Linn Log newsletter of the Merrill W. Linn Stand & Waterways Conservancy Fall 2020



Mission of the Linn Conservancy

To preserve and protect significant ecological sites in Union, upper Northumberland, and contiguous counties and to educate the public on conservation issues critical to the health of our environment.

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for your calendar

Unfortunately, the pandemic is still upon us. It forced the cancellation of our expanded Caring for Communities programming for this year as well as some popular fall events such as our Snyder County fossil dig. But as the health threat subsides, we will try to offer opportunities to engage the public and look ahead to an active 2021.

We thank the many donors to our 2020 Caring for Communities plans. We offered to return their donations, but no one requested a refund. Their dollars will go toward our 2021 events. Our thanks to: Meixell Diehl Insurance, Mondragon Bookstore, Susan Warner-Mills and Marilyn Brill, Wayne McDiffett and Ruth Burnham, Service First Federal Credit Union, Bucknell University Center for Sustainability and the Environment, Cole's Hardware, Lewisburg Studio, Mifflinburg Bank and Trust, Molesevich Environmental, Susquehanna Community Bank, Diane Donato.

Seven Mountains Audubon will be providing on-line

content for the fall. Programs will be posted on their website <u>www.sevenmountainsaudubon.org</u> and their Facebook page.

The programs so far will be:

September 16, 2000 — *Birding Adventures in Costa Rica* by Lauri Shaffer

October 21, **2020** — *Nature's Best Hope* by Dr. Doug Tallemy

November 18, 2020 — *Hummingbirds* by Sandy Lockerman

December 16, 2020 --Holiday Show and Tell with bird and nature photos and stories by members of Seven Mountains Audubon. Pour a holiday drink, break out the cookies and sit awhile!

Audubon is also considering restarting First Saturday Birdwalks. If the pandemic situation allows, they hope to begin with their first guided walk, maybe at Dale's Ridge, on **October 3rd**. Guidelines for participating safely are posted in their newsletter and on their website.

"If the land mechanism as a whole is good then every part is good, whether we understand it or not...To keep every cog and wheel is the first precaution of intelligent tinkering." Aldo Leopold, Round River

Conservancy Awarded PPL Sustaining Grant

Application was made in February 2020 for PPL Corporation's annual Sustaining Grants program. The application requested assistance in upgrades to the Koons Trail in Mifflinburg. The trail was originally laid out and constructed in the 1990s by former Mifflinburg Middle School teacher, Joe Southerton, and some of his students.

Time itself has taken a toll on kiosks, footbridges, and viewing platforms, all now in need of repair or replacement. The trail suffered tremendously due to the destruction of ash trees by the emerald ash borer and the subsequent removal of the trees. Flooding across portions of the property added to damage. Access to areas beyond the original trail also needs to be improved. Another part of the grant was to be used toward nature programming for children this summer. Unfortunately, those plans had to be set aside due to the pandemic, but funding can be held and applied once health concerns abate. The Conservancy was awarded the entire \$3500 requested in its proposal. Our thanks to PPL for supporting this and other projects of the Linn Conservancy over the years.

E-blasts and New Website: Keeping In Touch with Members and Friends

We hope you have found our weekly e-blasts informative. Our thanks to those who have contributed photos, ideas and text for these short descriptors of our local environment. We started these in May as a means of keeping in touch with everyone through the pandemic and to provide a bit of distraction to it through connection to our natural world. Our thanks to those who have provided photos and/or text for these communications. If you have a topic that you would



like us to try to address, please let us know. In July, we launched our new website. This long overdue project extended over many months and resulted in a site that is much easier to navigate, more informative and mobile friendly. Find information about protecting your land, our successes in conservation, and our educational outreach efforts. Trail brochures for Dale's Ridge, Koons, Shamokin Mtn. are accessible on the site www.Linnconservancy.org/trails as are a couple video productions by Linn and one by BCWA www.Linnconservancy.org/video. We hope you like the website and that you are enjoying the e-blasts.

