have had time to develop a well rounded forest 'portfolio' made up of many different tree species of differing ages. This architectural complexity not only safeguards a financial future by helping forests be more resistant to disease and pests, but complexity is also good for the stream because it allows light patches to come through.

The multiple layers of canopies (and gaps) in older forests allow more light to reach streams and increase algal growth which results in...retention of more nutrients. Thus, preserving old growth patches in forests and woodlands actually help balance the flow of nutrients to downstream water bodies. More old growth = more light = more nutrients being retained.

As the weather warms and flowering trees bloom (perhaps even on the old growth trees), keep your eye on the patches of light reaching the forest floor and give some thought to ecosystem services that the stream has been doing all winter long. You can even catch a glimpse of remnant patches of Hemlock and Tamarack old growth in nearby Cranberry Swamp, Bucktail State Park Natural Area and Burns Run to name a few. I suppose a better question then should be- can you see the stream for the trees?

Let's Go For a Ride

~Marchal Rote (LHU Facilities Planning & Scheduling Coordinator)

Ever since I was a little girl, I fondly recall the many rides my parents would take me and my brother. We would hop in the old blue Dodge truck, grab an ice cream and away we would go to find the next adventure. There wasn't a dirt road within 30 miles of Lock Haven that we hadn't explored over the years. Sometimes we would have a destination— other times we would just go to see how many deer or turkey we could see. If we were really lucky, we would see bear or rattlesnakes. For night time rides, we would head to open fields that often-times were overflowing with deer feeding. My dad had his favorite silver spotlight he would plug into the cigarette lighter and then mom would shine it over the fields to the delight of our oohs and ahhs.



It is amazing what you see when you venture off the paved highways and take a more scenic route. Just in Clinton County alone, there are hundreds of miles of unpaved roads you don't need 4-wheel drive to navigate. Some roads have actually been upgraded and maintained because of the Marcellus shale industry and their equipment needing access to remote locations. Since our family spends so much time in the PA Wilds we were very concerned about the damage the gas industries may be causing.



Fortunately, for where we go on the backroads, when they are finished tapping the wells off, they replant all but a certain part of the parcel originally cleared. The dead trees and topping from the clearings become rich habitat for small animals.

Even after the years flew by and my brother and I grew into adults, lucky for both of us, we married people who share the love of "going for rides" as much as we do. No matter the time of year, we try to get out and see what new things we might discover.

One of our favorite rides is Beech Creek Mountain Road to Rt. 144 to Jews Run Road. At the end of Jews Run Road there is a view that takes your breath away. It overlooks the Susquehanna River at the tail end of Huff Run. It is not a surprise to see many flocks of turkey with their baby chicks or does with their fawn. If you go early enough and it is still cool you can witness hundreds of spider webs just glistening in the morning sun.



In the summer, we love rides when the Mountain Laurel is in full bloom and all you can see across the forest floor all the colors of white and pink mixed in with the stunning greens. Eagleton Road off the Renovo Road is a good spot or if you do prefer a paved road then take Route 664 across the bridge at Jay Street in Lock Haven. If you keep going on Route 44 you can find your way to the Black Forest Inn for a nice meal and a cold drink.

When the weather starts to turn a little crisp and the colors begin their magical appearance, let the outdoor beckon you to take an afternoon and enjoy the stunning splendor of fall at the Hyner View lookout or Lebo Vista. You can take paved roads to get most of the way, but why not veer off and explore those backroads a little and see what you can see. You may even witness hang gliders jumping off the side of the mountain.





If you want to venture a little farther then why not go clear to Benezette, PA to the Elk Viewing Center and be amazed at the elk you may see. If you take a little walk and are quiet enough, you may even hear them bugle.

When the snow starts to fly and you feel like the walls are closing in, don't despair, there are still plenty of nice drives you can take on paved roads or backroads. The ice formations along the Renovo Road are stunning, and if the snow melts off the roads enough for safe travel, try Lower Pine Bottom road between Waterville and Fin Fur and Feather. There is a native trout stream that affords nice little water falls and nature's own sculptures of ice.



My reason for writing this article is to let you know that within minutes you can discover a lot that the Lock Haven area has to offer, and this is just from the comfort of your car or truck. Get out and explore. Always prepare and put safety first, but go ahead get off the couch and "Let's Go For a Ride."

Sport and the Environment: An Odd Couple?

~Dain TePoel (LHU Sport Studies Professor)

In the Spring 2018 issue of the *Hemlock*, LHU Geology Professor Md. Khalequzzaman asked the question, "Is the U.S. a sustainable society?" We might ask the same about the functions of sport. Though a major part of society, culture, and the global economy, sports often fall outside the purview of the public's thinking when it comes to questions of labor, politics, and social issues, let alone nature and the environment. "Stick to sports" is a common refrain from those who view athletes purely as entertainers offering escapism for consumption. But sport, like all human activities, is neither separate from the environment nor immune from the responsibility to protect it.

