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President's Message - Pat Dawson

The Twin and Walker Creeks Watershed Conservancy had a busy year during 2019. The organization transitioned to a new consultant, Pocono Lake Ecological Observation Network (PLEON), for analyzing water samples collected at the three lakes in our watershed. FX Browne previously conducted the chemistry and wrote annual reports but was sold to another entity. PLEON is located in the Lacawac Sanctuary not far from Lake Wallenpaupack, and has its own laboratory plus connections to academic science departments.

For the first time, our consultant visited the three lakes and took measurements, testing for Nitrogen for the three lakes and zooplankton and phytoplankton for Big and Little Twin Lakes as part of the contract. The three lakes were tested for toxic algae as part of a research project and therefore, at no charge, an added bonus in 2019 of this new contract. Inside the newsletter you will find a brief update on the results. The Director of PLEON, Dr. Beth Norman, will present the results at our August 29th meeting at the Walker Lake Landowners Association clubhouse at 10 AM. The meeting will be recorded via webcam and posted onto our website.

In August, 2019, the Conservancy had its best attended presentation given by Bill Streeter from the Delaware Raptor Center. In the past the Conservancy has had such events in September or October, and the earlier date before school opened was deemed successful. This event was in memory of one of our dedicated members, Diane Tishler, and the memorial funds collected will help defray future programs. Please see the photos and more information about the raptor program inside the newsletter.

The photo contest resulted in a number of new contestants, and high school students participated after marketing the photo contest to the Art Department Chairperson at Delaware Valley School District. We are hoping to continue to get greater involvement this coming year. Because of the coronavirus situation, the rules have been modified to submitting photos August 1 – September 1 and mailing to our Treasurer, 108 Lakeview Drive, Shohola, PA 18458. This will allow Scott Rando, our photo contest judge, to safely obtain the photos and to judge them in time for the September 20th annual meeting.

Our board meetings are open and free to the public at the Walker Lake Landowners Association clubhouse, located at 100 Walker Lake Road, Shohola, PA. We have been holding our meetings virtually, but hope things will get back to normal before too long!

If you have any suggestions or questions, please feel free to drop me a line at president@twcwc.com, and check out our website: <http://twcwc.com>.

The mission of the Conservancy is to promote a better understanding of the Twin/Walker Creeks Watershed and its ecosystems and to protect, restore and enhance the watershed through proper management and watershed stewardship.

The Beginnings of the Twin/Walker Creeks Watershed - Conservancy - Joyce Laudise

It was early summer of 2000, Dave Kirk was fishing at a stream near the house on Walker Lake that he and his wife Leanne had recently built, having left NJ for a quieter retired life in the Poconos. Bill Manner, a representative of the Pa Dept of Environmental Protection, happened by, casually asked for Dave's fishing license and they started talking about Walker Lake, the streams nearby by and Dave's passion for fishing. Dave was somewhat in disbelief that he could just take a short walk from his house to catch then release some of the best fish he had ever seen. Discussion got around to the need to protect such a special place. Ed told Dave about a meeting that would take place on Saturday, July 8, 2000 at the Pike County Conservation Office in Hawley. Ed mentioned that the main purpose of the meeting was to enlist citizens as volunteers to monitor and protect PA lakes, streams and wetlands **and** that state money was available.

Walker Lake and the Twin Lakes had been monitored over the years by their respective associations. Joyce Laudise had been in contact with Sally Corrigan at the Pike County Conservation District seeking funding for equipment to continue monitoring the Twin Lakes. Sally mentioned the July meeting to her.

Dave and Joyce both attended. Bill introduced them to each other and said they should work together because the Twin Lakes and Walker Lakes are smaller parts of a common watershed that enters the Delaware River. He suggested a watershed association would be eligible for a Growing Greener Grant if members worked to prevent pollution and keep this part of the Delaware River of High Quality.

Dave enlisted Ralph and Linda Cioppa, Peter Wulforst, and Joyce got PD McCullough, Peter Loewrigkeit, and Joe and Pat Messineo. They worked like beavers to get a plan in place. They (1) defined the boundaries of the Twin/Walker Creeks watershed, (2) identified interested stakeholders within the boundaries, (3) wrote a constitution and by-laws, (4) incorporated and filed for 501c3 status, (5) applied for and received a Growing Greener Grant.

