May 2013

Volume 9
Issue 1

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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.

President's Message - *Chet Dawson*

John Wesley Powell, scientist geographer, put it best when he said that a watershed is: "that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community." Your TWCWC's prime mission is to protect our watershed. We define our watershed as that area of land that drains to Twin and Walker Lakes and extend that to also include the streams that drain from those lakes and in doing so become part of a greater community that is concerned with the preservation of the Delaware River. We have an elected board that we hope represents your interests and want to hear from you and at times will need your assistance to carry out our mission.

During the past two years the most obvious threat to our water shed has been the activities that have occurred in installing the gas pipelines though our area. We have provided educational talks and updates on this work, have been part of an active monitoring program aimed at minimizing any impact this construction has had and provided support to other organizations that are looking out for our interests. Lori Colgan, from the Pike County Conservation District, attends our board meetings as an active participant and liaison. This coming year, the Pike County Conservation District has selected some of our streams for their macroinvertebrate monitoring program. In addition, several of our Board members are active in a number of local and regional environmental programs and bring this experience to our meetings.

We have been using sophisticated equipment to monitor Walker Lake and both Twin Lakes from June through September for 11 years now. This data is very important in tracking the health of these lakes and will help post an alarm if we see any noticeable change. We are considered a regional innovator in using trained volunteers to conduct this monitoring, and for the second time in three years have presented our work at the Schuylkill Watershed Congress. Our lakes are OK but could be better and a summary of some of the testing results and what they mean is reported elsewhere in this newsletter.

This coming year we want to expand our efforts. For example, we will look at ways to control some of the invasive plants such as Japanese knotweed that are threatening our watershed and provide expanded educational materials to new and current homeowners on how they can help protect our lakes and streams. To continue these efforts we need your help. We ask that you consider joining TWCWC as a member and also voice your ideas as to where we can best meet our mission. Some of our efforts, such as our lake monitoring and educational programs, are expensive and your membership and donations will help cover these costs but just as importantly we want your involvement. We need help with lake monitoring particularly for Big and Little Twin Lakes, with identifying where certain invasive plants are found, and with our education programs. TWCWC will provide training this year on lake monitoring, for identifying invasive plants and macroinvertebrate testing. Attached to this mailing is a return form for you to use to join TWCWC. It also includes space for you to indicate if you would like to be contacted to help with some of our programs, participate in one or more of our training programs, or if you have suggestions. Please support TWCWC by becoming a member and letting us know if you want to become involved. To learn more, view our website at (www.twcwc.com).

Report on Schuylkill Watershed Congress, March 9, 2013 -

Pat Dawson and Kirk Mackey

This annual conference attracts attendees and presenters from the tri-state region (Pennsylvania, NJ, and Delaware). This year there were around 300 people at the meeting that was held at the Montgomery County Community College campus in Pottstown. The keynote speakers were from the Stroud Research Center and described in detail with photos the work on minimizing water runoff and other environmental important considerations when they built a new structure on their land. During the lunch break, attendees could view posters on various groups and research studies being conducted in the region and speak directly to those who created the posters.

Kirk Mackey, Chet Dawson and Pat Dawson attended, with Kirk and Pat presenting our long-term lake monitoring results. Our presentation was well attended, with many experts in the audience who encouraged the continuation of doing this study. Several had very helpful suggestions and a very good discussion about one of our readings was reassuring that our results are reliable.

Kirk and Pat attended a session on invasive plants. The speaker hauled in examples of these plants and discussed methods for getting rid of them. He mentioned some research at the U. of Delaware for investigating bio control methods for garlic mustard and Japanese stilt grass. He provided information on the detrimental impacts of invasive plants have on forests and animals.

Faith Zerbe of the Delaware Riverkeeper Network gave a presentation on the proposed gas pipeline going from Pike County to Delaware County in the southeastern corner of Pennsylvania. In Chester County it is getting a lot of resistance from wealthy residents where it will go through one of the oldest stand of trees in the region. We believe this is the pipeline that

2012 Water Quality Monitoring Report for Walker Lake, Twin Lake and Little Twin Lake - Kirk C. Mackey and Pat Dawson

Since 2002, trained volunteers from the Conservancy have taken samples and readings of Big, Little Twin Lakes and Walker Lake. FX Browne analyzes these samples and data then sends an annual report to the Conservancy. The summer of 2012 shows all three lakes doing better than in recent years and may be a result of a mild winter with little snow and ice to run off into the lakes. However, there is room for improvement in the water quality of Big Twin and Walker Lakes. The company suggests the high phosphate levels detected in the lakes are due to fertilizer used on lawns, pets, geese, and faulty septic systems may contribute to nutrient and water quality problems. They recommend an education program describing best lake-front management practices be developed and presented to residents.