Limestone Bedrock: Positively Impacting Our Local Environment

By Bucknell professors of geology Mary Beth Gray and Jeff Trop

Next time you venture out to Dale's Ridge Trail on our Dale/Engle/Walker conservation easement, check out the gray boulders bordering the trailhead parking lot. The boulders were quarried elsewhere from the same limestone bedrock that underlies most of the trail and is visible along the switchbacks and cliffs below several overlooks. Referred to as the Keyser Formation, the limestone formed approximately 420 million years ago.

At that time, a shallow seaway covered central Pennsylvania. Reefs teeming with diverse life were a hallmark of the ancient seaways.



Three of the five limestone boulders placed at the Dale's Ridge trailhead

Fossilized animals, mainly sponges and

crinoids, are visible in most of the boulders. Gradually, the fossils and their host sediments were buried, compacted, and cemented to produce limestone bedrock.

Subsequently, during a collision of the North American and African continents, all of the rocks in this region were deformed. The ridges visible from viewpoints along the trail are underlain by thick erosion-resistant rock layers that were uplifted and bent into an enormous wave train. At a smaller scale, folds, faults, fractures, and veins in rock outcrops and boulders are evidence of this mountain building event.

A boulder located at the parking lot entrance exhibits features related to this deformation. Linear fractures formed in the rock and were subsequently filled by precipitation of the white-colored mineral calcite. Differential erosion of the deformed bedrock prompted the characteristic valley and ridge topography in this region. The limestone bedrock influences the groundwater and surface water chemistry, which place important controls over the types of flora and fauna that live on this conservation easement. Weathering of Keyser limestone produces soils of high agricultural quality that make many valley bottoms, including Buffalo Valley, especially fertile. Prone to dissolution, the Keyser limestone forms underground caverns and sinkholes on the surface. The dominant mineral in limestone, calcite, when heated in a kiln and then slaked, forms a fertilizer that was used extensively across the agricultural valleys of this region. The Keyser Formation and overlying bedrock also contains chert ("flint") that was historically used for tool making. Stay tuned! A poster explaining special features in the boulders will be available at the trailhead kiosk.

President's Message

Sustaining Nature Sustains Human Health

By Jeff Trop, Merrill Linn Conservancy president

Dear Linn Conservancy Members and Friends, The dance of nature and humans has been in full display during the ongoing public health crisis, demonstrating impacts of society on the natural world, and vice versa.

Societal shutdowns and social-distancing measures prompted measurable environmental changes, including improved air and water quality as well as migrations of rare animal species into their former habitats. At the same time, natural settings helped people safely stay active and healthy. This was apparent on our much-loved Conservancy easements at Dale's Ridge, Shamokin Mountain, and Glacial Pools, where usage spiked dramatically over the past few months.

If you enjoyed these properties, then you walked on land protected in perpetuity by the Conservancy. All of us at Linn, including you as members, are focused on preserving local landscapes in the Susquehanna Valley, whether we're acting as guardians of existing easements, working with landowners to protect additional habitat, or educating citizens on environmental issues.

To date, your generosity has protected more than 1,400 acres of ecologically significant land in Union, Snyder, Northumberland, and Lycoming counties. But protecting land requires systematic monitoring and maintenance. We will need to hire a paid staff member. The Endowment Fund can be grown to a point where Fund earnings will be sufficient to pay a site stewardship staff. We hope you recognize the critical need to raise additional funds to meet this

goal. In addition to renewing your membership each year, please consider the following additional means to achieve the goal:

- Donate a significant one-time contribution to the Endowment Fund.
- Pledge an annual donation that will grow the Fund over the next few years.
- Include a bequest to the Fund as part of your estate planning.
- Encourage your friends to become members and make a contribution to the Fund.

Your past contributions attest to your dedication for protecting local forests, fields, streams, and rivers that sustain diverse fauna and flora. It confirms your commitment to educating local citizens on environmental issues. It demonstrates that you are willing to invest in the future and ensure the legacy of the Conservancy.

Your support is needed now. Land and waterways that you help protect today will enrich the quality of life of future generations in the Susquehanna Valley. You will preserve ecosystems that naturally regulate the emergence of new pathogens like COVID-19. Losing natural settings reduces our resilience to new diseases.

The health of our supporters, volunteers, and staff remains top priority. Hopefully nature can help nourish you during this challenging time, perhaps on a Conservancy easement. Stay connected through our website and social media channel, watch for email updates, and be well.

