

Susquehanna Ripples

Newsletter of the Susquehanna Chapter of Trout Unlimited #044

November 2021

Chapter Meeting to be held November 10 and feature two great presentations



Emily Baldauff

Mid Atlantic Organizer for Trout Unlimited

Emily started with National TU in February. Her responsibilities include supporting, organizing, and training TU members and other sportsmen to advocate on behalf of coldwater fisheries conservation. She also assists in monitoring and analyzing state-level policy and legislation.

Emily has worked extensively throughout the state and Mid-Atlantic region in previous roles. She holds a Bachelor of Science in Environmental Resource Management from Keystone College, LaPlume, Pa. She is also currently the Susquehanna North Branch Water Trail Coordinator for Endless Mountains Heritage Region in Towanda, Pa. and an Adjunct Professor at Keystone College in LaPlume, Pa. teaching Environmental Science and Environmental Management & Policy.



Dr. Peter Petokas

Dr. Peter J. Petokas of Lycoming College will describe the history of the hellbender salamander in Pennsylvania, from the treatment of the hellbender as a nuisance species in the early 1900's up through the recent designation of the hellbender as the Pennsylvania State Amphibian. He will address historical distribution up through current distribution in Pennsylvania with notes on the status of the species in its entire North American range. Learn more about the life history traits of the hellbender, its evolutionary relationship to other amphibians, highlights of 15 years of ecological research with the hellbender in Pennsylvania and New York, recent conservation efforts to raise and release hellbenders to the wild and restore habitat, and the path taken by a group of high school students who sought to have the Eastern Hell-

bender identified as the official state amphibian.

Dr. Peter J. Petokas is a Freshwater Ecologist and Research Associate with the Clean Water Institute at Lycoming College in Williamsport, PA. He earned his Doctorate in Ecology from Binghamton University and a Master of Science in Wildlife Ecology and Management from the State University of New York, College of Environmental Science and Forestry in Syracuse. His research interests include the study of amphibians and reptiles, conservation biology, vernal pool and wetland ecology, fish ecology, and the restoration of streams and watersheds.

COLD WATER KILLS!



WEAR YOUR LIFE JACKET!

Boaters are required by law to wear a life jacket while underway or at anchor on boats less than 16 feet in length or any canoe, kayak, or paddleboard during the cold weather months from **November 1 through April 30**.

Life jackets save lives year-round!
The Commission strongly encourages all boaters to wear their life jackets at all times on the water.



Penalty for Violation as Provided by Law
Pennsylvania Fish and Boat Commission



Officer and Directors

President

Charles Knowlden
cknow@comcast.net
(570)971-1296

Vice President

Walt Nicholson
walt.nicholson10@gmail.com

Secretary

Kevin McJunkin
kevinmcjunkin@comcast.net

Treasurer

Bob Baker
boblaker@comcast.net

Director Emeritus and Advisor

Bill O'Connor

Board of Directors

Isaac Bragunier (2021)
Dave Craig (2021)
Dave Wonderlich (2022)
Joe Radley (2022)
Bob Spencer (2023)
Bill Worobec (2023)

Media Liaison

Kevin McJunkin

Program Director

Joe Radley

Veteran's Service Partnership

Coordinator

Charles Knowlden
(570)971-1296

Youth and Women's Coordinator
Trout in the Classroom Coordinator

Newsletter Editor/Webmaster

Bob Baker
boblaker@comcast.net

susquehannatu.com
susquehannatu@gmail.com



President's Message

**From Charles Knowlden
President, Susquehanna Chapter
of Trout Unlimited**

November 2021



There is good news on the national level. The U.S. District Court in Alaska has ordered the EPA to reinstate protection for the headwaters of Bristol Bay. This will help protect the finest salmon fishery in North America from the proposed mining activity and other possible pollutants to the ecosystem. TU has been the lead on the fight to protect Bristol Bay and its tributaries and will continue working until all the regulations are finalized next year.

The officers and directors of the local chapter have been monitoring the progress of the proposed ATV trail in the Pine Creek watershed. The main contention is the proposal to open a closed section of road that would impact the Trout Run tributary of Pine Creek. This road had previously been closed to all vehicular traffic to prevent erosion and sedimentation to Trout Run, a native Brook Trout Spawning area. Susquehanna TU and the Slate Run Sportsmen have already prepared affidavits objecting to opening this road. The Lycoming Audubon Society and the Pine Creek Preservation Association are joining in the fight by presenting affidavits of their own. The Pennsylvania Environmental Defense Foundation has taken the lead on coordinating the effort to save this pristine part of our area. Another area of concern with the proposed trail is the safety concerns of sharing part of the Slate Run road between cars, trucks, and ATV's.