The first public meeting of the Conservancy was held on June 23, 2001 at the Walker Lake Clubhouse. The following winter there was much to do. Using the grant money, an outside consultant was hired to do a comprehensive study and offer suggestions for managing the watershed. He relied on Conservancy members for help with such things as measuring stream flow, identifying runoff and erosion sites, observing the flora and fauna and getting him out of a ditch in a snowstorm. A wet Chem. Lab was constructed in the basement of the Walker Lake clubhouse and allowed the Conservancy to do their own water analysis.

Dave was a chemist who had been Director of Toxicology at Merck and was responsible for protecting employees from chemical exposure. Joyce had been a teacher who was working part time as a teacher/naturalist with the Union County Park system in NJ. In the winter of 2002-2003 they wrote a manual for water testing and used it to instruct 13 residents who volunteered for lake monitoring in the summer.

Aided by grants and member contributions, other major Conservancy projects have included an oil tank/septic system survey with resulting outreach, plus remediation of storm water sites and depth readings for the three principle lakes in the watershed. Watching over the watershed including monitoring the lakes and the education of residents are ongoing.

Twenty years later and Dave's untimely death in 2016 and Joe Messineo's death in 2015 the need to protect our watershed is just as important as it was then. Whenever you put in hours of sweat equity and/or contribute financially to the Conservancy think of this proverb, "We have not inherited the world from our forefathers. We have borrowed it from our children." Dave, Joe and those who formed the Conservancy but have moved away or retired would be pleased to know the work they began continues with your help.

2019 Water Quality Monitoring Report for Walker Lake, Twin Lake and Little Twin Lake - Chet Dawson & Jim Deiner

TWCWC contracted with the Pocono Ecological Observation Network (PLEON) to assist with our 2019 lake monitoring. PLEON is part of the Lacawac Sanctuary and Biological Field Station in Ariel, PA. It is run by Dr. Beth Norman, Director of Science and Research at the Sanctuary and supported by scientists at several universities and at the site. It was started to assist area lakes to better understand their water quality and as of 2019, the PLEON dataset consisted of 18 lakes in Pike, Monroe and Wayne Counties. TWCWC will continue to conduct self-monitoring as before but with expanded nutrient monitoring and assistance from PLEON to conduct zooplankton, phytoplankton and a second means of measuring light penetration beyond the secchi disc we use. PTOX screening, if needed for harmful algae, can be performed at an additional cost.

Big Twin is the largest PLEON lake in surface area and is above the PLEON average shoreline and maximum depth. In contrast, Little Twin is below the PLEON average surface area and shoreline but deeper than the PLEON average maximum depth. Walker is slightly above the PLEON average in regards to surface area and shoreline and slightly shallower than the PLEON average maximum depth. While a summary of the annual testing is being reported here be sure to attend a full presentation and discussion of the test results by Dr. Norman:

**Presentation and Discussion of 2019 Lake Monitoring Results
August 29, 2020 - 10:00 to 11:00 AM, Walker Lake Clubhouse
An optional on-line version will also be available.**

While we did not see any significant fluctuations in test results from past years, the added tests and PLEON's expertise did add to our understanding. All three lakes were deemed healthy. Secchi depth (indicating light penetration) was similar to past years for Big Twin Lake and down slightly for Little Twin and Walker Lakes with the greatest penetration for Little Twin and least for Walker Lake. Sediment and nutrients in storm water runoff from higher than normal rainfall were thought to have caused the slight changes.

Big Twin had significantly warmer deep-water temperatures than the other two lakes with Little Twin the coolest. While PLEON did not investigate a cause, this may have simply been caused by the testing location proximity to a spring and is something that had not been pointed out to us in the past. All three lakes were thermally stratified throughout the summer. For Big Twin and Walker Lake the dissolved oxygen in the water dropped rapidly below the stratified layer; however, as in the last couple of years, dissolved oxygen doubled at depths of 4 to 6 meters for Little Twin Lake and then rapidly fell off. Dissolved oxygen approaches zero below 4 meters for Walker lake, 6 meters for Big Twin and 8 meters for Little Twin. The increase in oxygen for Little Twin Lake had been a mystery to us and at first we thought our equipment had malfunctioned. This was the first year for phytoplankton and common algae testing at differing depths for Little Twin Lake and we discovered that higher oxygen levels corresponded to denser populations of both. Phytoplankton and common algae, as with most plants, produce oxygen during photosynthesis explaining the rise in dissolved oxygen. We are not sure why the plankton are moving to lower depths in Little Twin Lake but it may be to escape the sun's radiation in this clearer lake.