According to David Chernushenko, author of *Greening Our Games*, the daily operations of professional sports leagues and organizations create massive carbon footprints throughout their supply chains, including the chemical, energy, food, plastics, textiles, and transportation industries. For example, consider the National Hockey League, which just started its two-month long postseason. Per the “2014 NHL Sustainability Report,” a single game in the NHL produces 408 metric tons of carbon dioxide emissions and consumes 247,746 gallons of water. An average team’s regular season air travel creates 3,136 metric tons of CO₂. Scaled to an entire season for all 30 teams (at that time – the NHL now has 31), the combined CO₂ footprint from games and air travel results in a sizable 595,920 metric tons of CO₂, roughly 13 percent of an average U.S. coal plant’s annual CO₂ production in 2005. The water use for the NHL over an entire season translates into approximately 305 million gallons, which is enough to fill 462 Olympic-sized swimming pools.



Switching gears to the National Football League, in 2013 the *Wall Street Journal* reported that game day at Cowboys Stadium in Texas consumes more electricity than the country of Liberia on a typical day. Indeed, examples such as these show that sport results in disproportionate consumption of raw

materials, draining of local water supplies, and challenges related to waste disposal.

In the early 2000s, leaders in the sport industry demonstrated an increasing awareness of sport-related environmental problems, such as the toll of recurring spectacles such as the Super Bowl, FIFA World Cup, and the Olympics. The formation of the Green Sports Alliance in 2011 seemed to mainstream the relevancy of sport’s impact on the environment. Specific sports and leagues turned inward and looked at their own contributions, such as the risks golf and motor car racing pose to wildlife, natural habitats, ecosystems and public health. With climate change and other instances of environmental devastation increasingly grabbing the headlines, in 2015 sport management scholars Jonathan Casper and Michael Pfahl argued that any “successful sport organization now has to incorporate environmental concerns into their business strategy, while all sport managers must understand how to implement environmental initiatives into their everyday business.”

Of course, the practices that qualify as “green,” “sustainable,” or “social responsibility” in relation to facilities, operations, marketing, digital media and strategic planning are fiercely debated by sport managers, activists, environmental advocates, scholars, NGOs, regulators, and others. It is difficult to discern where to begin an engagement with sport and the environment. With the impact of practices such as fracking on physical activity, or sustainable development at the Olympics? The sustainability efforts of athletic departments at colleges and universities, or golf course management? The corporate partnerships between sports leagues and the fossil fuel industry, or the attachment of runners to water charity causes? In addition to these practical choices, a core philosophical tension and struggle emerges wherever one decides to focus on environmental issues related to sports. As Kyle Bunds and Casper wrote in the *Sociology of Sport Journal* in 2018, critical examinations of the connections between sport and the environment should consider what ought to be, not just what is, in addressing environmental concerns “in ways that benefit *all* community members.”

Too often, green solutions are greener in terms of the economic bottom line and technological innovation than they are for the environment or socially marginalized communities. Leading sport organizations often stress achieving environmental sustainability through the development of “clean” technologies and catering to the desires of consumers. From an environmental justice perspective, it is important to note that race and gender can impact differential opportunities to interact with the built and



natural environment. Similarly, environmental hazards such as exposure to toxic chemicals and air pollution disproportionately impact the poor and people of color. The concerns of these stakeholders, as well as nonhuman nature, are often slighted in the greening practices, policies, and procedures of the sport industry. Regardless, an environmentally conscious and critical

approach to the management of sport and the sport industry can make a difference. The environmental problems associated with sport did not materialize overnight. They cannot be remedied by isolating the problems associated with a single area, such as facility construction, soil and water pollution, or overconsumption, or those linked with a particular segment of the sport industry, such as ski resorts, golf, or mega-events. Proactive efforts to address each of these are needed. If we borrow core approaches from the field of environmental history, there is also a need to focus attention on the influence of the environment on sport; the environmental changes caused by human

activities through sport; and the patterns of human thought about the environment that have motivated actions in sport.

For example, how have environmental conditions such as natural landscapes, climate, ecosystems, air, water, and exposure to harmful substances historically delimited the range of available sporting opportunities? How have changes in climate and the loss of natural habitats and spaces over time made participating in sport more difficult? Currently, winter sports such as skiing, snowboarding, ice skating, and hockey are perhaps the most obvious examples, as rising global temperatures affect the required mountain snow cover and freezing of lakes and ponds that make these outdoor sports possible. In turn, participation in sport through the use of equipment, apparel, and facilities has also impacted the natural environment. These effects are magnified through the operations of the global sport industry, to which we might add the impacts of noise and light pollution on humans and wildlife; soil erosion from stadium construction; and the generation of substantial waste in optimizing sport's commercialization and commodification.