The Montgomery High School has an active fly tying club to complement their Trout in The Classroom program. Jared Stetts, the advisor, contacted us about helping with supplies and equipment. Walt Nicholson and I met with him and gave him 3 old flyrods that had been donated to the chapter and ½ dozen sets of used fly tying equipment as well as some supplies to help him and his 20 students. We are glad to see the younger people getting involved in the worthwhile environmental activity. TU has also donated to the chapter a new Youth Fly Fishing Outfit designed particularly for small framed people. It is available for us to use in any program we schedule in the future.

We finally were able to renew our small games of chance license thanks to the willingness of the church to use their address. They respectfully asked that we not include the church's name on the tickets or any advertising for a raffle.

Elections are being held this coming Wednesday Evening, November 10 at our regular meeting. A list of candidates is posted in this issue of the Ripples and On-line at our website. The position of Vice President is unfilled. If you have an interest in running and serving in this position, please let an officer or director know ASAP.

It has been my pleasure and very rewarding to have served as your president these last two years.

The brook trout at the top of page 1 was caught on Boulder Mountain in Southern Utah. The picture was taken by Jason Morrison and was featured in the 2014 Trout Unlimited Calendar for the month of April. The picture is used with his permission and we thank Jason for allowing us to use it.

Chapter Elections

The annual elections of the Susquehanna Chapter of Trout Unlimited will take place at the November 10, 2021 Chapter meeting. The nominating committee has listed the following slate of Officers;

President: Walt Nicholson
Vice President: Open
Secretary: Kevin McJunkin
Treasurer: Bob Baker

Directors (2 available positions)

Dave Craig

John Kolb

Nominations will be taken from the floor prior to the election. Any member is able to run for, and hold office. If you will be nominating someone, please make sure they are willing to service prior to nominating them.

There is also a number of committees that need a Chairperson / members to help with. We are specifically looking for someone to lead our Women's committee, Youth Committee and the Diversity Committee.

Please consider helping lead your Chapter for the next year. Any amount of time you can give is muchly appreciated.

Chapter Financial Review

Per the bylaws, the Past President shall serve as the Financial Reviewer. Walt Nicholson presently serves in this capacity. He is responsible for getting the mail from the mailbox. He reviews all bank statements and any checks that we receive prior to giving them to me. Walt is not permitted to sign any checks or sign for any withdrawals from the bank. Should you have any questions, please let Walt or I know. Bob Baker, Treasurer

Earliest evidence of fly-fishing unearthed on Jordan River

A new study by Tel-Hai College and international archaeologists showed that ancient fishermen in Israel employed incredibly sophisticated technology.

Some 13,000 years ago, prehistoric inhabitants of the Hula Valley went fly fishing in the Jordan River and employed incredibly sophisticated tools, the peer reviewed scientific journal PLOS ONE reported.

Researchers from Tel-Hai College in the Galilee, the US, Italy and Germany employed a multidisciplinary approach to analyze artifacts and other remains collected at the Jordan River Dureijat site, including several bone fishhooks and six grooved stones.

The findings represent the world's most ancient evidence for turning the hooks themselves into a bait.

"Using the technique of three-dimensional scanning and high-magnification microscopes, we were able to reproduce the advanced technology through which the hooks were made," said Prof. Gonen Sharon, lead author of the study and director of the master's program in Galilee studies at Tel-Hai. "Each hook is a work of art in itself, and no two hooks are the same size."

The Dureijat Epipaleolithic site was discovered following a drainage operation in the Hula Valley in 1999. It started to be visited by groups of hunter-gatherers 20,000 years ago and remained in use for about 10,000 years.

Among the artifacts found were limestone net sinkers. The ancient fishers also used plant materials to tie fine fishing lines and used resin as glue. Archaeologists found evidence of lures, the most ancient testimony of fly-fishing methods ever uncovered.

"The variety of size and types is amazing, and the technology expressed in their making is just in-

comparable," Sharon said. "Now we know that apart from using metal for the hooks and nylon for the line, modern fishing invented nothing."

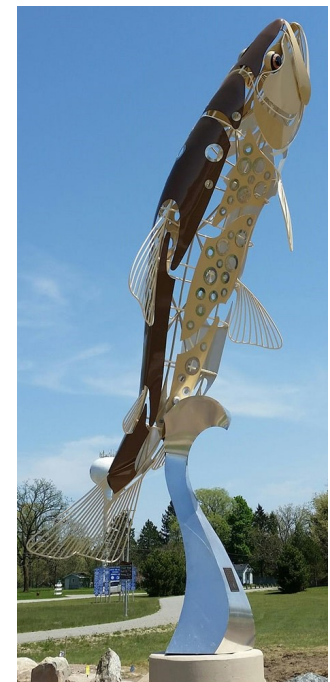
The archaeologists also uncovered a large amount of fish bones at the site. The study of the bones, as well as of the teeth, showed that the fish were as long as two meters.

