



TOBYHANNA CREEK  TUNKHANNOCK CREEK
 WATERSHED ASSOCIATION
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PRESIDENT'S LETTER by: President Larry Gould

Hello again, to all of you great, wonderful members of the TC/TCWA. It is my distinct pleasure to have the privilege of writing to you once again.

This past year was a good one for our organization. We continue to monitor streams and waterways under our stream monitoring program, and take action when necessary. We strive to address water related issues, however, we cannot do it alone. We need your help, and remind you that we all play a part in the protection of our water supply. Please remember that water is the building block of life, and that, without it, well, things would cease to exist. Please do not take our water for granted, and please do what you can to help protect it.

We also welcomed several new Board Members to our Board of Directors. This is a refreshing, well needed change for our organization. And, guess what, we still could use more Board Members. So please, do not be shy. Please join us as a Board Member, and make a difference. For a small contribution of time, you can help us help the environment. Please contact us for more information.

We also continue to arrange and organize free informative events for our members. See this newsletter for more information on the current events that we have planned for you. Please let us know what you might like to see or do, and we will be eager to help make it happen.

Finally, please be generous when you can. Whether it is with a monetary donation to the TC/TCWA, or just a donation of your time or ideas, we really appreciate your help. We are a small, grass roots organization trying to make a difference. That starts with you. Please get involved in one way or another. However great or small, we all make a difference.

Sincerely,
 Your President
 Larry Gould

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BOARD
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RAIN GARDENS

Phil Winowich



What can you do to reduce your contribution to storm water pollution? The use of rain barrels to collect roof run off is a good first and effective step. Another and more esthetic is the planting of a rain garden. A modestly designed rain garden will; filter run off, allow ground water to be recharged, prevent standing water in the yard, reduce the possibility of basement flooding, and ultimately protect rivers and streams.

A home rain garden is generally designed and planted to collect rainwater from your roof, sidewalks, driveways and any other area around your home that may generate clean rainwater runoff. These gardens are laid out to retain the surge of water from hard or compacted surfaces and allow the water to slowly be absorbed into the soil preventing erosion and recharging the groundwater. NOTE: a rain garden is not the same as a water garden, there are no ponds or water features.

The designs and planting of these gardens are low tech and generally inexpensive to install, (about \$3 to \$5 per square foot depending on the types of plants that are selected) and can be done by the average home gardener. Average size for most residential home would be between 100 to 400 square feet. Also a well planned rain garden can be just as appealing as any other flower bed with the added benefit of having lower maintenance.

Since rain gardens are designed to be porous, capturing run off and allowing it to be absorbed quickly, (will drain about a one inch rainfall in about 2 hours) this is where plant selection becomes important. In general plants with deep fibrous roots should be chosen as they will tolerate both wet and drought conditions. Native (non-invasive) species should be selected as they will best adapt to your local conditions.

Many rain gardens contain low maintenance type plants, such as woody shrubs, wildflowers and herbaceous perennials. A trip to your local nursery or garden center would be most beneficial in selecting the plants that can survive and thrive in the wet/dry environment of a rain garden. This will also give you the opportunity to see what the plants look like, identify the time of year they flower and to determine how you would want to lay them out.

Hopefully this has sparked an interest in one method of protecting our water and waterways. If you decide that a rain garden is something you would enjoy there are many on-line resources that will assist in determining the best locations, soil type and bed construction. And again, your local nursery will also be a wealth of knowledge in creating a beautiful and beneficial garden.

If you create a rain garden or already have one, please feel free to e-mail us photos. We would enjoy seeing your hard work and sharing it with others.



MONITORING MATTERS

George White is the Stream Watch Coordinator for the TC/TC Watershed. We are still looking for additional volunteers to do stream water monitoring. If you have 1 to 2 hours once a month to aide us in monitoring our streams, please contact George by phone at (570) 646-3457 or by e-mail at: tetcwa@hotmail.com.

We would like to thank all those who are already volunteering their time and efforts to help ensure the quality of our pristine streams. We would also like to recognize and thank all those volunteers who have been of valuable assistance in the past.

Water is our most precious commodity! Please get involved!

VOLUNTEERS NEEDED - NO EXPERIENCE NECESSARY

The TC/TCWA needs your help as a volunteer. There is no experience necessary. Please contact us to become an important part of our organization by volunteering a little of your time. Volunteering is a fun, rewarding experience. Your help is always needed and appreciated. There are many part time volunteering opportunities available. We would also like your thoughts, ideas, and suggestions. Contact us or drop by and visit us at one of our monthly Board meetings which take place on the third Monday of every month 7:00 PM at the Nature Conservancy building in Long Pond.