TWCWC will hold a lake testing work shop June 8, 2013 at 9:30 AM at the home of Kirk Mackey 875 Twin Lakes Rd.(570-296-4157). If you have an interest in participating in our lake testing program and have not had formal training, please plan on attending.

Lake Testing Dates for 2013 - June 15, 2013. July 13, 2013, Aug. 10, 2013 & Sept. 14, 2013

Becton Dickinson Award to the Conservancy - Joe Messineo

Joe Messineo, Becton Dickinson retiree and member of the Board of the Twin & Walker Creeks Conservancy since 2001, has been chosen as one of the winners of the 2012 Henry P. Becton Volunteer Impact Awards, given for volunteer activity that embodies the BD Values and expresses the Company's purpose of "Helping all people live healthy lives". An outside panel of judges chose eighteen winners from around the world including the U.S., South Africa, Brazil, Australia and India..

The $1000 award was given to the Conservancy for his and the Conservancy efforts in water testing of the lakes and streams, evaluation of septic systems and engineering of water pollution abatement projects, as well as education of residents at the local elementary school and at Annual Membership meetings. Through Joe's innovation and creativity, a large pollution source was discovered in the Twin Lakes Park development at the lake edge and a solution devised and executed. Because of Joe's efforts, this large storm water pollution source was eliminated and continues to do so.

Treasurer's Report - Linda Cioppa

Not much has changed since our last newsletter. As of March 31, 2013 our checking account has $4275.10 and our money market account has $11341.82. We have finished paying the annual fees to FX Browne for the analysis of the water testing of our lakes in the 2012 season. That cost was $1325.00. We are about to renew our liability insurance with the Pennsylvania Organization for Watersheds and Rivers.

We have had very few people/families renew or become members of the Conservancy this past year. We need your continued support. We ask that you please contribute to the Conservancy as generously as possible so that we may continue to provide education, information, programs, and services to our watershed residents.

Education for Macroinvertebrate Stream Testing and Invasive Plant Identification - Volunteers Needed, All Welcome - Lori Colgan

Join the Twin and Walker Creek Watershed Conservancy and the Pike County Conservation District on **Saturday, June 1 at 12 noon**, to learn how invasive plants impact the Lake and surrounding ecosystems, and see a demonstration of how macroinvertebrate sampling can be used to assess the health of Walker Creek below the dam.

Biological sampling of streams provides an early warning of declining water quality; detects events such as pollution spills; suggests environmental trends; and assesses recovery from impaired conditions. Investigators collect and analyze populations of benthic macro-invertebrates – organisms without backbones that live on, under, and around rocks and sediment on the bottoms of lakes, rivers, and streams; and are visible to the eye without the aid of a microscope. Walker Creek may hold a macroinvertebrate assemblage of the immature stages of mayflies, caddisflies, stoneflies, dragonflies, and many beetles; and aquatic worms, snails and other organisms that live on the stream bottom.

Biological monitoring programs use macro-invertebrates because they live in an aquatic system long enough (numerous months to several years) to reflect the persistent effects of pollutants and other sources of degradation. Because of macroinvertebrates' limited mobility in the face adverse conditions, sources of pollution often can be pinpointed by analyzing each species response to the contaminant. Environmental changes to water chemistry, water quality and physical habitat produce measurable shifts in abundance and composition of these macroinvertebrate communities.

In addition to collecting and examining macro-invertebrates, we will measure parameters such as dissolved oxygen, pH, alkalinity, conductivity and temperature. We will also do a habitat assessment of Walker Creek at the dam.

We welcome anyone and in particular our youth interested in learning more about these subjects. Later this year the Pike County Conservation District will begin macroinvertebrate testing of some of our watershed streams to establish baseline quality standards and will be looking for volunteers to assist. Your TWCWC is also asking for your assistance in identifying where certain invasive plants are found. Please note where you have seen them and email the information to president@twcwc.com.