The rich environment likely helped the last hunter-gatherers transition to a sedentary lifestyle based on agriculture.

The above article was taken from The Jerusalem Post and was written by Rossella Tercatin and published online October 7, 2021.

<https://www.jpost.com/archaeology/13000-years-ago-prehistoric-people-went-flyfishing-on-the-jordan-river-681251>

This month's ***Where in the World?*** is the world's largest brown trout. This artwork was designed by Sculptor Ivan Iler and was dedicated on May 6, 2018. The trout is 25 feet tall, 8 feet in diameter at its widest point and weighs almost 1000 pounds. The base is 4 feet in diameter and 8 feet tall. See the answer on page 7.



TU's Brook Trout Atlas

TU has several online interactive atlases that allow you to explore mapped data related to brook trout populations, habitats, and threats in local watersheds and across their eastern range. Each atlas presents a different theme of information and can be used to identify, evaluate, and explore conservation opportunities. The maps allow users to select layers to show on the map, pan and zoom to an area of interest, click on layers for more information, and change reference base maps. Each atlas describes potential uses and data sources in detail. The Brook Trout Atlas was developed with the support of TU's Coldwater Conservation Fund and uses data provided by federal and state agencies. The following atlas's are available

Conservation Portfolio

This atlas presents the results of TU's Conservation Portfolio, a framework to evaluate each brook trout population for its resiliency to disturbances, likelihood of demographic persistence, and representation of elements of diversity. The atlas includes information about potential life histories brook trout may express, given the diversity of habitats accessible to populations.

Public Lands

Conservation lands protect a number of brook trout populations. This atlas presents information on the location of protected federal, state, and other conservation lands within the eastern range of brook trout.

Stream Temperature

Coldwater is a key habitat attribute of brook trout streams. This atlas allows you to explore the pattern of modeled stream temperatures and ongoing stream temperature monitoring efforts within the eastern range of brook trout. The atlas can be a resource for planning future stream temperature monitoring.

TU Projects

This atlas allows you to explore the location of recent TU projects within the eastern range of brook trout.

Energy Development

This atlas presents information on existing oil and gas wells and proposed natural gas pipelines within the eastern range of brook trout.

Waters of the US

Small headwaters and intermittent streams provide important spawning and rearing habitats for brook trout. The 2015 Clean Water Rule extended Clean Water Act protections to these habitats, but that rule is under review following a 2017 executive order. This atlas presents information on headwater streams in the eastern range of brook trout.

Fish Passage

Road culverts can impede fish passage and fragment habitats. This atlas presents the pattern of potential fish passage barriers in the form of road-stream intersections within the eastern range of brook trout.

To see the maps or to learn more, please go to <https://www.tu.org/science/science-engagement/interactive-maps/brook-trout-atlas>

Hell Bent for Hellbenders

By Dr. Peter Petokas

My exploration of Pennsylvania waterways for the giant, yet elusive, Eastern hellbender salamander began some fourteen years ago with a training dive in Loyalsock Creek in mid-November. My wet suit offered little protection against the bitter cold and I shivered endlessly as I waited for the instructor's call to dive thirty feet down to the creek bottom. I had paid for this experience because I was told I might see a hellbender, but the opportunity I was hoping for did not materialize. In subsequent years, I acquired the ability to find these amazing salamanders with relative ease and have become something of an expert on the ecology of a unique amphibian that few Pennsylvanians will ever see.

Eastern hellbenders are giants of the salamander world. They can attain lengths of up to twenty-nine inches, but very few reach such a massive size. Comparing a hellbender to the common red-spotted newt or red-backed salamander is like comparing apples to oranges, as the hellbender is only distantly related to those more familiar amphibians. They are more closely related to the giant salamanders of China and Japan. The hellbender is clearly a descendent of those Asian titans, who sometimes attain lengths of four or five feet, and whose evolutionary history clearly had them living in North America over ten thousand years ago. But advancing glaciers and an inhospitable climate took their toll on the giants, leaving the hellbender as the sole North American representative, one whose fossil history shows it lived at the same time as other megafauna such as the woolly mammoth and saber-tooth tiger.