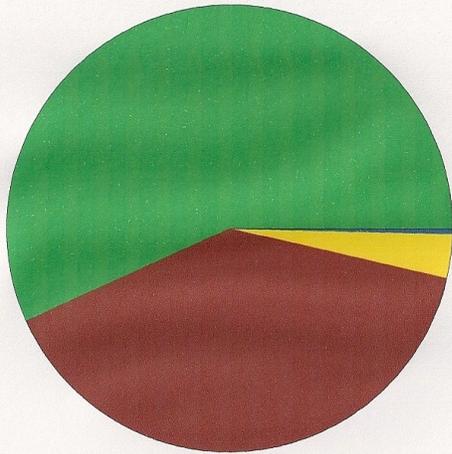
Please get involved in your watershed. Just ask us how!

BOARD MEMBERS NEEDED

This is an **urgent** call for new Board Members and members in general. We need to replace some existing Board Members due to their moving away and being involved in other projects. Please join us in serving on your esteemed Board of Directors. It is a very nice experience and we meet only once a month at the Nature Conservancy building in Long Pond.

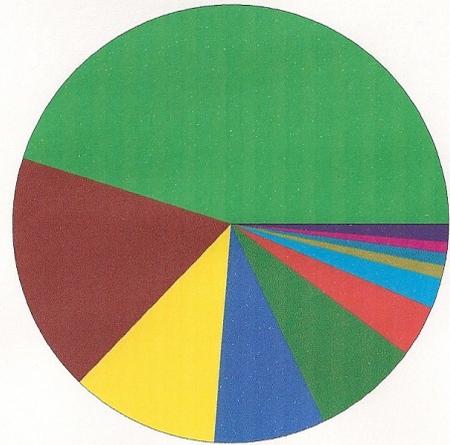
We would also like to boost our membership. Tell a friend or family member to please help support our efforts by becoming a member of the TC/TCWA. You will find a membership insert within this Newsletter. We need you! Please contact us immediately if you are interested in serving on our Board of Directors.

Income Summary
January through December 2012



4030 · Contributions Income	\$2,675.00
4000 · Member Dues	1,870.00
4100 · Grants	150.00
4999 · Interest Income	10.57
Total	\$4,705.57

Expense Summary
January through December 2012



6110 · Growing Greener Project	\$3,447.57
6670 · Program Expense	1,348.86
6130 · Sec'y/Bkbp Expense	840.00
6180 · Insurance	637.00
6260 · Printing and Reproduction	604.73
6250 · Postage and Delivery	300.40
6770 · Supplies	175.90
6340 · Telephone	81.10
6300 · Repairs	75.68
6810 · Web Site	71.88
6140 · Contributions	40.94
Total	\$7,624.06

ANNUAL MEETING, AUGUST 20, 2012

Several members were present at our Annual Meeting last year to view the documentary “TAPPED”. This film trailed the path of the bottled water industry and the affect the industry has on communities. It was an eye-opening account of the lives affected by the bottled water industry and those caught at the crossroads of big business versus the public’s right to water.

Those present expressed an interest in learning more about future standards imposed on the bottled water industry and will be checking the internet from time-to-time to see if further information becomes available.

Popcorn, soda and coffee were served.

WELCOME TO OUR NEWEST BOARD MEMBERS

It is my pleasure to welcome our newest Board members, Mr. Phil Winowich and Mrs. Kathy Winowich. Congratulations to both of them . Due to Phil’s extensive experience and knowledge, he has recently been placed into the prestigious position of Vice President of the TC/TCWA. They are an asset to our organization, and we are excited about having them as a part of our team.

2012 WATERSHED EVENTS

MacroinverteWHAT??



Last summer, on a Saturday morning, a group gathered under the pavilion at the Austin T. Blakeslee Natural Area to observe and learn about the tiny critters which crawl on the bottom of the Tobyhanna Creek and provide food for larger critters, such as fish and birds. Led by the Monroe County Conservation District's Watershed Specialist, Trish Attardo, the program began with a demonstration on techniques for collecting stream "macroinvertebrates." Sorted into containers, the participants passed around and learned about the various adaptations of



each organism's body which aid in its survival. One example was the dragonfly nymph (young, aquatic stage of the adult dragonfly), which has a hinged lower jaw to allow it to grasp its prey. The largest invertebrate caught and admired by all was the obviously predaceous, dobsonfly larvae, also known as a hellgrammite. About the size of the spacebar on your keyboard, this critter breathes through feathery gills on the underside of its abdomen and has pincers at the front of its head.

Both young and old were amazed by the variety of species found in our collection. Macroinvertebrates are sorted and counted by scientists to gage the quality of the water in a stream as each type of critter has its own tolerance level for pollution. A high number and variety of macroinvertebrates, especially of pollution sensitive species, indicates a high quality stream. If you missed the 2012 program, be sure to mark your calendar for the 2013 program planned for July 27th.

