

June 2019

Volume 15

Issue 1



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President's Message - Pat Dawson

As stated on our website, the Twin and Walker Creeks Watershed Conservancy's mission is "To promote a better understanding of the Twin and Walker Creeks Watershed and its ecosystems and to protect, restore and enhance the watershed through proper management and watershed stewardship."

We are a non-profit, grass-roots organization composed of members of the two Twin Lakes and Walker Lake watershed. I would like to thank the many volunteers, board members, and those who contribute to our organization with memberships and donations to help us meet our mission goals.

Inside this newsletter, you will find the variety of ways we are working to protect the watershed:

- water quality monitoring of 3 lakes
- environmental program for the community
- newsletter to provide overview of activities
- annual scholarship to a Delaware Valley High School student
- photo contest

As pointed out within the newsletter, our Treasurer solicits your continued financial support for these activities. Your membership is critical for TWCWC to be able to conduct these activities. Our annual expenses are over \$3500 for insurance, cost of mailings, scholarship, and water monitoring. Please see membership form on last page.

Please save the date for the Raptor Center's program, "Close Encounters with Birds of Prey" on August 10th at 10 AM at the Walker Lake Clubhouse. All are welcome, admission is free and there will be free raffle tickets for bottles of wine for those 21 years and older.

On September 28th, we will have our annual photo contest. This will be at the Walker Lake Clubhouse at 10 AM. Ribbons for 1st, 2nd & 3rd place awards will be given in 4 categories: children up through 4th grade; 5th - 8th grades; Senior High and adults. Rules for the photo contest are posted on our website: <http://twcwc.com/>.

All of our board meetings are open, free, to all. Our board meetings take place at the Walker Lake Clubhouse, taking place on Saturday, August 10th at 9:15 AM, and Saturday, September 28th at 9:15 AM. Address of the Walker Lake Clubhouse: 100 Walker Lake Rd., Shohola, PA.

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

Metals in Our Lakes - Chet Dawson

Thanks to Dr. Lung-Chi Chen, one of our newest residents and TWCWC member, we were able to analyze for 33 different metals in each of the three lakes. Dr. Chen is a Professor in the Dept. of Environmental Medicine at NYU. Water samples were taken during our volunteer June 2018 monitoring and provided to Dr. Chen for analysis.

None of the metal concentrations came anywhere near the lowest EPA advisory level and many were below 1 part per billion. Not unexpected the highest concentrations were of metals commonly found in our soils (sodium, calcium, magnesium, potassium, iron and manganese). Three of these, sodium, calcium and magnesium are commonly used as road salts for deicing and were found in concentrations 2 to 3 times higher for Little Twin Lake than for the other two lakes. We have long had the suspicion that the 2 to 3 times higher conductivity of Little Twin was caused by salts in the stormwater runoff from nearby roads and this result added support for that.

Most of the other results were similar for the three lakes except for iron, which was 4 times higher for Walker Lake. Iron in well water is a common issue in our area and while not a health issue can cause annoying orange stains. We do not know what level of iron will begin to be noticeable in the color of the lake water but will research this further in the future.

Close Encounters with Birds of Prey - Chet Dawson



This is your chance to get up close to an eagle, owl and hawks as Bill Streeter from the Delaware Valley Raptor Center brings his popular program to the Walker Lake Clubhouse on Saturday, Aug. 10th at 10:00 AM. The audience will experience the majesty of hawks, falcons, owls, and eagles up close, while gaining an understanding of a variety of ecological concepts. This experience instills into each individual a greater respect and appreciation for these magnificent birds and fosters a more responsible attitude towards all wildlife. Youngsters love this program and are encouraged to come.

In Memory of a Friend and Avid Birder, Diane Christine Tishler

Aug 10, 2019—10:00 AM Walker Lake Clubhouse 100 Walker Lake Rd. Shohola, PA

This event is co-sponsored by the Twin & Walker Creeks Watershed Conservancy & Walker Lake Landowners Association with funding support from the WLLA Program Committee and several friends from the Twin and Walker Lakes communities. Five bottles of wine will be given away.

Joseph Messineo Scholarship - Pat Messineo

The Joseph Messineo Scholarship, given annually by the Twin & Walker Creeks Watershed Conservancy was awarded in 2018 to Jason Block and was presented to him at the Delaware Valley High School Scholarship Night on June 6, 2018. 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. Jason is currently attending Temple University in Philadelphia studying Environmental Engineering. I was privileged to present this award to Jason.

