

Primrose Creek Watershed Assoc.

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We're on the Web!
See us at:
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PCWA files appeal with the EHB challenging the PA DEP permit approval of NHCS quarry.

by Kevin Morrissey, PCWA President



A segment of Primrose Creek.

On September 8, 2011 attorneys with Citizens for Pennsylvania's Future (PennFuture) filed an appeal on behalf of Primrose Creek Watershed Association, and PennFuture before the Environmental Hearing Board (EHB). It challenges the permit granted by the Pennsylvania Department of Environmental Protection (DEP) allowing New Hope Crushed Stone Quarry to expand to 170 below sea level. This is 50 feet beyond their former legal limit.

Excerpts from the appeal are as follows:

"1- The Departments (DEP) action is contrary to law because it fails to maintain and protect the existing uses of Primrose Creek and the level of water quality necessary to protect those uses and because it fails to protect the designated uses of Primrose Creek....

2-The Department's action is arbitrary, capricious, and an abuse of discretion because it authorizes the expansion of the New Hope Crushed Stone Quarry, which it has already determined to be a source of aquatic life impairment of Primrose Creek, without imposing any new conditions or requirements to address that impairment....."

The complete appeal can be read online at
http://www.pennfuture.org/UserFiles/File/Legal/Water_BG_PrimroseCrkEHB_20110908.pdf

Or visit our website, primrosecreek.org

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Since the filing there have been numerous exchanges between PCWA/PennFuture, DEP, New Hope Crushed Stone attorneys and the EHB.

While the timing of a ruling from the EHB is not known, the EHB website responds to this question by stating "It is impossible to establish an exact time frame as each case may vary greatly in complexity and duration. It usually takes at least 6 months from the date when an initial Notice of Appeal is filed until a case is scheduled for a hearing. Absent unusual circumstances, the Board will dispose of all appeals within two years."

Progress in the case is posted on the following EHB web page:
http://ehb.courtapps.com/public/document_shower_public.php?docketNumber=2011122

PCWA is committed to working with PennFuture to continue the appeal to its conclusion. As we are able to send out updates to this appeal, we will do so through our email distribution list. Please contact us by calling 215-862-5256 if you would like to be updated through traditional mail. PCWA members who have not supplied us with email address automatically will be updated by mail.

Who is the Pennsylvania Environmental Hearing Board (EHB)?

by Dennis Mankin, PCWA board member and from the EHB Web site

As was noted, PCWA and PennFuture have filed an appeal with the Environmental Hearing Board, EHB.

The Pennsylvania Environmental Hearing Board functions as the trial court of state-wide jurisdiction which hears certain environmental cases. It hears appeals from actions of the Department of Environmental Protection. The Board can issue orders overriding actions of the DEP. The Department of Environmental Protection also initiates certain types of legal actions before the Board. The Board holds non-jury trials and issues Adjudications.

Trials before the Board are very similar to non-jury civil trials before Common Pleas Courts, The Commonwealth Court of Pennsylvania or Federal District Courts. The Board also issues legal opinions and orders such as to dismiss, requests for summary judgment, discovery motions and whether certain evidence may or may not be presented.

Who is PennFuture?



by Tanya Dierolf, PennFuture

As was noted in the prior "Appeal" article, PCWA is being represented by PennFuture attorneys during the appeal before the Environmental Hearing Board, EHB. Specifically the chair of the dept., Brian Glass is leading the PCWA/PennFuture appeal.

PennFuture has four offices in Pennsylvania and works with local watershed groups, fishing organizations, land conservancies and landowners providing outreach, education and representation on various legal issues that affect their watersheds.

PennFuture's law staff provides low-cost legal services to citizens, fishing and hunting groups and conservation organizations throughout Pennsylvania so they can have a voice in decisions that impact their health and welfare and the environment. The law staff offers a wide range of services to its members and clients, including counseling, advocacy before state agencies and representation in litigation to protect the public's right to a clean, healthy environment.