Live Stake Collaborative Update

by Adrienne Gemberling

The live stake collaborative is a partnership led by Chesapeake Conservancy that leverages volunteer and student capacity to collect and distribute free tree cuttings called live stakes to conservation partners for streamside tree plantings. The live stakes are installed in wet areas along streams to improve bank stability and water quality. To date, the collaborative has collected and distributed 28,620 stakes, leading to installation of over 10.6 acres of streamside tree planting. Through these collections and installations, volunteers have donated 1,245 hours of their time to make these cutting projects successful.

Susquehanna University has been a big part of this collaborative and recently installed a 2,000 stem live

stake garden in December 2019 with 34 volunteers, including 11 SU students.

The ultimate goal of the live stake garden is to have a diversity of species in a central location for collections where students can easily volunteer hours close to campus. Along with Susquehanna University, our other partners include the Pennsylvania Department of Conservation and Natural Resources (PA



Collaborative members along with Cindy Dunn, Secretary of DCNR, (third from right) gathered live stakes at the Wayne Stahl property last year.

DCNR), Merrill W. Linn Land & Waterways Conservancy, and Bucknell University.

USF&WS Completes Eel/Mussel Study

With the release of eels into Buffalo Creek at the Dale-Engle-Walker property/easement in 2008, the US Fish and Wildlife Service (USF&WS) began its 10-year study of the impact of that program on mussel populations in the watershed's lower reaches. The project extended to Pine Creek in northern PA and Penns Creek as well. Below is the summary of the report about Buffalo Creek as provided by Julie Devers of the USF&WS.

Experimental Stocking of American eels in the Susquehanna River Watershed 2019 Annual Report / Final Report from Julie Devers, USF&WS

SUMMARY American Eel (Anguilla rostrata) occupies a unique niche in estuarine and freshwater habitats along the Atlantic coast but range-wide, the population has declined during recent decades. The Chesapeake



USF&WS crew member

Bay watershed supports a large portion of the eel population, but much of the watershed is inaccessible due to dams on the lower part of the Susquehanna River. In 2008, the U.S. Fish and Wildlife Service (USFWS) began stocking eels above dams to allow them access to upstream areas. Laboratory studies conducted by the U.S. Geological Survey (USGS) indicate that eels are a good host for the common freshwater mussel, Eastern Elliptio (Elliptio complanata), in the Susquehanna River.

While Eastern Elliptio were present in the watershed, they were less abundant than in nearby watersheds and there were very few juveniles at the beginning of this study. Low abundance and lack of recruitment of Eastern Elliptio in the Susquehanna River may be related to the lack of eel passage past the dams.

To explore this question, USFWS and USGS conducted targeted eel stocking in tributaries to the Susquehanna River in 2010, 2011, 2012, and 2013 and monitored both Eastern Elliptio and American Eel populations. Monitoring conducted in 2014 and 2019 indicates increased Eastern Elliptio recruitment and population growth as well as maturation of stocked eels. Our results suggest that permanent eel passage at the 4 mainstem Susquehanna River dams would likely

improve ecological function in the watershed by increasing recruitment of Eastern Elliptio. The presence of healthy freshwater mussel beds provides streambed stability, water filtration, and increased macroinvertebrate biodiversity.

Julie added: "We plan on deploying three PIT (Passive Integrated Transponder) tag readers in Buffalo Creek. They will be used to detect eels that we have previously tagged (over the past 8 years) on their out migration to the Atlantic Ocean."

To a follow-up question posed to Julie, she replied: "We did see an increase in the number of older juveniles/young adult Eastern Elliptio in Buffalo Creek. We think there was probably a year class that was barely detectable the last time we surveyed that has grown up a bit. Still not nearly the numbers that we saw in Pine Creek. However, it is good to know that there is an increase in the number of juveniles and young adults in Buffalo Creek! The eels are everywhere and we have seen a pretty significant increase in number of juveniles/young adult Eastern Elliptio in Penns Creek as well!"

If you would like to see the full report for Buffalo and/ or Penns Creek, please contact the Conservancy.