PLEON - Chet Dawson

Since 2002, TWCWC has relied on the F.X. Browne Company to help with our volunteer lake monitoring efforts and we are truly thankful for their support. Recently, however, we became aware of the Pocono Lake Ecological Observatory Network, "PLEON", part of the Lacawac Sanctuary in Lake Ariel, PA. PLEON provides lake monitoring, workshops and support for citizen scientists in our Pocono region and is backed by the Lacawac Sanctuary staff along with Drexel, Lehigh and Miami of Ohio University scientists. TWCWC members Jim Deiner, Peter Loewrigkeit, Pat Dawson and Chet Dawson met with Dr. Beth Norman who runs PLEON and is Director of Science and Research at the sanctuary and came away impressed and excited about the opportunity of working with her and the organization. Following a vote by our board, TWCWC will now contract with PLEON for our monitoring support.

With the addition of our three lakes, PLEON will now be helping or monitoring 10 lakes in our region. This in itself is important, as we can better understand what other lakes are facing. For about \$100 a year less than we were paying F. X. Browne, we will continue to get the same support for analyzing water samples and putting our data into an annual report plus much more:

In addition to phosphorous and chlorophyll A, they will also measure nitrogen. In addition:

- Zoo and phytoplankton, the critical elements of a lake's food chain, will now be examined at the two Twin Lakes. Walker Lake's lake consultant provides this data.
- They will use equipment to better examine how light penetrates our lakes.
- Dr. Norman will come to a Board meeting each year to discuss our annual report.
- At an additional cost, PLEON can quickly analyze algae samples if we have a concern.
- They are close by and available for help and advice when needed.

TICKS AND LYME DISEASE IN PA - John Hahn

I recently detected a tick imbedded behind my right knee and had my wife remove it with a pair of tweezers. It was dead but engorged with blood and no idea how long it had been on me but there was a little redness around the bite so I swabbed it with alcohol and put antibiotic ointment on it.

Because of the extreme high instances of lyme disease in PA I called the Pike County Tick Borne Diseases Task Force in Milford and got the number for the East Stroudsburg University Wildlife DNA Laboratory (570-422-7892) which tests ticks for free for the four most common pathogens of lyme disease in our area. So I put the tick in a plastic bag and sent it down to them and within 3 days received the good word that the tests were negative. In addition to this, I was scheduled to have my yearly Medicare Wellness visit and told my doctor about the tick and she ordered a blood test and that also came back negative. Phew!!

I have to say that I have had so many friends of mine that have had lyme disease that I freak out and take immediate action. We all have to take precautions whenever we go outside and check ourselves for ticks before it's too late. I suggest that everyone contact the Task Force and obtain a free copy of "Tick 101" basic information, which covers: Identification, Where to look, Tick removal, Symptoms, Tick testing, Prevention and Support groups.

2018 Water Quality Monitoring Report for Walker Lake, Twin Lake and Little Twin Lake - Chet Dawson

Just in case you have forgotten it rained a lot last year. Five feet by November and then when you add all the water entering our lakes from stormwater runoff and streams you would expect an impact. While all three lakes continue to be stable we did see the deluge impact the lakes differently.

Both Twin Lakes saw a significant drop in phosphorous, which along with nitrogen is the driving force for algae and plant growth. As would be expected, chlorophyll A also dropped but to a lesser amount. Chlorophyll A provides us a measure of the quantity of phytoplankton and other algae present. These drops would suggest that the rainwater helped purge the lakes and you would also expect to see an increase in clarity. We measure clarity with a black and white disc called a secchi disc. It is dropped in the water and we look to see at what depth we can no longer see it. The secchi depth or clarity did not change from previous years suggesting an adverse impact to offset the reduction in phytoplankton and other algae. Clarity is primarily determined by the amount of dissolved sediment and phytoplankton and while we did not measure -dissolved sediment directly, these results indicate that the stormwater brought in enough sediment to offset any other effect to improve clarity.

We saw almost the opposite results for Walker Lake. While phosphorous levels remained the same as in previous years we saw an increase in chlorophyll A and decrease in clarity. The decrease in clarity would not have been caused by an increase in phytoplankton alone and we believe that the stormwater runoff brought in significant amounts of sediment. Walker Lake received three bacteria treatments in 2018 that were aimed at improving clarity and we did see some improvements over the summer where normally we see clarity worsen in warmer months.