In many situations, PennFuture's law staff serves as a watchdog over regulatory agencies, filing comments and action letters to guarantee that Pennsylvania's environment and economy are protected to the fullest extent of the law. In other cases, they file court actions to force legal compliance from polluters.

Past and present clients have included the Pennsylvania Chapter of Trout Unlimited, the Pennsylvania Federation of Sportsmen's Clubs, Inc., the National Audubon Society, the Pennsylvania Chapter of the Sierra Club, numerous watershed associations and citizen action groups.

The Philadelphia Inquirer called PennFuture "Pennsylvania's leading environmental advocacy organization."

Learn more about this organization by going to website, <http://www.pennfuture.org/>

**A little bit of Primrose Creek Watershed History:
Dr. George Morley Marshall.**

by Kurt Miller, (descendant of those who contributed to the shaping of the Phillips Mill area)

As with the rest of the surrounding Solebury/New Hope area, Primrose Creek Watershed is steeped in history. The following photo was the home of Dr. George Morley Marshall located in the background.

1890's (The Phillips Mill Community)
Summer Home of Dr. George Morley Marshall



The photo was taken in the 1890's from St. Philips Chapel. Today most people know the property as the old Mueller property, "Lentboden" (The Pink House at the corner of River Rd/32 and Phillips Mill rd).

Dr. Marshall purchased the tract of land in the 1890's which was made up of about 5 contiguous properties that started from Rabbit Run Bridge and then on both sides of the road and then continuing down River Rd to the Delaware River.



2011 – Home of Dr. George Morley Marshall (Pink House in the background)

Dr. George Morley Marshall's Properties: Glen Cottage and Glen Gables 1911



View of the pond immediately before the Phillips Mill dam

Dr. Marshall then built two more very recognizable homes on Primrose Creek in the Philips Mill area, one of which was for his sister Caroline, called "White Oaks" which later became the Holmquist School for Girls and today is known as the Hotel Du Village. The other house he had built was for his other two Sisters which is the stone cottage that sits just in front of Hotel Du Village on River Rd, between St. Philips Chapel and Solebury School Lane.

The famous New Hope painter, woodworker, iron worker and architect, Morgan Colt, built the two homes for Dr. Marshall's family.



Primrose Creek Waterfall-Behind the Phillips Mill, (photo taken from in front of Glen Cottage, 1942)

Monitoring the Health of Primrose Creek

by Carol Cope, PCWA stream monitor and grant coordinator.

The complete report with graphs can be found in the News-Studies section of the [Primrosecreek.org](http://primrosecreek.org) website or by entering the following web address:

http://primrosecreek.org/news_files/pcwa_smr_2011.pdf

PCWA members may request hardcopy by calling 215-862-5256.

2011 was the inaugural year for our stream monitoring group. Bob Long and David Harrison comprised our east team located near Phillips Mill. Carol Cope and Charlie Furst were the west team members located west of Solebury School.



Carol Cope, Charlie Furst, Bob Long and David Harrison

This 2012 testing effort needs volunteers in order to continue. Please consider volunteering some of your time to help. It will not only help keep the creek and all of its inhabitants safe but you'll also meet some great people and have fun too! If you would like to learn more about this volunteer opportunity please send an e-mail to primrosecreek@gmail.com or call 215-862-5256. No experience is required. You will be trained by our experienced team members.

All evaluations were performed utilizing entry level tools. There were 5 testing periods, 7/21/2011, 8/24/2011, 10/7/2011, 11/3/2011 and 12/14/2011. It was not meant to be compared with the accuracy of professional studies. However, we believe with the level of dedication and focus the teams exhibited, this analysis is the start of a database that present general trends and basic understanding of the health of Primrose Creek. Since this effort is a learning process for all involved, techniques and data will evolve.