Cheryl Stayton Elected to Conservancy Board

Dr. Cheryl Stayton, a licensed psychologist and healthcare administrator, has been elected to the Linn Conservancy's board of directors. Recently retired from her position as Director of Behavioral Health at UPMC Susquehanna, she has managed hospital departments with more than 100 staff and providers, including developing and administrating 7-figure budgets. She was involved with creating treatment programs, particularly in the management of opioid use disorder. Dr. Stayton received her bachelor's degree from Bucknell University, her master's from the University of Pennsylvania, and her doctorate from Bryn Mawr College. She will apprentice with Conservancy Treasurer John Ackerson.

PALTA 2019 Census Report

The PA Land Trust Association (PALTA) recently released its census report for 2019. Reports were compiled from data submitted by 69 land trusts in the state. Here is a summary of that report.

Between 2010 and 2019 land trusts expanded conserved land by 34% in conserving 201,800 acres (315 sq. miles). Protection was accomplished through conservation easements, ownership, or transfer to government agencies. While more than 100,000 Pennsylvanians contribute to land trusts, 69 land trusts have a median of 368 contributors. (Linn is short of this number.) Of 65 organizations holding conservation easements, Linn ranks 31st with seventeen easements, and 23rd in total acreage, 1440, under easement.

Farmland at Risk: Subdivision Threatens Agricultural Land

by Geoff Goodenow

(Some information for this piece was taken from the July/August 2020 *Bay Journal*, Volume 30, #5. The full article is on page 17. You may be able to access it at www.bayjournal.com)

Let's start with the good news: (1) The American Farmland Trust identifies Pennsylvania as the national leader in the number of farms and acres of farmland permanently protected. (2) Closer to home, agricultural land preservation efforts by conservation district staff in Union County has protected over 9,200 acres, while Snyder and Northumberland counties have each preserved over 2,500 acres of farmland. (3) Several of the Linn Conservancy's conservation easements protect valuable farmland within the aforementioned counties. By doing so, county agencies and the Conservancy are protecting valued economic resources for the area – its productive crop land and its scenic open space which attracts tourists and, potentially, new businesses and residents to our area. Unfortunately, over the years, I have seen intrusion upon farmland that I thought had been protected by action taken by some township planning commissions and township supervisors. When does it stop? Losing more not only insults the efforts of past visionaries who sought to protect this irreplaceable resource, but also runs afoul of more recent planning objectives/ recommendations/goals set forth, for example, by the Union County Planning Commission in its 2009 comprehensive plan for Union County. Sadly, protected space is always under attack by special interests. Whether national parks and monuments, state parks and forests or farmland everywhere, there is constant pressure to give up a little more to special interests. An article in the July/

August 2020 edition of the *Bay Journal* highlights loss of farmland in Pennsylvania due to sprawl and large lot subdivision "leapfrogging" across farm country. Please consider some points made within the article:

- The American Farmland Trust reports 374,000 acres of Pennsylvania farmland lost to such development between 2001 and 2016;
- Nationally, Pennsylvania ranks 8th in conversion of farmland to low density housing;
- Low density residential development is 23 times more likely to bring about the urbanization of surrounding farmland than does other agricultural land:
- Unlike urban highly developed development, conversion to low density residential is not closely tied to population growth;
- And, as noted by Lancaster County (the state's most intensively farmed county) planning commission director Scott Standish, as farmland becomes more fragmented by development it reduces the opportunities to have large blocks of farmland, changes the quality of life, creates traffic issues and has cultural impacts.

Numerous studies have shown that farmland demands less in municipal services than do areas of residential, business or other use yet it provides net income to the municipality. Local farms are a major economic driver in our county. They provide us with locally grown food products. The land offers us open green space, a permeable surface to recharge our aquifers, and a sense of connection to Earth and all the services provided by a well-cared for and healthy environment. Let us respect the vision to protect our agricultural resources and the economies they support as set forth by past planning agencies and staff. Ignoring the foresight of those county and other local and state officials now may lead to unforeseen negative consequences for us and future generations.