Human attitudes towards the environment have also fostered environmental despoliation. Toby Miller contends that sport organizations have legitimized many of these harms by promoting themselves as good environmental citizens, while simultaneously giving extractive corporations the positive image associated with the pleasures and entertainment of the social aspects surrounding sports. Heavy polluters use their affiliation with sports to show they care about local places and people, even as their actions further economic divides, distract attention from environmental misdeeds, and give primacy to international sports over local, community health and recreation. Nevertheless, sports paradoxically symbolize and embody domination, scientific management, and the dislike of others, alongside an embrace of collaboration, spontaneity, and teamwork. Miller notes that sports are there for all of us to lay claim to, unpredictable and violent, ordinary and transcendent, they are sites of elite performance and backyard glory.

Despite statistics such as those from a 2017 study by Yale University that indicate 70% of U.S. citizens believe global warming is happening, only 53% believe it is caused mostly by human activities. Moreover, the Pew Research Center found in 2016 that as many as 75% of people in the U.S. are concerned about the environment as they go about their daily lives. Germany's largest market research institute, in a 2017 study of people in 18 countries, found that 34% of respondents ranked environmental pollution as one of their top three concerns – up 26% from 2011. Sport, at the nexus of society, politics, economy, and the media, plays a role in the disjuncture between the rising level

of concern and the level of inaction or will to reverse trends wreaking significant environmental havoc.

When it comes to sport's impact on the environment, it will be up to all of us to decide how we choose to use the passion that sport incites, how to steward the attachment sport gives us to specific people, creatures, places and spaces, and ultimately, to determine how sport can fit in harmoniously with the natural world and all its inhabitants.

Pennsylvania's Whooping Crane Nexus

~Earle F. Layser (Retired Environmental Consultant and USDA Forest Service)

Peter Matthiessen, who was once entitled "the poet laureate of nature writing," called cranes "the birds of heaven;" the most ancient of all birds, and sacred to many, Aldo Leopold, likened their time immemorial migrations to "the clicking of the geological clock."

Heeding the primordial call of the crane, this author has traveled to Aransas National Wildlife Refuge several times to observe whooping cranes wintering on the Texas salt marshes. More than just "things with wings," they are a symbol of longevity and peace and our tallest bird, ~52", with a scarlet crown, an 87" black-tipped wingspan, and a clear resounding "bugle" — a regal, but endangered creature.



Formerly widespread across our prairie state's wetlands, plume and other unregulated hunting, along with habitat conversion to farmland, decimated the whooping crane population—by the 1940s fewer than 20 were extant. At the time, most believed the cranes were inevitably destined to follow the great auk, Labrador duck, heath hen, passenger pigeon, and Carolina parakeet into extinction.

Pennsylvania is the childhood home for literally hundreds of famous personages—Barrymore, Carnegie, Franklin, Mead, and the like. When I was growing up in deeply rural Lycoming County, in the mountains near Cedar Run, we were mostly oblivious to any of them, except for Daniel Boone, who was born in Reading. In the 1950's, roaming

the wilds of Pine Creek with our .22 rifles in hand, Boone was someone we could identify with. Putting it in its rosier terms, my friends and I enjoyed childhoods uniquely suffused in unstructured outdoor experiences.

You may rightly ask what does that have to do with whooping cranes? Well, maybe if we had been a bit more informed, we might have discovered another Pennsylvania hero right next door to us. One that may have provided much needed positive influence or guidance for our outdoor activities and attitudes. This person was Robert "Bob" Porter Allen. A self-made field biologist, writer, artist, and conservationist, who is known today as "the man who saved the whooping cranes."

Bob was born in South Williamsport on April 24, 1905. His parents brought him up in a home where commitment to cause was a matter of course. As a youth, he spent time traipsing the ridges and hollows of Bald Eagle Mountain hunting deer. He was influenced by his biology teacher and, like many others at the time, Ernest Thompson Seton's writings; and also, perhaps not too common back then, as a Junior Audubon Club member, where he attended lectures by the likes of American Museum ornithologist Frank Chapman. He purchased his first binoculars on his 16th birthday, apparently not just for deer hunting.

But Bob got off to a shaky start. College did not appeal to his restless spirit. He went to sea, spending three years wandering the world's seaports, arriving back in New York with 48-cents in his pocket. And it was the Great Depression.

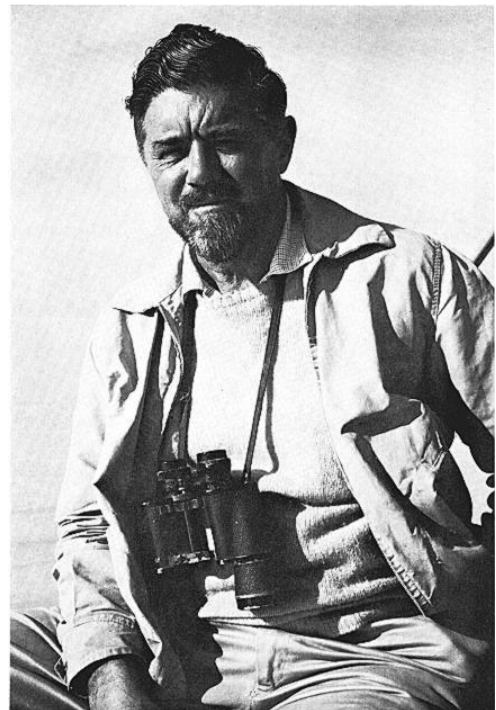
Bob's earlier mentor, Frank Chapman, referred him to T. Gilbert Pearson, head of the National Audubon Society and another important figure in ornithology. Bob had a love of books; it led to some employment cataloging Pearson's library. Early in 1931, Pearson recognized other talents in Bob, although he also still remained the librarian, he was sent into the field to report on the heron colony conditions in North and South Carolina; and following that, a survey of coastal Maine's breeding birds. The latter resulted in Bob being the first to report great black-backed gull nesting in the U.S.