The training will occur on the outlet stream from Walker Lake just below the Walker Lake Dam. If you have a Walker Lake parking tag, you may park down near the dam otherwise you can park at the Walker Lake Clubhouse and we will arrange for transportation to the stream below the dam. Note that if you want to actively participate in looking for macroinvertebrates, a Pennsylvania fishing license is required.

Date: June 1, 2013

Time: 12:00 Noon

Place: Below Walker Lake Dam

Parking: At Walker Lake Clubhouse.

Three Least Wanted Plants - *Scott Rando*

There are many invasive plants that can be found within the watershed, including some aquatic species. Many of these have been imported from other areas as ornamentals and escaped cultivation and others have been accidently transported from other areas. We'll take a look at the 3 most prevalent invasive plants that are located within the watershed and what can be done to control them.

Purple Loosestrife - This species is an invasive plant that favors shoreline habitats, although it can be found in other areas such as road sides or in fields. In our community, purple loosestrife is mostly found in isolated spots along the lakeshore. This invasive plant is prolific, and will choke out native species of plants if allowed to grow unchecked. Many of the native plant species that could be affected are beneficial due to the fact that they help control erosion. Purple Loosestrife is poor in this respect. During late July and through August, it is easy to distinguish as purple flowers emerge.

With isolated instances of this invasive plant are present, the easiest way to control them is simply pull them out. If you pull them out, try to get the roots, if you don't succeed with removing the roots, at least you will have removed the possibility of seeds spreading for the following season. (A small shovel may help) A week or so after the flowers are visible; seeds may start to form, so place the removed plants in a plastic bag to prevent seed spread.

This is a cluster of purple loosestrife plants showing the namesake purple flowers; the flowers usually bloom during late July through August. Another characteristic of P. loosestrife is that the main stem has a 4 sided cross-section and feels "squarish" when handled

Japanese Knotweed - Originally introduced as an ornamental plant, this invasive species has escaped cultivation to become a nuisance. Not only does it displace native species of plants, but if left growing near foundations and walkways, it can cause damage due to its extensive root structure penetrating cracks in masonry. Like purple loosestrife, it will prolifically grow and take over large sections of land, covering affected areas with thickets of broad, oval leaves. Although the rhizomes, or root system, are very extensive, Japanese knotweed is a poor plant for erosion/sedimentation holdback along lake shores and stream banks. A stand of Japanese knotweed can grow over 10 feet tall and be dense enough to appear impenetrable.

Removal of this plant is best done by cutting near the base; at least 3 cuttings per growing season are necessary to suppress growth and spread. It is best not to try to pull knotweed out by the roots because, due to its extensive rhizome structure, some of the root system will be left to grow again. The cut stems should disposed of by bagging or burning. Do not dispose of them by placing them in a pile on the ground or a compost pit; they will likely take root and infest a new area.

The sharp spines and the berries are visible on this Japanese barberry plant, shown here in early winter. Aside from the normal spread of this invasive via spreading root systems, the berries are also eaten by birds, which then spread the seeds into new areas.

Japanese Barberry - This is another ornamental that has escaped cultivation. It is known for its red berries and numerous sharp spines that can make a thicket impenetrable. The Japanese barberry is both sun and shade tolerant and can grow in a variety of soils. Once established, thickets of barberry can choke out native plant life. Birds eat the berries and thus transport this invasive to new areas. In thickets, the Japanese barberry can grow to a height of 6' or more.

Removal can be accomplished by pulling by the roots; gloves are advised due to the spines and a hoe or shovel will help. In areas where the roots are too well established, mowing or cutting can be used to control growth.

The good news about these invasive species is that although present in the watershed, they have not completely overtaken native species in most areas. Many properties where invasive plants have been observed have isolated pockets that can be controlled by the methods outlined above. Keeping these invasive plants in check will help protect lakes and streams in the watershed from erosion problems and will be beneficial for habitat preservation and high water quality.

Twin & Walker Creeks
Watershed Conservancy

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Marco-invertebrate sampling
June 1, 2013 - 12 Noon
Meet at Walker Lake clubhouse

Return Service Requested

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Shohola, PA 18458

Twin & Walker Creeks Watershed Conservancy
132 East Shore Drive
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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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