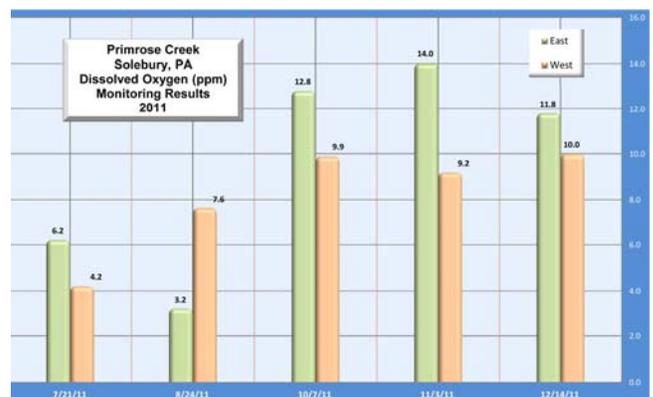
The 2 teams measured the health of the Primrose in 6 categories, PH, Dissolved Oxygen, Alkalinity, Hardness, Phosphates, Nitrate Nitrogen. The following is a summary of these results.

pH

pH is an important factor in the chemical and biological systems of stream waters. The toxicity of many compounds is affected by pH and water pollution can affect the pH. A pH range of 6.0 to 9.0 appears to provide protection for the life of freshwater fish and bottom dwelling invertebrates (animals without backbones that the fish eat). pH measurements in both locations at Primrose creek throughout the sampling period were between the range of 7-8. This indicates that the pH of Primrose is good enough to support aquatic life.

Dissolved oxygen

Oxygen is needed for the survival of nearly all aquatic life. Oxygen should be dissolved in the water so that it is available to the fish and other living things that live in the water. Its concentration in water is very low compared with that in air. Temperature, the types and concentrations of dissolved and suspended solids affect the amount of oxygen dissolved in a stream. Rapidly moving water, such as in a mountain streams, such as the Primrose, tends to contain a lot of dissolved oxygen, while stagnant water contains little. Also, oxygen is more soluble in cold water than in warmer water so there's more oxygen available to the living organisms in the water. In warmer water temperatures however, aquatic life uses oxygen more rapidly because of a higher metabolic rate. Bacteria in water can also consume oxygen as organic matter decays. Therefore, more organic material in the stream can cause an oxygen-deficient situation to occur. Throughout the sampling period the western part of Primrose had a slightly lower amount of dissolved oxygen (approximately 26% less) than the eastern section. The exception was the august sampling which may had to do with water temperature. As a whole, however, both locations did not go below 3 ppm which is the stress point for most aquatic species.



Dissolved Oxygen Monitoring graph from the 2011 PCWA Stream Monitoring Report

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Alkalinity

Alkalinity is a measure of the pH buffering capacity in a stream. Examples of commonly occurring materials in natural waters that increase the alkalinity are carbonates, bicarbonates, phosphates and hydroxides (EPA, 1972). Since pH has a direct effect on organisms and an indirect effect on the toxicity of certain other pollutants in the water, the buffering capacity is important to water quality (EPA 1972). The lower the alkalinity, the greater the sensitivity of surface water to acid precipitation. Fish and many other organisms are unable to survive large drops in pH. Trout are especially sensitive to decreases in pH. The alkalinity for the eastern side of primrose creek was higher than that of the western side. The alkalinity on the eastern side was much more (an average of 86 points higher) than the western side of the creek.



Hardness

Hardness is a measure of the amount of minerals that are in the water. Many industrial and domestic water users are concerned about the hardness of their water. Hard water requires more soap and synthetic detergents for home laundry and washing, and contributes to scaling in boilers and industrial equipment. Hardness is caused by compounds of calcium and magnesium, and by a variety of other metals. The hardness of both locations is very high. The western part of the creek had lower readings than the eastern part.

Phosphates

Phosphates can be from both point and non-point resources, washing farm runoff and wastewater runoff into a waterway. Phosphate will stimulate the growth of plankton and aquatic plants which provide food for fish. However, if an excess of phosphate enters a creek or stream, algae and aquatic plants will grow wildly, choke up the waterway and use up large amounts of oxygen. This condition, known as eutrophication or over-fertilization of receiving waters can be deadly to living organisms in the water. The water testing results for both east and west were pretty low and generally within normal ranges.