Other field assignments followed, from the Director of Sanctuaries for the Audubon Society to collaboration with Roger Tory Peterson on hawk migration at Cap May, and a study of black-crowned night herons in Nassau County, NY. In 1939, Bob gave up the sanctuary position and moved his family to Tavernier on Key Largo, Florida, to do research on the roseate spoonbill. His resulting publication in 1942 remains a definitive work for the spoonbill.

Bob volunteered for the Army in WWII. When he was released in early 1946, the National Audubon Society assigned him to the Cooperative Whooping Crane Project. Bob and his family moved to Austwell, Texas, just north of Aransas. The Aransas Refuge in Texas, with its 7,500 acres of tidal marsh habitat, had been established in 1937 for the remnant population of cranes. Still, little was actually known about them. Where they went in summer after they left Aransas, their migration route and breeding grounds, was a mystery.

The whooping cranes proved to be a challenging study. Many aerial searches were required, tracking the cranes 2,500-mile migration route from Aransas north, up through Nebraska, across the Dakotas, then into Canada, and the northern wildernesses of Saskatchewan and the Northwest Territories. After exceedingly difficult on the ground searches, nesting cranes were finally located deep within in the vast boreal muskeg and sedge meadows in what today is the 17, 300 square-mile Wood Buffalo National Park—the largest park in the world. The whooper’s nesting area has since been designated a World Heritage Site by the UNESCO. In my recent visit to Aransas, birders there still referred to Bob’s 1952 and 1955 reports as the authoritative reference works for the cranes. Today, the Aransas Refuge supports about 300 wintering whooping cranes.

Skimming over his many contributions, beside his scientific studies, Bob popularized conservation through nontechnical publications in magazines like *National Geographic*, *Audubon*, and *Bird Lore*, and authored several books, such as “On the Trail of Vanishing Birds,” recognized in 1957 as the “best nature writing of the year.” He was the recipient of the Nash Award for conservation, the Brewster Memorial award in 1957, and the John Burroughs award in 1958 for his vanishing bird’s book. A posthumous honor came in 1964 when the National Park Service named three keys in Florida Bay the Bob Allen Keys. Two books have been published about Bob’s life story—J.J. McCoy (1966) and Kaska (2012), as well as a nine page memorial by A. Sprunt in *The Auk* (Jan. 1969).



I can’t help but think of Thoreau’s adage: “first a hunter, then a naturalist.” The basic outdoor skills Bob had learned afield on Pennsylvania’s Bald Eagle Mountain and the surrounding area were essential to him throughout his career—orienteeing, camping,

outdoor cookery, boating, privation and dealing with the elements. Anyone who has spent a little time in any of Bob's primary study habitats—Florida mangrove swamp, Texas salt marsh, northern Canada muskeg—knows they are incredibly demanding places to get around in; and they have a devilish thing in common, swarms of voracious mosquitoes and biting flies.

Ironically, where I attended high school in the 1950's was only 15 miles from South Williamsport, Bob's hometown. Growing up, our past time consisted primarily of the outdoors, hunting and fishing, or related activities. There was no TV, Wi-Fi, or the likes back then, and it was over 30-miles to town. In our deeply rural environs, none of my friends, classmates, or apparently even teachers, were aware of or knew anything about Bob Allen or his accomplishments. We could have used a Pennsylvania conservation hero example like Bob. It might have helped us to see the natural world in other important ways besides just viewing it through gun sights.

There are lessons to be learned from Bob Allen's story beyond his scientific contributions. Bob was a role model for how the natural environment (such as the Pennsylvania outdoors) combined with proper mentorship (Chapman, Pearson, Peterson) can help positively shape young people's interests and values. Today, with the uncertain fate of so many creatures, whose habitats and populations are rapidly disappearing in the face of ever more people and development, the world urgently needs more Bob Allens.