Conductivity for Little Twin continues to be two to three times that of the other two lakes which compares directly with the two to three times salt content for this lake. This was the second year we have performed metals analysis thanks to TWCWC member Dr. Lung-Chi Chen. Most other metal readings were similar for the three lakes except for much higher levels of iron for Walker Lake. Iron is found in the soils in our area and is probably coming with storm water runoff. All metals were well below any concern level. Average summer total phosphorus for Walker Lake was 21.1 microgram/liter or three times that of the two Twin Lakes. While this is still below the 25 micro gram/liter threshold for nutrient pollution it is concerning and may be indicative of fertilizer use, failed septic tanks etc. A lake manager's proverb says "Green Lawns Create Green Lakes" and the use of any fertilizers should be discouraged.

This was the first year that we conducted cyanobacteria or toxic blue green algae screening. This was part of a Pocono Lakes survey led by Miami University in collaboration with PLEON. Testing in 2019 was for microcystins only, one of many toxin groups. Samples were analyzed by GreenWater Labs, which provides results within 24 hours of receiving samples. While results showed low levels of toxins in our three lakes and additional toxin testing was not recommended in 2019, we need to note that toxins can occur at any time and in any location.

Close Encounters with Birds of Prey - Chet Dawson



Pat and I first met Bill Streeter at a Zane Grey Festival. Bill had several of his birds with him and Pat was excited about someday inviting Bill to speak at a TWCWC event. That became a reality at the TWCWC Annual Meeting on August 10, 2019. This was also a time to honor the memory of member, friend and avid birder, Diane Tishler (at left).



A Walker Lake Clubhouse standing room only audience of 99 adults and children watched intently as Bill Streeter and his birds informed and entertained us. Bill brought from the Delaware Valley Raptor Center, two hawks, a falcon, two owls and a bald eagle. Close encounters we had as Bill took each of his birds, except the eagle, for a tour around the audience. Bill has been doing this show for some time now and it showed with his rapport with the audience and the birds. While the Raptor Center brings many of the injured birds it receives back to where they can be released, the birds he brought with him have injuries that will prevent them from ever being returned to the wild.

Protecting Twin Lakes and Walker Lake from Invasive Plants - Barbara Whitney

We are living in a very different era where goods, people and services are being shipped around the world. Because of this globalized economy, different species are hitchhiking through many different pathways. Species can be moved to new locations in many different ways and most are a result of human activity, including recreational activities. Some common way that species may be moved during recreational boating and other activities include:

Attaching to watercraft, trailers, motor and fishing gear.

- Transport by water ballast water, bilge, and other water containing devices.
- Dumping of unwanted live bait
- Tangled in fishing lines and downrigger cables
- Sticking to the soles of waders
- Trapped in mud on a dog's paws



Just one organism, or in some case a piece of a plant, is enough to start a new invasion.

Fortunately – ALL invasions are preventable! The TWCWC has taken the first steps to protect Twin Lakes and Walker Lakes. Thanks to the collaborative work of Pete Loewrigkeit, there were 14 signs placed at all of the public access point of both Twin Lakes. The sign reminds us all to clean the boats that have been in different water bodies. Everyone was appreciative of the TLPOA's effort and the affiliate associations were very proactive in their installation. Walker Lake is developing their own signs to cover additional issues.

TWCWC's 2019 Photo Contest Winners - Chet Dawson

TWCWC held their annual Photo contest on Saturday, Sept. 28th and again there were some wonderful shots. The winners as judged by Scott Rando were:

High School

1st Place: Samantha Baisley (Age 16) Cliff Park Pond Trail

2nd Place: Samantha Hadley (Grade 9) Butterfly on Purple Cone Flower (See Samantha with her photo).

3rd. Place Samantha Baisley (Age 16) Chipmunk at Raymondskill Falls

Adult

1st Place: Erin Howard - Butterfly on Flower Along the banks of the Delaware River (See Erin with her photo)

2nd Place Herb Orlansky- Caterpillar (See Photo)

3rd Place Edward Horton - Barred Owl

We did not have any entries in the younger student categories but received a good number of entries from High School students and adults. Although we did not verify our records, we believe that Herb Orlansky has been a winner every year since TWCWC started the contest. Have your cameras ready and submit your best Pike County nature photos for the 2020 contest!