Local Citizen Scientists Studies Of Contaminants of Emerging Concern

Dave Staebler, Chair, Buffalo Creek Watershed Alliance (BCWA) of the Merrill Linn Conservancy

Household and personal care products contain many chemicals that find their way into our waters. While no regulations exist yet, there are concerns that many of them may be contributing to disruptions of the endocrine systems of fish and amphibians. Penn State researchers enlisted citizen scientists to evaluate their own contribution to these containments, and then collect water samples from stream and river sites for analysis at Penn State labs. I was one of these Citizen Scientists.

Each participant completed a survey of their own household cleaning and personal care products, and used an online tool to determine how many tons of various compounds would exist in the US if every household had

the same amount. Glass cleaner and laundry soap had the highest amount in most households, as was my case. Nevertheless, the highest concentration of contaminants found in the water were from cosmetics and fragrances. The sites where I signed up to collect samples were the two Limestone Runs in our area, one at Brown Park in Milton, the other (popularly known as Bull Run) at Hufnagle Park at Lewisburg. (I did just the Brown Park site in the second round.) For most of the parameters, the Lewisburg site had the higher concentration of contaminates, perhaps reflecting a higher concentration of development along in its watershed than the Milton site, as well as being higher than the average of all 60 sites sampled in the Susquehanna River basin.

For more information see https://extension.psu.edu/grant-allows-citizen-scientists-to-study-emerging-contaminants

Dale's Ridge Trail Rerouted

700-foot extension enhances trail safety

As reported in a July e-blast, a rerouting of a portion of the Dale's Ridge Trail was completed as an Eagle Scout project by Lewisburg scout, Ryan Gilmore. The Conservancy is greatly appreciative of his effort that has been met with tremendous approval by trail users. As noted in a July e-blast, you can see the 7-minute



dedication ceremony including short presentations by Ryan and Geoff Goodenow. Find troop leader Stephen Everson's post at https://www.facebook.com/troop538.org. Ryan's report about his project follows below.

My name is Ryan Gilmore. I am a Boy Scout from Troop 538 in Lewisburg. This spring, I completed my Eagle Scout Project on the Dale's Ridge Trail.

I'd like to start by giving you some background information on me and my project. I've been hiking the Dale's Ridge Trail ever since I moved to Lewisburg 12 years ago. It's always been a great day hike, whether it's a summer afternoon or a snowy morning. As someone with a lot of experience hiking and backpacking, I've always admired the pleasant and well-kept trail at Dale's Ridge.

One of my first experiences doing trail work was two years ago on a conservation hike in preparation for a backpacking trip at Philmont Scout Ranch in New Mexico. It has since become a very rewarding activity for me.

When my dad heard about this project through some colleagues at Bucknell, he saw the potential for an Eagle Scout Project and brought it to my attention. As soon as I heard about it and saw it, I knew it was a perfect project for me. It gave me an opportunity to combine my personal connection to this trail with my enjoyment of trail building.

One of the major maintenance needs that the Merrill Linn Conservancy had identified was fixing a steep and often slippery section of the trail. My project was to replace this section with a longer, more gradual switchback. We planned a route that took into account both hikeability and sustainability. After that came clearing of branches, vines, and roots. There was also groundwork: weeding, raking, and bench cutting into the slope. The trail is now what it is today because of almost 100 person-hours of work.

The project also didn't go the way I expected. When I started planning it to get it approved, what I had in mind was 3 or 4 long workdays, with more than 10 people working all along the trail. Instead, I had to plan socially distanced workdays with disinfected tools and separated trail sections. The majority of the work ended up being short weekend trips with just my dad and me on the trail section. Even though it didn't go entirely according to plan, I've learned a lot through this project about trailbuilding, communication, leadership, and even treatment for poison ivy. Now, all the work has come together, and there is a great new section of trail ready for community use.

This trail section wouldn't be here today if it weren't for some very important people. First of all, I have to thank Geoff Goodenow and the Merrill Linn Conservancy for their help and patience with this project as I learned along the way. He has given me everything I needed and more. Also, I'd like to thank Brian Auman, who has shared his invaluable trail building knowledge and experience to help me

accomplish this project. He also connected me with the Bald Eagle Mountain Bike Association, which graciously loaned me many trail building tools. I will also thank the Union County GIS Department for supplying me with a topographical map that was invaluable for planning the route. I would also like to thank Ian Wood, my Eagle Scout



Eagle Scout Ryan Gilmore (right) with father Kevin Gilmore

Project Coach, and Steve Everson, my Scout Troop Leader, for their guidance and advice as I went through the project process. I am also very thankful for all the volunteers who helped work on the trail; they did very good work and made the project go much faster.