Geese on Penns Creek

~Photo by Edie Cox



Backpacking Trip on the Chuck Keiper Trail

~Bob Myers (Director of Environmental Studies)

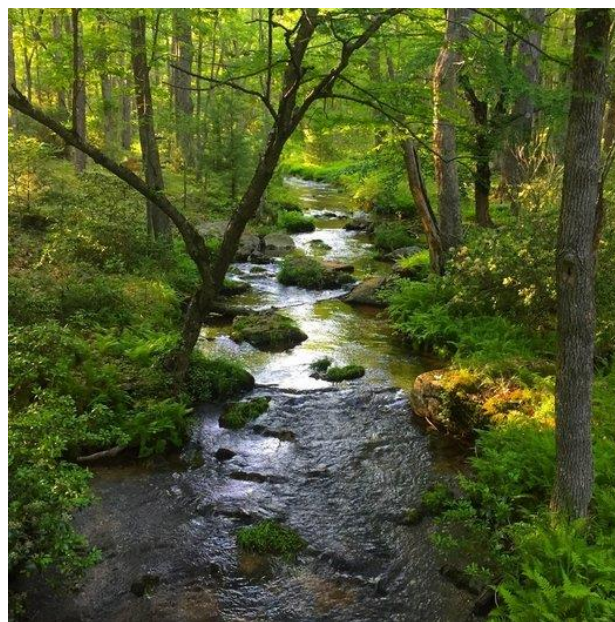
This semester I've had the good fortune to teach a course that is outside of my normal discipline of English—RECR202: Outdoor Activities and Leadership. Since the course focuses on backpacking, map and compass navigating, canoeing, and other outdoor skills, I feel that I have been preparing for it all my life. But it's also forced me to work hard to learn how to teach outdoor skills to future professionals. Some days, I'm happy to be a day ahead of the students! A key part of the course is an overnight backpacking trip, and this year we did an eight-mile loop on the Chuck Keiper Trail (CKT), located just south of Reno. I thought it might be a fun hike to share with *Hemlock* readers.

LHU to the Trailhead

Leave campus and turn right onto PA 120 West for 26.1 miles. In Reno, turn left onto PA 144 South for 8.9 miles. Turn left (northeast) onto Pete's Run Road for 3.3 miles, and about a mile past Mill Run Rd., park at the intersection of the CKT & Pete's Run Rd.

Day #1: Pete's Run Road to Boggs Run Campsite (5.6 miles)

From the parking area, follow Pete's Run Road southeast for one mile and then turn left (east) on Mill Run Road (also called Grugan Hollow Road). Stay on Mill Run Road for 2.4 miles and then turn left (northwest) onto the orange-blazed CKT. Watch closely for the turn—if you reach Crabapple Hollow Trail, you've gone too far. Follow the CKT downhill into beautiful Boggs Run Valley for 1.5 miles. At the bottom of the hill, the trail turns left (southwest). A large campsite is about $\frac{3}{4}$ of a mile further. If the site should be occupied (which is unlikely), there are other possible campsites further on the CKT.



Day #2: Boggs Run Campsite to Pete's Run Rd. to LHU (2.4 miles).

Follow the CKT west/south for about 2.4 miles to the parking area. The climb out of Boggs Run is pretty steep (about 900' elevation gain).

For more information on this and other hikes on the CKT, see Dave Gantz, *The Chuck Keiper Trail* (Scott Adams Enterprises, 2016) and the PA DCNR Map (2006) at http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_002034.pdf

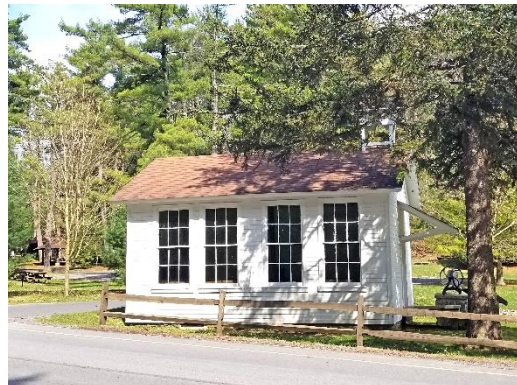
Lost and Forgotten Communities: Black Moshannon

~Norm Houser (LHU History major)

The cool wind rippled the waters of Black Moshannon Lake causing the lily pads to dance to a tune only they understood. The waters, darkened by tannins produced by the sphagnum moss, reflected the clouds that passed lazily overhead. It was almost a perfect day, except for the sound of a chainsaw running somewhere in the distance.

While I was not sure if this was an individual trimming a tree, or part of the state approved clear-cutting, it brought back memories of the times before, when the trees had been harvested during Pennsylvania's lumbering era. As the demand for lumber grew in the mid to late 1800s, so did the population of the region and at one point, four lumber boom towns existed within the present-day boundaries of the park.

The oldest of these lost communities was Antes. With the Philadelphia-Erie Turnpike (now Route 504) opening in 1821, there was a demand for lodging. That same year, Antes Tavern was built near the present-day bridge crossing the lake to provide some relief for travelers. The town of Antes grew quickly around the tavern. It was the largest of the communities at Black Moshannon and the best-known to visitors in the modern era due to a marker placed at the location. At its height Antes had a general store, blacksmith shop, tavern, school, and even a ten-pin bowling alley. A piece of Antes still remains – the Antes one-room school house that closed in 1926, still stands along Route 504 just west of the bridge.