Tick Testing Story - Barbara Whitney

Even though it was 26 degrees this morning with a dusting of snow the ticks think it is Spring. On Monday I was cleaning out the culverts in our driveway to let the rainwater flow more smoothly. I was wearing a long-sleeved shirt but bending down and clearing out the leaves and sticks with my bare hands. That evening I noticed two small ticks, one on the front (thankfully) of each of my upper arms. I carefully pulled them out without breaking head or the legs (see instructions below) and put them in a plastic bag (Lessons Learned: You are supposed to clean the bite area with rubbing alcohol, iodine scrub or soap and water).

On Tuesday I went to the online ESU site below and filled out the form with my phone number and email for free testing and was given a case number. I printed the form and mailed the form and ticks in the baggie to ESU on Tuesday morning from the mailbox by Sagamore entrance. On Thursday afternoon I got a text message that the ticks had been received and that they were deer ticks. Today at about three PM I got another text message that they tested positive for Lyme disease and negative for anaplasmosis and babesiosis. They also sent an email with the full report.

This is an amazing free and efficient service right in our backyard thanks in part to the work of the Tick-Borne Disease Task Force and its dedicated volunteers.

If you find a tick on you I encourage you to use this service as you can then monitor and seek treatment if needed. In addition, it helps augment the research done at ESU on the spread and incidence of these ticks and their pathogens in Pike County. Their website is www.ticklab.org/test-my-tick. Thank you to Edson Whitney for sharing his story.

The “buzz” about rattlesnakes - Scott Rando

It is spring, and around the watershed, reptiles and amphibians can be seen and heard. From American toads to northern waters snakes to bullfrogs, waterways are coming alive. One reptile which is present in our region, but not too much around the watershed is the Timber Rattlesnake (*Crotalus horridus*). Because rattlesnakes are scarcely seen and not well understood, we'll take a brief look at their lifecycle in our area.

The timber rattlesnake can be found in most of the region, but sightings are infrequent as the patterning of many snakes enable them to blend in with their surroundings. Rattlesnakes spend a lot of time in isolated areas in habitat not occupied by humans; its only when they are crossing a trail or road, or perhaps in someone's back yard, that we tend to spot them.

The rattlesnakes that people usually see are males and non-gravid females that range out several miles from their den sites over the summer to feed on prey (small mammals) and to mate. If a female successfully mates, she will store the male's sperm over fall and winter.

The gravid females stay at summer gestation sites on south facing ledges where they bask in the sun, usually with other females; it's not uncommon to see at least 10 females together at some gestation sites. In late August or early September, these females bear 5-7 live young (called neonates). Most of these sites are out of the way and not near human activity.

Timber rattlesnakes are protected in all 3 states in the region; its unlawful to intentionally harm them. If you see a snake on the trail, simply walk around it, staying at least 4 ft. away. Take a picture if you want but keep your distance. If you hear a “buzz” or rattle, stop what you are doing, discern where the sound of the buzz is coming from and then move away. A rattlesnake is not aggressive, and the rattling is a way to convey the message, “you are too close, move away please.” Above all, do not try to handle a rattlesnake. This is what accounts for most of recorded incidents with venomous snakes in the area.

So, if you see a rattlesnake in the wild, enjoy the view, for this species has a secretive life, and is not often seen by us. They are non-aggressive and would rather not waste venom it needs to hunt on mammals that are too large to eat. If we do get a bit too close, heed its warning, for they would rather “buzz” than bite.



This is 3 female timber rattlesnakes at a gestation basking site. There are 2 black phase snakes and 1 yellow phase to the right. The milky appearance of the eyes of 2 of the snakes indicate they are ready to shed. Snakes bask to thermoregulate their body temperature, and if they get too warm during a hot day, they will retreat under a ledge or other shady spot.



This yellow-phase (the color of the head determines the phase) displays its ability to blend in with its surroundings. Timber

rattlesnakes are sexually dimorphic; males are larger than females, with bigger males measuring 4-5 ft in length.