For additional information on the TC/TCWA's stream watch program and a link to the macroinvertebrate sampling data, visit our website at www.tctcwa.org.



On July 14th several members of the Watershed Board of Directors participated at Tobyhanna Township's Community Day event. A table was set up offering our latest placemats, area maps, and brochures on septic systems, water quality, save that lake, shore line buffers and several other topics. If you missed our display last year, look for us this year and take advantage of the information we offer regarding steps to take to ensure our area continues to provide safe drinking water for its residents.

The future of our water quality starts with you.



On September 20th a group of people, both young and old, joined Astronomer, Allen Rodriguez, for a night of star gazing in the field adjacent to The Nature Conservancy in Long Pond. Mr. Rodriguez not only had everyone fascinated with his stories about the universe, he got everyone involved in "The Earth as a Peppercorn" - a physical and visual demonstration of how the

planets interact. If you missed this program last year, we will not be presenting it again this year since Mr. Rodriguez has no time slots open for the 2013 season.



2012 MACROINVERTEBRATE SURVEY OF THE TC/TCWA WATERSHED

This past fall was the sixteenth year for our macroinvertebrate survey of the watershed. A total of twelve sites were surveyed, including three sites by the Monroe County Planning Commission and nine sites by the TC/TC Watershed Association. The survey was conducted by collecting and counting the number of benthic (bottom-dwelling) macroinvertebrates (animals without a backbone which can be seen by the naked eye) in each of the represented taxonomic groups. Each group varies in its sensitivity to pollution, making these critters great indicators of water quality.

The results of the three sites sampled by the County are not yet available. The following list shows the biological assessment ratings of the nine sites sampled by the TC/TCWA from highest to lowest.

Optimal:

Two-Mile Run

Tobyhanna upstream of Hummler Run

Frame Cabin Run

Tobyhanna upstream of Dream Mile Club

Hawkey Run West of I-380

Upper Tunkhannock Creek upstream of Pocono Lake

Slightly Impaired:

Tobyhanna Creek upstream of Pocono Lake

Hawkey Run East of I-380

Tobyhanna Creek upstream of Polly's Run

Moderately Impaired: NONE

Severely Impaired: NONE

The overall assessment of our watershed is good. Historically, most of the sites in our watershed have a good biotic assessment with few sites showing measureable quality impairment. The spring of 2012, which followed a mild winter, had little snowmelt and lower than average rainfall. The summer brought numerous small rain storms, with no significant events until early September.

Frame Cabin Run, our "Exceptional Value" reference stream, received an optimal score of 26, while Two-Mile Run received the highest obtainable score of 30. Both of these small streams were sampled during low-flow conditions. The Tobyhanna Creek upstream of the Dream Mile Club returned to a score of 26, which is an increase from the average results in recent years. The Tobyhanna Creek upstream of Polly's Run dropped to a score of 22, which has not been seen since 2006. Downstream of the Coolbaugh Township Wastewater Treatment Plant, it is possible that the low-flow conditions at this site through the spring and summer of 2012 had hindered the ability of the stream to provide sufficient effluent dilution.

Hawkey Run is sampled in two locations. The upstream site is located east of I-380, and the downstream site is located west of I-380. The upstream site received a typical score of 24, while the downstream site received a score of 26. Hawkey Run west of I-380 has not scored this high since 2001. The TC/TCWA Board of Directors is pleased with this apparent improvement in stream quality and attributes the increase in score to improvements made to the Stillwater Lakes Civic Association's wastewater treatment system in 2011, namely the replacement of the previously malfunctioning pump station and repairs to the sewer lines.

For additional information on the TC/TCWA's stream watch program and a link to the macroinvertebrate sampling data, visit our website at www.tctcwa.org.

What is a watershed and why is it important?

John Lyman

What is a watershed?

A watershed is an area where all of the water that falls on it gets funneled down to a single place before finally going to the ocean. Watersheds come in all shapes and sizes and in the continental US, there are 2,110 major watersheds.

The Tobyhanna Creek /Tunkhannock Creek watershed (TC/TCW) drains an area of more than 125 square miles. It is principally in Monroe County and funnels the water into the Lehigh River, then the Delaware, and finally the Atlantic Ocean. The watershed is part of a unique section of the Pocono plateau made up of wetlands, wood lands and lakes. The entire plateau region is an area more than 2,400 square miles that includes most of the counties in northeastern Pennsylvania.