Nitrate Nitrogen

Nitrogen-containing compounds act as nutrients in streams and rivers. Nitrate reactions in stream water can cause oxygen depletion. This will cause aquatic organisms, depending on the supply of oxygen in the stream, to die. The major routes of entry of nitrogen into bodies of water are municipal and industrial wastewater, septic tanks, feed lot discharges, animal wastes. The nitrate level for both locations were within normal ranges for streams.

During the 2012 testing season, the team will be performing biotic index testing to measure the health of the living organisms in Primrose Creek. We would welcome volunteers, who we would train as we expand our capabilities.



Native Wildflowers

by Diane Smith, Bucks County Audubon Society
Educator

The first native wildflowers that appear are a welcome sign that spring is on the way. Peeking up through last fall's leaves, or even through winter's snow, these ephemeral beauties are worth a closer look. Many native wildflowers have interesting relationships with native fauna that ensure the survival of both the plant and animal.

Native wildflowers are defined as the plants that were here prior to European settlement. Many books and seed catalogs will list non-native wildflowers as "wildflowers," and one assumes that they are native plants. To be sure a plant is native, check the website of a reputable botanical society.



Skunk cabbage

One of the first plants to appear is the skunk cabbage, found growing in wet areas. Its purple hood, or spathe, is often found growing right through the snow. To avoid being frozen in the winter weather and to ensure pollination when the bees are still dormant, the plant produces its own heat, enough to melt the surrounding snow. This heat is produced by a chemical reaction in the plant. This heat, accompanied by a rotten smell, also attracts the flies that pollinate the flowers found on the fleshy spike, or spadix, inside the spathe. The heat inside the spathe can be as much as 60 degrees higher than the outside temperature. The seeds will not be mature until the following fall, when the spadix resembles a blackjack.

Bloodroot, belonging to the poppy family, is a short, stemless plant with a short-lived white flower, found growing in woods with rich soil. It is named bloodroot for the red-orange caustic sap of the roots. When bloodroot seeds are ripe, they have a layer of white fatty tissue on the outside that attracts ants. Ants then collect them and store them, and eat the fatty layer and not the seed itself.



Blood Root

The uneaten seeds are discarded with other nest waste and then have a chance to sprout. Where you see a large colony of bloodroot, most likely there is a busy colony of ants nearby.

Jack-in-the-Pulpit can be found in the same habitat as the bloodroot, blooming later. Also called "Indian Turnip," the Native Americans ate the root after careful preparation to remove the poisonous calcium oxalate crystals, which can cause blisters. (All parts of the plant are poisonous.) The flower is similar to that of skunk cabbage.



Jack-in-thePulpit

It has a hood (spathe,) the "pulpit," inside which is the flower structure (spadix), the "Jack." The flowers are pollinated by insects that are attracted to the fungus-like odor produced at the base of the spadix. At times, Jack-in-the-pulpit could be called "Jill-in-the-pulpit," because the spadix has separate male and female flowers on it. The male flowers develop in young plants and in plants growing under unfavorable growing conditions. The female flowers develop when the plant is older or when growing conditions are better, and will produce red berries that are eaten by wild turkeys, pheasant, and wood thrushes.

Diane L. Smith, (dianesmith@bcas.org, 215-297-5880) is an Educator for The Bucks County Audubon Society (BCAS) at Honey Hollow, 2877 Creamery Road, Solebury, PA. Contact her to arrange for environmental awareness activities for your group.

The Bucks County Audubon Society, <http://www.bcas.org/>, is a private, non-profit organization founded as a chapter of the National Audubon Society in 1969.