For the past eleven years, I have been studying the hellbender in streams and rivers of the state's north country, including Pine Creek. Difficult to find, the giants secure themselves beneath rocks of massive size and rarely venture out to feed or find mates. They are sit-and-wait predators that grab a passing food item, almost always a crayfish, by using a powerful suction-feeding mechanism. The hellbender "vacuums" a crayfish into its mouth, then swallows the crustacean whole. One might suppose that the armored skeleton of a crayfish should not be digestible, or very palatable, but the hellbender's tough gut can process every last bit of it for needed nutrients and energy.

Hellbenders live a solitary lifestyle inside gravelly chambers that they excavate beneath boulders in places where the current is hard and fast. In early fall, the females are enticed to deposit long strings of pearl-like eggs inside the males' chambers, where the males then fertilize them. The females depart after the egg-laying, leaving the male, or denmaster, with the responsibility of tending the eggs. For six to eight weeks, the embryos

develop slowly and then, in flurry of activity, the tiny, gilled, larvae with bright yellow bellies burst through the outer membrane to join siblings huddled in a corner of the chamber. The job of the denmaster is not finished until mid-spring, when the youngsters move out to seek a shelter of their own and to forage for stream insects, or perhaps become food for fish, crayfish, or even larger hellbenders. The larvae will wander the maze of stream rocks, feeding and growing until they attain maturity at age six or seven.

As adults, they are at little risk from predators other than humans, who sometimes kill them not realizing how harmless they are or how valuable they are to stream and river ecosystems. Sportsmen in north central Pennsylvania had a tradition of "hellbender hunting" that reached its heyday in the 1930s when they sought to rid streams of the perceived enemy of their beloved trout, not knowing that hellbenders dine solely on crustaceans. Fortunately, the hunts were not entirely successful.



However, the hellbenders are today on the verge of extinction in many parts of Pennsylvania, and throughout their North American range, extending from New York through the central Appalachians to northern Georgia. To the west, the Ozark hellbender, a variant of the Eastern hellbender, has been designated by the U.S. Fish and Wildlife Service as an endangered species, and I would argue that the Eastern hellbender should be listed as well. Since the mid-1800s, Pennsylvania streams have been poisoned by mine and tannery discharges, stream channels straightened and rocks removed to float timber, and stream rocks slowly but progressively covered with the sediments released by logging and agricultural activities. While today we have improved water quality, the large-rock habitat that this animal favors remains buried beneath thick layers of stream sediment.

Continued on next page

Hell Bent for Hellbenders continued

Even so, the underlying cause for the recent declines and local extinctions of hellbender populations is not easily attributed to anthropogenic stream degradation. Instead, disease seems to be a likely culprit, but we do not yet know if it is the destructive skin fungus that has been killing off amphibians across the globe or some as-yet unidentified virus. Whatever the cause, the stress of poor water quality, lack of rock cover, and invasions by non-native rusty crayfish may also be contributing factors.

The hellbender will need our assistance in order to reestablish itself in Pennsylvania waterways. With the aid of high school and college students, I have been installing “bender huts” in area streams. The concrete huts serve as shelter for the salamanders and provide us with a means to collect fertile eggs and hatchlings. In October 2014, 100 hellbender eggs and larvae from north central Pennsylvania were placed in the care of the Wildlife Conservation Society’s Bronx Zoo in New York. In August 2018, at age three and a half, the juveniles were released into a historic hellbender stream. Monitoring is now underway to assess the success of this nascent reintroduction project. High school students with the Chesapeake Bay Foundation’s Student Leadership Council are being recognized for writing a bill designating the Eastern hellbender as the official Pennsylvania state amphibian. The bill has been voted out of Senate committee and is awaiting further action by state legislators and the governor.

If you see a hellbender in a Pennsylvania stream, be sure to give this animal the respect it deserves and let it be. If you would like to share your experience with these amazing giants, or for more information, visit lycoming.edu/~petokas.

The above article was written by Dr. Petokas and was printed in the May 2019 issue of Mountain Home Magazine. We would like to thank Dr. Petokas for giving us permission to reprint this article.