Treasurer's Report - Kevin Dowd

We are suffering under the shutdown for the coronavirus, but our finances are in good shape! TWCWC had a great fundraising year in 2019. Besides increasing our regular dues to \$5,500, we also received \$3,000 from gifts as a memorial for Diane Tishler who died in April, 2019. The total of \$8,500 more than covered our annual expenses of \$4,400 and gave us a net income of \$4,000 for fiscal 2019. We have maintained our original endowment in CDs and will add to that as appropriate.

We are looking to increase community outreach and programs and are asking members to contribute \$25 per person and \$40 per family. A donation of \$50 would be great! If you have any ideas please send them to Pat Dawson our president at president@twcwc.com.

I hope to see you at the presentation of the water testing results at the end of August, if we are able to meet in public, with precautions, at that time.

Have a great summer!

Importance of Water Testing for Watershed Residents -

Pennsylvania currently has no state regulations when it comes to the maintenance and protection of private wells. Improperly constructed or poorly maintained wells can provide a pathway for pollutants to enter your home. The first defense against the contamination of your water supply is the homeowner. Preventing contaminated water supplies protects the health of you and your family and is less expensive and easier to fix than once a well is polluted.

To ensure that your drinking water is healthy to drink, you should have your water tested on a regular basis. You should test your water annually for coliform bacteria and every 3 years for pH, nitrates and total dissolved solids. In addition, you can test your water for other potential contaminants based on either the condition of your water or what could be a possible threat to your water.

For example, a blue-green stain around your plumbing fixtures indicates the presence of copper and you should test for it. An orange or black stain indicates either iron or manganese. If well is located near agricultural operations, you might want to test for pesticides if they are being used on the farm. Or if you live near a landfill or factory, you should consider testing for metals or Volatile Organics.

Have your water tested by a certified PA DEP laboratory.

Penn State Extension has offered water testing for a fee through Prosser Labs every Wednesday; however, the Extension office is currently closed due to COVID-19. If you are interested in having your water tested, please contact Peter Wulforth at ptw3@psu.edu to see if the Extension office is open.

If you have questions about testing your water, contact Peter Wulforth at ptw3@psu.edu.

The times are a changing! - Pat Dawson

Our organization had a number of changes at the board and Executive Board levels last year. We welcomed new board members: Carol Reynolds, Maryann Muschlitz, and Jim Deiner. Pat Messineo has served since the founding of the organization as the Secretary, stepped down from that role. Maryann volunteered to run for this position and was elected. Irene DeVito stepped down as Treasurer and from the board after many years. Kevin Dowd stepped up and agreed to be on the slate as Treasurer and was elected to the Executive Board. John Hahn left the Executive Board as Vice President-President-Elect, and Kirk Mackey agreed to temporarily take this position. Paul Palladino, another longtime member of the board, stepped down, and Shirley Masuo also left the board due to moving out of state.

At our August 29th meeting, a slate for the President and Vice-President will be presented. Voting for these positions will take place at the annual meeting, September 20th prior to the announcement of the photo contest winners. Hopefully we will be able to meet at the Walker Landowners Association clubhouse, 100 Walker Lake Road, Shohola for these two events. The August 29th meeting will feature Dr. Beth Norman, Director of PLEON, who will discuss the results of the 2019 water monitoring. In addition, she will discuss invasive plants, what are they and how to control them.

We hope to see you in August and September!

Joseph Messineo Scholarship - Pat Dawson

The Joseph Messineo Scholarship, given annually by the Twin & Walker Creeks Watershed Conservancy was awarded in 2019 to Haili Lombardo and presented at the Delaware Valley High School Scholarship Night on June 5, 2019. This award is presented annually to a graduating senior who plans to continue their education at a two or four year college in Environmental Studies or related field. Haili is majoring in Marine Biology at East Stroudsburg University. Pat Messineo has presented this award each year and was privileged to present this award to Haili in 2019.

Twin & Walker Creeks
Watershed Conservancy

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Name _____ Phone _____

Address _____ City _____

State _____ Zip _____ Email _____

Memberships: (Circle One)

Individual (\$25) Family (\$40) or Lifetime Member (\$500, one time contribution) \$ _____

Additional Donation: \$ _____

Volunteer Opportunities (please circle any areas that are of interest)

Lake monitoring Education (Children, Brochures, Other)

New programs (please note if you would like to participate or just learn more through our education program)

Invasive plant identification & control Macro-invertebrate stream testing Other interests _____

Suggestions for TWCWC _____

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