Tunkhannock Creek

The watershed starts along the northern edge of Monroe County, flows through several lakes, and flows in a Southwesterly direction before meeting the Lehigh. The two main creeks draining the watershed are the Toby and the Tunk. The Tobyhanna Creek, a high quality cold water fishery, is nearly 30 miles long and meets the 19 mile Tunkhannock Creek just below Blakeslee. The Tunkhannock is also a high quality stream and the combined water of the two creeks supplies water to the Delaware river.



Tobyhanna Creek

Because TCTCW drains into the Delaware, the water is used by every town and city from Easton to the sea. The Delaware River watershed is home to 8 million people and provides drinking water for 15 million. It is a revered recreational resource that attracts nature hikers, sight-seers and canoeists. And some of that water starts its travels in Monroe County.

The watershed's strengths:

1. Among the many strengths of the watershed, water quality must be on the top of the list. Both creeks are rated as high quality, which affords them special protection from the impacts of new development. TC/TCWA has a petition into DEP for upgrade of the entire Tunkhannock Creek Watershed to EV (Exceptional Value).
2. The second strength is the beautiful landscape that makes up the plateau. The plateau is the southernmost boreal landscape in the Eastern US. Because of its unique ecosystem it is a safe haven for a wide diversity of plant and animal life including a large number of endangered species. The plateau contains vast wetlands that came into being 10,000 years ago during the last glacial period, and with its large areas of undisturbed forest it has kept its clean, wild feel.
3. The beauty of the area is why people love the Poconos. Like so many others, I'm a transplant from New Jersey who moved here in the 80s. And I have never looked back. One cannot walk along a creek on a beautiful sunny day and not be overwhelmed by the simple joy of the Poconos.

Some Challenges:

1. But the watershed is facing some challenges. The first is probably wastewater. The mean population density of Monroe County is 279 people per square. All those people use water for a variety of things even before it goes to the Delaware. But Monroe County has one of the lowest ratios of on-site sewage disposal systems to public systems in Pennsylvania - only 25% of the population in Monroe County uses public sewage systems. Now, there is nothing wrong with a well-maintained on-site system. But it must be well, maintained. Private owners often neglect to maintain on-site systems since the system is never inspected after they are installed. Routine inspections and pumping of septic tanks is the responsibility of each system owner.
2. And of course, another challenge is uncontrolled development and all the problems that go with it. We do not want to stop people from moving into the area, and the area needs industrial growth to support a healthy economy. What is needed is to better manage in-ground septic systems, minimize loss of open space, avoid introduction of invasive species and a host of other issues. The only way to successfully transition is to organize groups and develop regulations that ensure the best of the Poconos are never destroyed.

The Future:

It is in our best interests to keep an eye on the watershed and the water quality in it. Besides the direct financial impact - housing prices are improved in a environmentally clean area - no one wants to drink polluted water.

But it is also in the best interests of our grandkids. 100 years from now the Poconos will have a different look with a different population. But if it can be as clean as it is now, our great grandkids can enjoy the same summer walks that we do. They can fish in the same streams, tell stories among the same trees, and leave the same piece of beautiful woodland to their kids.



Pocono Lake

References:

Delaware River Keeper Network
 Monroe County 2020 Plan
 EPA website
 Pennsylvania code title 25 chapter 93
 TCTCWA website

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POCONO LAKE PA 18347-0796
P O BOX 796

WATERSHED AWARENESS MONTH
MAY IS

TC/TCWA

MARK YOUR CALENDARS FOR UPCOMING EVENTS

Sunday, April 28 at 11:00 AM - Annual Road Clean Up - Route 423 - Bags, vests and gloves will be provided.

Sunday, April 28 at 1:00 PM - The Brodhead Chapter of Trout Unlimited is conducting a riparian tree planting in the vicinity of the new Warnertown bridge over the Tobyhanna Creek on Route 423. Anyone interested in helping may contact them at <http://brodheadstu.org/> for further information.

Saturday, June 29 at 10:30 AM - "Exploring the Bog" with Jason Smith. Join us at the Boardwalk behind the Pocono Mountain West High School in Pocono Summit for a tour of the spring fauna in the bog. R.S.V.P. to (570) 646-5206.



Saturday, July 27 at 10:00 AM - Join Monroe County Conservation District Watershed Specialist, Trish Attardo, at the Austin T. Blakeslee Natural Area for a demonstration on how to collect and identify the interesting critters living in the Tobyhanna Creek. Get an up-close look at live insects and other invertebrates that spend part of their life cycle in local streams, while viewing and hearing about their adaptations for survival. Grilled hot dogs and soda will be available, with a suggested donation of \$2.00. For directions or to be included in the hot dog count, call the TC/TCWA at 570-646-5206.



Monday, August 19 at 7:00 PM - TC/TCWA Annual Meeting - Speaker and program to be announced.