By the mid-1800s, the demand for lumber had come to the region and three more lumber boom towns would grow up in the immediate vicinity. Lumber would be harvested and either floated down Black Moshannon Creek, or hauled overland to Philipsburg or Julian.

The community of Star Mill was located near the northern end of the present-day trail that bears its name. The steam-powered mill was built in 1879 along North Run and a

small community grew up around it. At its peak, this community had twenty saws operating, a mill to produce shingles, a school and a number of houses.

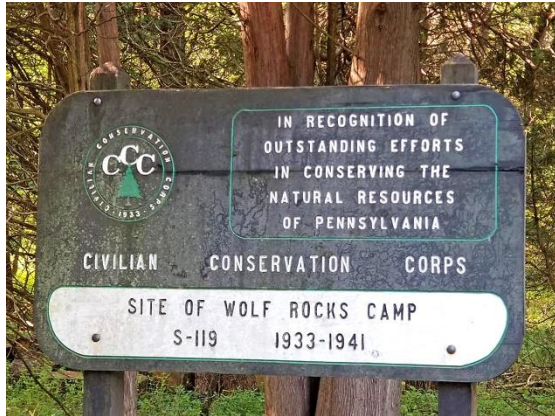
The community of Beaver Mills existed at the lower end of the park, along Shirk's Run, near the junction of Strawband Beaver Road and Julian Pike. Beaver Mills was the second largest of the communities, also having a general store, blacksmith shop and sawmills. The community shared its name with the Beaver Mills Lumber Company, which controlled the lands being lumbered. Though none of the buildings remain, the location of the community is marked by the Beaver Cemetery along Julian Pike.



Underwood Mills grew up around a sawmill on Smay's Run. The community took its name from William Underwood, who founded the community of nearby Unionville. Underwood Mills prepared the logs to be transported to Underwood's main sawmill in Unionville. Unlike the lands owned by the Beaver Mills Lumber Company, Underwood did not transport his lumber to Williamsport. He transported his to Tyrone, but to do that meant he had to create his own roads, which included a plank road running from Unionville to Tyrone (it would become old Route 220) and a road to the access his holdings (present-day Julian Pike). While this community has vanished, a road from Julian Pike to Route 504 is named after it.

The end of the lumbering industry ended the lives of these communities. As the lumbermen moved to new regions, they left behind a barren landscape. In 1933, two new communities would be erected to undo the destruction left behind by the lumbering industry and create the park as it is known today.

These communities were made up of young men seeking employment during the Great Depression. The communities were camps of the Civilian Conservation Corps. The first of these two camps would be located within the borders of the park near the abandoned community of Beaver Mills. Known as the Beaver Meadows Camp (S-71-PA) this camp, located near the abandoned town of Beaver Mills, operated from May 30, 1933 until 1936. It put more than two hundred young men to work building roads, planting trees, erecting cabins and pavilions, and the building of a modern dam.



A second Civilian Conservation Corps camp would be erected at Wolf Rocks (S-119-PA), along Six-Mile Run, west of the present-day boundaries of the park. A product of the time, the camp was originally a segregated camp. Many of the roads still being used, along with a number of the camps at Wolf Rocks were originally built by the Corps. The camp operated until 1941, when the United States entered World War Two.

The sound of the chainsaw stopped, bringing me back to the present. The villages may be long gone, but their importance can be seen in the names that have been placed on trails, roads, and other features around the park. Star Mill. Beaver Mills. Underwood Mills. Beaver Meadows. Wolf Rocks. They all call back to another time and place that has vanished from the landscape, but remains a part of the region's history.

To Cut or Not to Cut: That is the question

~Jeff Walsh (Retired LHU Recreation Professor)

Remember a couple of years ago (May 2015) when several articles appeared in the *Express* newspaper (mostly Letters to the Editor) emphasizing the fact that some citizens were outraged by the drastic tree pruning and tree removal conducted by contractors following Penn DOT policy? The majority of those letters highlighted citizens' anger *stemming* (pun intended) from the severity of the work and its dramatic impact on assorted streets throughout the city. The City, in response to this public criticism of those practices, submitted an article or two suggesting that it was considering a policy change directed towards reducing the severity of that type of extensive trimming. Since that time, I have more acutely aware of an ever-changing viewscapes throughout our area. Streets were, and are, transformed - they often become more barren as trees are pruned and removed and will not return, to any resemblance of what they had been, for many years to come. Certainly, one outcome of tree removal is that the future of power lines have been protected and threats towards human safety may have potentially been reduced, but the result is also a more "prairie-like openness" – one that I disliked – a lot!