When you compare the three lakes, Big Twin and Walker Lakes tend to be somewhat similar while Little Twin stands apart. Little Twin is deepest and has the best water clarity. The greatest difference though is that Little Twin lacks a thermal layer down to the depths we measure (about 25 ft) and oxygen levels are maintained to these same depths. Both Big Twin and Walker Lake have defined thermal layers where, below both water temperature and dissolved oxygen drop rapidly. While these differences were still present during most testing, we have seen some surprises for Little Twin Lake the last two years. In 2017, for the first time, we did see a well defined thermal layer and drop in oxygen during one test monitoring and this past year we saw a layer of increased dissolved oxygen below 4 meters which we initially thought was an instrument error but now we believe may indicate an active algae system at this depth. This was also observed during the June monitoring for Big Twin Lake.

Treasurer's Report - Irene DeVito

We need your help. While we have sufficient funds in our CDs for an emergency that requires quick action and an influx of money, I am not too sure about our day to day expenses - our checking account is getting smaller and smaller. We must pay the bills that come in to cover expenses such as the scholarship that we give every year, the water testing, our insurance and the programs that keep interest in the TWCWC up. Right now we have just over \$1500 in the checking account and that is not enough to cover the expenses for this summer. So, please get those membership fees and donations in as soon as you can. We are depending on you. Thank you to those generous supporters that have been sending in money year to year. Could the others among you take an example from them and help us? We are looking out for that most precious of all resources - our water.

TWCWC's 2018 Photo Contest Winners - Chet Dawson

TWCWC's 2018 Photo Contest winners were announced at our Oct. 6, 2018 Annual Meeting. Judging, of a number of really good photos, was by noted area wildlife photographer Scott Rando.

- 1st Place: "Cold Winter's Day" by Janice Annuziata
- 2nd Place: "Walker Lake at Boat Dock" by Barbara Silver
- 3rd Place: "Delaware River" by Herb Orlansky

Judging for our 2019 contest will be at our 2019 Annual Meeting, which this year will be held on Saturday Sept. 28th. Photos need to be taken between November 2018 and Sept. 28, 2019 and as before the main feature needs to be natural and be taken in Pike County. Pictures can be mailed in advance to:

Twin & Walker Creeks Watershed Conservancy
102 Warpath Pl.
Shohola, PA 18458

Or preferably they can be brought to the Annual Meeting. On the back of the photo please provide name of photo, date and place taken and your contact information. If you are younger than 18 we also need your age for prizes in our youth category. If you want your photos returned please provide a return addressed envelope

Stop Aquatic Hitchhikers - Barbara Whitney

Preventing the spread of aquatic invasive species starts with you. A cooperative effort is necessary by all persons and agencies involved with recreational activities to achieve the best results and protect our aquatic resources and recreational opportunities.

The general Clean Drain Dry procedure is described below; however, keep scrolling down the page for information pertaining to specific recreational activities. **CLEAN** off visible aquatic plants, animals, and mud from all equipment before leaving water access. (Source: stopaquatic hitchhikers.org)

**PULL THE PLUG
ON AQUATIC HITCHHIKERS**

Actions Required by MN Law
to prevent the spread of aquatic invasive species:

- ✓ **Clean** aquatic plants, zebra mussels, and other prohibited invasive species off watercraft, trailers, and equipment before leaving the water access.
- ✓ **Drain** water from boat, bilge tanks, portable toilet container, and motor before leaving a water access — and drain bilge, livewell, and ballast by removing drain plugs. **Keep drain plugs out** while transporting boats.
- ✓ **Dispose** of unwanted bait in the trash. It is illegal to release live bait into the water, or to dump worms on the ground.

mn.dnr.gov/ais
© 2014 MNDNR

STOP AQUATIC HITCHHIKERS!

Sea Grant
Michigan

Brown Soil & Water Conservation District
320 2nd Ave, SW
Sleazy Eye, MN 55066

Pull the Plug Sign. Photo Credit: Brown Soil and Water Conservation District (Source: hitchhikers.org)

Twin & Walker Creeks
Watershed Conservancy

102 Warpath Place
Shohola, PA 18458
www.twcwc.com

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Twin & Walker Creeks Watershed Conservancy
C/O Irene DeVito
102 Warpath Place
Shohola, PA 18458
www.twcwc.com (president@twcwc.com)

Name _____ Phone _____

Address _____ City _____

State _____ Zip _____ Email _____

Memberships: (Circle One)

Individual (\$15) Family (\$25) or Student/Senior (\$10) \$ _____

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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