What is a Riparian Buffer? and why should we care!

by Mary Ellen Noonan, Bucks County Conservation District Educator

Riparian buffers, i.e. vegetation like trees, shrubs and tall grasses in riparian areas (areas along side water bodies) are integral to the environmental health of our planet. Riparian buffers filter out many impurities of storm water that might otherwise enter our drinking water sources. Road salts, leaking oil, pet wastes, excess fertilizer and pesticides are all picked up in rain and deposited into our creeks and streams; the very same creeks and streams which supply us with our drinking water.

Trees, shrubs and tall grasses have roots that grow much deeper into the ground than lawn grasses. The deeper the roots grow, the greater their ability to absorb water after a rain storm. As they absorb water, they also absorb all the pollutants being carried in the storm water. These pollutants are then broken down and used by the plants to help them grow. Just like we need vitamins and minerals to grow, plants need nutrients like nitrogen, magnesium and carbon.



Riparian buffer areas also provide valuable habitat for wildlife. They also create cooling zones, (not found in areas of blacktop or fields of "dirt") which help to regulate and lower air temperature.

Bucks County Conservation District works with grassroots organizations like the Primrose Creek Watershed Association in restoring healthy riparian buffers. Research has also shown that time outdoors in nature can actually improve our health in many ways such as lower blood pressure, alleviating stress and providing for the absorption of vitamin D.

So the next time the call goes out for help restoring a buffer in the Primrose Creek Watershed by planting trees, think of all the good you'll do.

What would you like you do? (Volunteer opportunities at PCWA)

by Kevin Morrissey, PCWA President

As a PCWA volunteer, we have all sorts of opportunities to participate in interesting activities, enjoy nature and contribute to the community.

If you would like to join one of committees, please ask us about:

(Call 215-862-5256 or email us, primrosecreek@gmail.com)

-Education committee

Education is a very strong element in our organization. Please contact us if you would like to share your thoughts concerning a new educational program you think we should sponsor. We believe education is for everyone, regardless of age.

-Membership committee

We have been very impressed and grateful for the number of individuals who have decided to become PCWA members. However we believe there are more residents of our community who would be interested to join to enhance our capabilities.

-Newsletter and other publications

Communication is very important to us. We need writers, photographers, artists as well as someone who can design a newsletter on a PC/MAC.

-Special Event committee

If you would like us to sponsor an event and believe others in our community would like to participate, please let us know. If your idea is feasible, we will work with you to make it a reality.

-Stream Monitor team

When it comes to caring for our streams and rivers, local watershed groups often lead the way. We have designed a cost effective means of residents use PCWA supplied tools to evaluate the health of Primrose Creek. No experience is needed to participate in this very worthwhile program.

-Webmaster website editing/writing

We need a person who would be willing to keep our website current with new and exciting web pages.

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IBM Creekwatch

by Hope Blaythorne, PCWA Board Member

Primrose Creek Watershed Association has been participating in a new iPhone application that brings the power of crowdsourcing to local waterways. Creekwatch, a new iPhone application developed by IBM Research, empowers citizens worldwide to monitor their watersheds and report conditions. Every update provides vital data that local water authorities can use to track pollution, manage water resources and plan environmental programs.

Creekwatch is easy to use, and is available as a free download from Apple App Store. Simply stop by your waterway and with the phone's GPS enabled, take a photo and submit three crucial pieces of data based on your observations:

Water level (Dry, Some, Full)
Flow Rate (Still, Slow or Fast)
Trash (None, Some, A lot)

You also have the option to type in comments regarding information you might be tracking specific to your watershed- weather, construction etc.

IBM is engaging more people to participate in crowdsourcing, where every individual is encouraged to become a citizen scientist and get engaged with their environment. IBM Research aggregates the Creek Watch reports and makes them available at creekwatch.org where water control boards and other interested parties can filter the data and view it as an interactive map or even download a spreadsheet.



IBM researchers hope Creek Watch adoptions will spread across the globe and help water experts anywhere in the world find local data to use for critical water management decisions. So download the application, take your dog for a walk along the river/canal and file a water report! The information will be logged into the Creekwatch data cloud, and you can currently see the Primrose Creek prominently in the system represented for Solebury.

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