More recently, last spring (2017), a row of large, mature Weeping Willow trees along RT 26/64 was removed from the west shore of Fishing Creek in Mill Hall, near the Fire Hall. At that time I wondered how many people even noticed this, and if they did notice, how many people were bothered by that decision as I was? I wondered what was so overly worrisome

about that particular row of trees. My recollection is that we had just survived a major storm with gusting winds so I propose that once again these trees were removed to proactively lower risks of danger and damage. Then a few months later (this Fall), I became even more alarmed as tree trimming crews armed with chainsaws, pruning saws, and heavy equipment diligently executed their assigned tasks to trim and remove trees throughout the Lock Haven area.

Coincidentally (since I started a draft of this article), two adjacent neighbors across the street from our home, capitalized on one glorious spring day to cut down four or five mature trees in their backyards - trees that were on the south side of their homes, trees that offered a significant amount of shade in the summer, and therefore reduced the cooling needs and costs of their homes. These incidents, taken as a whole, have caused me to contemplate what our town(s) will look like in another 10-20 years. As bazaar as it may seem, for a millisecond I thought, "If this is our future – one with fewer and fewer trees – I need to get ready to move!"

The scenarios that I have mentioned are not unique to our area, they are occurring throughout the country. According to the Forest Service (2018), between 2009 and 2014, cities and communities in the U.S. lost 36 million trees per year (roughly 175,000 acres of tree cover) - a geographical area about equal to 208 Central Parks (Nix, 2018). Lead author, David Nowak, of the U.S. Forest Service, assessed the total loss of benefits from such a tree loss at roughly \$96 million. This loss ultimately stems from a reduction in the tree canopy's ability to remove air pollution, sequester carbon, and conserve energy. A little less than half (46.8%) of Pennsylvania is covered by trees, or the tree canopy. Our communities in Pennsylvania are experiencing the loss of trees and thus the associative benefits of those trees. In fact, between 2007 and 2013, the tree canopy in Pennsylvania was reduced by .6% or about 4,320 acres

It is not my intention to imply that each, or any, of the decisions behind the aforementioned incidents was wrong, nor that they were hasty, rash decisions, or nor that they were not well-intended decisions. I simply wonder if those responsible, considered the full implications of their actions, the irrevocability of each decision. I worry that in our culture of immediacy; we are not seeing tree removal in the most mindful way. Once a tree is eliminated, we can never get it back. We can replace it with another tree, and perhaps in some cases that must be good enough, but the original version is gone forever.

My antipathy for tree removal and subsequent musings, became the *root* (clever, right) of this article – an effort to call attention to the importance of considering the total value of mature trees, prior to reaching a decision to cut them down. It seems logical to assume that oftentimes, tree pruning and tree removal is an economic decision for communities – undertaken primarily to avoid or reduce the probably of the future financial losses related to human safety and infrastructure damage. And most of us would agree that addressing such concerns is a good thing! However, if we are committed making the best economic decision of whether or not to remove a tree, we need to calculate all costs and losses associated with that action. These calculations should include a complete assessment of the economic value of a tree and the tree canopy in urban areas (OK, perhaps the Lock Haven area is not classified as an urban area, but the trees surrounding us do matter!). I wonder how many times decisions *to cut or not to cut* are reached without having accounted for the lost benefits we derive from trees?

Because tree removal is most often a *once-in-a-lifetime* action – that is, to reach maturity, many trees species need more years than the average human lifespan - we need to make more comprehensive calculations in the future. Calculations that not only measure the monetary value of losses due to trees falling on people, their property, and our infrastructure, but also subtract the financial gains resulting from trees' innate ability to "... improve air and water quality, reduce summer energy costs by cooling homes, reduce noise, mitigate runoff and flooding, and enhance human health and well-being, making them important to human health and urban and community infrastructure." As we deliberate about whether or not to remove trees, we must subtract these inherent benefits of those trees. One estimate suggested that, "the annual benefits derived from U.S. urban forests due to air pollution removal, carbon sequestration, and lowered building energy use and consequent altered power plant emissions are estimated at \$18 billion.

In addition to the aforementioned economic benefits of trees, and conversely, losses due to tree removal, trees can also play a critical role in people's wellness. According to one a Forest Service research scientist, the health benefits of living near trees include: a place where "... where people can decompress from the stresses of life, interact with others, plant nutritious foods, and develop a stronger connection with nature" (Nix, 2018, p. 2). These health benefits should always be part of the equation used to assess the value of trees in our communities. Green (2016) noted that green space and tree-laden areas tend to "... increased safety, greater social cohesion and community connection, and improved health" (Green, 2016, p. 3). Other health and wellness benefits have been attributed to tree-dependent practices such as forest-bathing: a practice associated with preventing cancer, reducing stress, improving brain activity, combating depression, and reducing loneliness (7 Amazing Health ...).

Finally, must also consider the monetary price on the aesthetic value of natural viewsapes? Have you stopped to consider the view along Bellefonte Avenue headed from Wal-Mart back to the center of town? Those of us who have been in Lock Haven for awhile can easily recognize the barren viewscape as we drive up the hill approaching the A- Plus gas station, where trees once lined the street. Since those trees were removed, the view is more akin to cresting a knoll in a small town in the Midwest. For those who cherish the gift of living in the presence of tree-lined streets with green vistas, the visual impact of tree removal is a harsh symbol of a new reality. The former view has greater value to us than does the new setting. How much were those trees worth aesthetically?