Last but not least, I need to thank my dad, who has been by my side throughout the entire project. He motivated me and kept me focused; he was working with me every time we came out to the trail, and he is the one who got me started on it all. I hope you have a chance to experience and enjoy the new trail.

thank you!

New Members: Margaret Merlino, Venice, Florida Thank you to: IBM Corporation, a matching donation based on a company retiree's donation to Linn Cynthia Kessler, donation in memory of her nephew, Jeff Bowers

Mary Beth Gray — assisting in boulder placement at DEW

Steve Glenny and New Enterprise Stone and Lime Company — boulders for DRT

Vance Waggonner — assistance at the Koons Trail

Jeff Roat and son Derrick — Koons Trail

maintenance; highway cleanup

Warren Abrahamson/Wayne McDiffett — updates to Shamokin Mtn. trail guide

David Pearson, long-time BCWA board member, head of the Alliance's water testing program, a past president and all-round great guy, has hung up the many hats he has worn for the group since its 2002 founding. David will be missed but his contributions to the organization's many successes will always be remembered. Thank you, David, for your work on behalf of our local waterways and environment.

Easement monitors -- Our thanks to the volunteers who assisted in our annual monitoring of each of our 17 easements. Four of our long-time monitors, Bob and Barb Thomas, Chuck Lebo, and Owen Anderson are stepping away after years in the role. Replacing them are Keith Moyer, new easement monitor for the Koons easement; Brent and Amanda Kline, new easement monitors for Dale-Engle-Walker property; Ellen Chamberlin replacing Owen on a western Union County property.

Trail stewards – Spring and summer are particularly busy times as trail stewards cut back weeds and vines and other chores to keep them safe and comfortable for hikers/walkers.

Property (with trails) owners Ryan and Samantha Sabo (Koons), Warren and Christy Abrahamson, Wayne McDiffett, Ruth Burnham (Shamokin Mtn.); Michael and Rickie Gross (Glacier Pools) devote many hours to the cause. Tom Travis, chief steward at Dale's Ridge, and a cadre of monthly assistants; Scout Troop 610 Watsontown, Merrill Linn Trail.

Building Our Endowment: Assuring Our Future

Past Linn Conservancy president, Susan Warner-Mills, kicked off our Campaign to Sustain in 2018 with a tremendous and successful effort to establish and grow an endowment to support the Conservancy long-term. The fund continues to grow under management by the First Community Foundation of PA (FCFP) in Williamsport.

If interested in contributing to our endowment by way of gifts of any kind (monetary, stocks, real estate, for example) or if considering the Conservancy in your estate planning, please contact our office by email or phone for any desired assistance.

Family Forest Carbon Program

(Information provided by Jeff Osborne, service forester, Bald Eagle State Forest office, Laurelton)

I wanted to share information on the Family Forest Carbon Program that is being piloted in Centre, Dauphin, Juniata, Mifflin, Perry, Snyder, Union and several northern counties. Owners of at least 30 acres of forest may be eligible. The program provides financial incentives for managing forests in ways that should increase carbon storage. There is also financial aid for pre/post harvest practices to establish tree regeneration.

Visit the Family Forest Carbon Program website (<u>www.familyforestcarbon.org</u>) to learn more and check your eligibility. The Family Forest Carbon

Program will be administered through the American Forest Foundation along with consulting foresters. Their plan was to expand to the rest of the state around October.

Business Partners for 2020

Thank you to those business owners who have joined our Business Partner program for 2020. Your membership renewal letter contained your 2020 partner card indicating participating businesses for the current year and the discount they offer to you. Please patronize them as we hope that both they and our members benefit by this relationship.

Bertoni's Pizza, Montandon Lewisburg Studio, Vargo Outdoors, Mondragon Books, Lewisburg Brookside Bikes, Mifflinburg Ian Adrian Nature Photography, iannaturephotography.com The Merrill W. Linn Land & Waterways Conservancy PO Box 501 Lewisburg, PA 17837

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