**what's your
HELLBENDER
nickname?**

birth month + favorite color

JANUARY: MUCK	BLUE: URCHIN
FEBRUARY: MUD	RED: OTTER
MARCH: SNOT	GREEN: GRAMPUS
APRIL: SLUDGE	PURPLE: DEVIL
MAY: GLOP	BLACK: DRAGON
JUNE: SLIME	ORANGE: GATOR
JULY: SCUM	PINK: PUPPY
AUGUST: GUNK	YELLOW: BEAST
SEPTEMBER: SWAMP	
OCTOBER: MARSH	
NOVEMBER: BLOTCH	
DECEMBER: GOO	



Fly of the Month



Thor - X Fly
By James Birkholm

Hook: Any dry fly light wire, barbless hook
Thread: Standard 6/0, or lighter, color to match insect
Tail: Moose Mane or good quality hackle barbels
Body: Dubbing to match insect
Wing: Hackle tips or other suitable material
Hackle: Grade #1. One size larger than normal

This style is generally accredited to the late Vincent Marinaro. He developed it in Pennsylvania using underwater photography of living insects and by observing the 'foot-print' patterns made by them. It must be produced using the finest materials available. No variation of tying style, nor improvement of the style will produce the intended results.

Pattern taken from <http://www.flyangleronline.com/flytying/fotw/3298fotw.php>



Treasurer's Report April 1, 2021 through October 31, 2021 Submitted by Bob Baker, Treasurer

Checking Account Opening Balance:	\$5003.00
Income:	
Donations	250.00
Sale of Merchandise	55.00
New Member Rebate	<u>45.00</u>
Total Income	\$305.00
Checking Expenses	
Covenant Central Presbyterian Church Donations	\$450.00
Small Games of Chance License	125.00
Post Office Box Rental	134.00
Pennsylvania Environmental Defense Foundation	1000.00
Reimbursement to Walt Nicholson	
Copying TU Brochure	12.75
Sales Tax	0.77
Reimbursement to Walt Nicholson	
Youth fishing game	87.04
Reimbursement to Montgomery High School, Trout in the Classroom	<u>106.11</u>
Total Checking Account Expenses:	\$1,915.67
Checking Account Balance:	\$3,392.33
Savings Account Opening Balance:	\$26,273.30

Service Partnership Opening Balance	<u>1,207.52</u>
Total Account Balance:	\$27,480.80
Income:	
Dividend	6.89
No Expenses	
Savings Ending Balance	\$26,280.19
Service Partnership Balance	<u>1,207.52</u>
Savings Account Balance	\$27,487.71
Total Money in Bank	
Checking	\$3,392.33
Savings	<u>\$27,487.71</u>
	\$30,880.04

Where in the World?

The World's Largest Brown Trout Statue

Found in Baldwin, Michigan, this statue signifies the cool, clear waters of the Baldwin River. Brown trout are a European species, and were first introduced to U.S. waters in 1884, when the U.S. Fish Commission released nearly 5,000 of the fish into the Baldwin River, a tributary of the Pere Marquette in Baldwin, Michigan.



Susquehanna Ripples
Susquehanna Chapter of Trout Unlimited
PO Box 1132
Williamsport, PA 17703 - 1132

Since 1964, the Mission of the Susquehanna Chapter of Trout Unlimited is to work to conserve, protect and restore Central Pennsylvania's Coldwater fisheries and their watersheds

Upcoming Events

**November 1, 2020 through
April 30, 2021**
Mandatory Life Jacket
Requirement

November 10, 2021
Chapter Meeting / Elections

January 1 - February 15, 2022
Extended Trout Season
Stocked Trout Waters Only

January 12, 2022
Chapter Meeting
Watershed Summit - Tentative

January 27 - 30, 2022
Early Bird Sports Expo
Bloomsburg Fairgrounds

January 28, 29 & 30, 2022
The Fly Fishing Show
Edison, New Jersey

February 5 - 13, 2022
The Great American Outdoor
Show, Harrisburg

February 9, 2022
Chapter Meeting
PFBC Representatives- Tentative

March 5 - 6 2022
The Fly Fishing Show
Lancaster, PA

March 9, 2022
Chapter Meeting

March 26, 2022
Statewide Mentored Youth Trout
Fishing

April 2, 2022
Statewide Opening of Trout

April 13, 2022
Chapter Meeting

Chapter meetings held on the 2nd Wednesday of each month and are open to the public and begin at 7:00 pm (unless otherwise noted). Meetings are held at the **Covenant Central Presbyterian Church, 807 W 4th St, Williamsport, PA 17701**, in the Fellowship Hall (unless otherwise noted). Parking is at the rear of the Church and enter off of Campbell Street.

No meetings are held in May, June, July, August or December

The **Susquehanna Ripples** is the official newsletter of the Susquehanna Chapter of Trout Unlimited. It is published 8 times a year: January, February, March, April, June/July, September, October, and November. Please consider submitting something of interest to our readers; a story, stream report, recipe, photograph, gear review, etc. Submissions received will be placed in the next available issue. All submissions can be sent to susquehannatu@gmail.com or boblaker@comcast.net.