There is also a long and diverse litany of research that documents that we visually prefer nature landscapes over other types of landscapes. Steven Kaplan (1983) was one of the first researchers to begin to document that humans prefer natural settings over man-made landscapes. Many subsequent studies have reported similar findings; some sense of place research postulates that people have stronger attachments to natural settings than to other settings that are dominated by steel and concrete, buildings and pavement. What dollar amount can be placed on these benefits to our psychological wellness? If trees can potentially deliver these types of benefits, when should we be removing them, protecting them, or sustaining them?

How devastating! While editing this article this morning, my wife suddenly mentioned that there had been a fire at Notre Dame's cathedral. Having visited The University of Notre Dame this past summer, I immediately recalled the significant role that building has played in sense(s) of place for the campus and its human communities. I empathetically thought how sad people would be over the loss of such a cultural icon - the loss of a building that cannot be replaced, a place that could not be re-created.

Obviously the news story actually reported the fire in the Notre Dame cathedral in Paris, and while that brought a moment of respite – which quickly evaporated when I realized this was still a tragedy – it was still a crushing loss, just one that was not as personal as it would have been if it happened to *my* Norte Dame.

The destruction from the fire in Paris, erased part of an ancient history. There is the loss of ancient timbers, long-extinct craftsmanship, unavailable building materials, and many other specific and individual aspects of the original building. That portion of history, in that place, is lost forever. Think how irreplaceable the uniqueness of the cathedral is, how it can never be exactly what it was, how its individuality and uniqueness is gone; the cathedral can never be as it was. On a much, much smaller and less significant scale removing trees from a particular setting can have a similar effect on specific settings.

Think of the impact the loss of sentinel oak tree, on the site of the former Sullivan Hall near the center of Lock Haven campus, had on our university community. The loss was evident in public comments and thoughts shared throughout the community, and in the action of a handful of people to try to salvage pieces of that tree in the form of various mementos. It's true, another tree can be planted there, and in 75 or 100 years we could hopefully have another huge tree gracing that portion of campus, but it would never have the exact size, shape, branching pattern, nor the history of its predecessor. One cannot replace *an original*, once lost, it is gone forever.

To be persnickety, I believe that this phenomenon happens each and every time a tree is cut down; that tree is gone. Its uniqueness cannot be replaced or rediscovered. Personal histories in which the tree has played a role are forever disrupted; future interactions and encounters are non-existent. All those benefits we can potentially derive from that tree are gone, and in most cases, gone for the rest of our lives. We have lost an organism that contributes to the fight against environmental degradation, climate change, and extinction. We are more vulnerable to decreased levels of human health and wellness. We have lost an object that has psychological and aesthetical value; an object that can potentially improve our quality of life. We can lose a lot!

And therefore, the discussions and calculations behind decisions to remove even a single tree should include a complete assessment of its total value to our individual and collective lives. In addition to the typical cost/benefit analyses that are typically completed, we must ensure that we include the less tangible values associated with trees. Only then can we make the most informed decision of "*to cut or not to cut*".

- Cities and communities in the U.S. losing 36 million trees a year. *Northern Research Station News Releases*. <https://www.nrs.fs.fed.us/news/release/cities-communities-losing-tree-cover/>
- Green, J. (2016). We must better communicate the health benefits of nature. *The Dirt – The American Society of Landscape Architects*. <http://dirt.asla.org/2016/02/02/we-must-better-communicate-the-health-benefits-of-nature/>.
- Kaplan, S. (1983). A model of person-environment compatibility. *Environmental and Behavior*. 15, 311-332.
- Nix, R. (2018). Saving the city in the forest. *Atlanta Magazine*. <https://www.atlantamagazine.com/news-culture-articles/saving-the-city/>
- 7 Amazing Health Benefits of Walking in the Woods You Probably Don't Know. <https://www.lifehack.org/articles/lifestyle/7-amazing-health-benefits-walking-the-woods-you-probably-dont-know.html>

Environmental Focus Group

Bob Myers (Chair), Jeff Walsh, John Reid, Lynn Bruner, Elizabeth Gruber, Joby Topper, Michael McSkimming, Heather Bechtold, Dain TePoel, Marchal Rote, Md.

Khalequzzaman, Michael Myers, Barrie Overton, Todd Nesbitt, Jamie Walker, Stephen Neun, Jared Conti, Colleen Meyer, Bo Miller, and George Rusczyk. The committee is charged with promoting and supporting activities, experiences, and structures that encourage students, faculty, and staff to develop a stronger sense of place for Lock Haven University and central Pennsylvania. Such a sense of place involves a stewardship of natural resources (environmentalism), meaningful outdoor experiences, and appreciation for the heritage of the region.