

STORMWATER & YOU!



Spring Run and wildlife.
The way we all want to keep it so we can enjoy it!

MS-4 Program in the City of Altoona

A **Municipal Separate Storm Sewer System (MS4)** is a publicly-owned conveyance or system of conveyances (i.e., ditches, curbs, catch basins, underground pipes, etc.) that is designed or used for collecting or conveying stormwater and that discharges to surface waters of the State.

Phase I, issued in 1990, required *medium* and *large* cities or certain counties with populations of 100,000 or more to obtain a **National Pollutant Discharge Elimination System (NPDES)** permit coverage for their stormwater discharges.

Phase II, issued in 1999, required regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges.

Impaired storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. In order to minimize the amount of pollutants discharged into streams the

Environmental Protection Agency (EPA) under its Storm Water Phase II Rule requires that NPDES permits for MS4s require implementation of a stormwater management program that contains six **Minimum Control Measures (MCMs)**, which include:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control (Erosion & Sedimentation - E&S)
5. Post-Construction Stormwater Management in New and Re-Development Activities
6. Pollution Prevention/Good Housekeeping

Early on stormwater management addressed water quality by controlling stormwater runoff in terms of volume and rate of runoff through **Best Management Practices (BMP's)** for developments increasing impervious cover by more than 5000 Square feet. However under the current permit application stricter water quality standards were added due to Federal regulations that were passed to clean up the Chesapeake Bay as well as adhering to new requirements of the Federal Clean Water Act. Water quality standards establishing **Total Maximum Daily Loads (TMDL's)** have been added.

TMDL - The sum of the individual waste load allocations and load allocations; a margin of safety is included with the two types of allocations so that any additional loading, regardless of source, would not produce a violation of water quality standards. The watershed approach requires selection or definition of watershed size and begins with a comprehensive assessment of water quality in the watershed. After water quality impairments are identified, a planning process occurs to develop strategies that can successfully address and correct water quality issues in the watershed. Pennsylvania is using this process together with Federal Clean Water Act requirements to establish TMDLs to restore impaired streams so that they meet water quality standards.

TMDLs can be considered to be a watershed budget for pollutants, representing the total amount of pollutants that can be assimilated by a stream without causing water quality standards to be exceeded. The pollutant allocations resulting from the TMDL process represent the amount of pollutants that can be discharged into a waterway from each source. The TMDL does not specify how dischargers must attain particular load reduction. A TDML Plan however does specify how dischargers or permittees plan to reduce their TDML

A TDML Plan was to be part of our last permit application, however there were suspected flaws in the **Department of Environmental Protection (DEP)** TDML and mapping. The **Notice of Intent (NOI)** for our MS-4 NPDES permit was submitted September 11, 2012. We have yet to receive a new permit or even acknowledgement of our permit application (this is the same for almost everyone in the south central region not just the City of Altoona). In recent conversations with DEP we found out it was because we did not include our TMDL plan. We did not submit a TMDL plan because it was unclear what DEP was requiring in the plan and because we believed the DEP

TMDL to be in error. We did not want to be held liable for acid mine drainage entering the City (pass through).

Around the time of the NOI for our last permit application all the municipalities and townships with MS-4's in the Altoona Urbanized Area, who had similar concerns, got together and created the "**Blair County MS-4 Workgroup**". The first Blair County MS4 Workgroup meeting was held on March 20, 2012. The purpose of the group was to share thoughts, ideas, information, etc. on EPA and DEP's permitting and to also combine our resources for minimum control measures 1, and 2.

Members of the workgroup include The City of Altoona, Logan Township, Bellwood Borough, Antis Township, Allegheny Township, Blair Township, Frankstown Township, Hollidaysburg Borough, Duncansville Borough, Newry Borough, Juniata township, Freedom Township, Blair County Conservation District, Blair County Planning Commission, Larry Clapper Esquire, and Engineers, representing some of the above townships and boroughs, including Keller Engineers, Stiffler/McGraw Engineers, Levine Engineering, and Morris Knowles & Associates.

We have questioned DEP's TMDL study and mapping. The Blair County Conservation District and the City of Altoona, with help from the Altoona Water Authority has done stream monitoring and testing, which refutes DEP's TMDL study.

The MS-4 group through the **Blair County Conservation District (BCCD)** applied for and utilized a \$40,000 grant from the Chesapeake Bay Foundation to have the **Center for Watershed Protection (CWP)** help us organize and prioritize our next steps in the new permit process, mainly a TMDL reduction Plan. CWP worked with DEP in resolving many of the issues, discrepancies, and conflicts within the state's TMDL.

We are starting to utilize, again through the Blair County Conservation District, a 3-year \$400,000 **National Fish and Wildlife Foundation (NFWF)** grant to increase our Monitoring and Testing capabilities starting this year. Monitoring hardware and software will be purchased through the grant. The Grant will also fund implementation of some Best Management Practices (BMPs) to reduce our TMDLs numbers. This should occur sometime next year. (NOTE: this grant was awarded largely due to the Inter-municipal co-operative effort of the MS4 Workgroup.)

- a) The Inter-municipal co-operation and Testing/Monitoring initiatives have been recognized in several stormwater conferences and by various Non-profit organizations which should help us to acquire other potential grants.
- b) Efforts to monitor our streams, and get real data, has grown into a county-wide testing and monitoring program. This testing will provide a baseline for recording correct TMDL's based on real data from the streams. DEP/EPA base their TMDL on modeling, as they do the BMP performance numbers. To our knowledge we are the only municipalities doing this. This has already paid huge dividends in removing several large and expensive regulatory mandates. We are currently working with DEP's blessing, to REMOVE

several streams from the TMDL list. These are located within in the Beaverdam Branch watershed which includes some streams within the city.

- c) Within the next few months we will be working on confirming, or challenging, the Sediment TMDLs on the Little Juniata, including Spring Run in the City of Altoona. This will be done through actual onsite testing and monitoring which may well refute the current “Model” numbers that DEP/EPA is using.

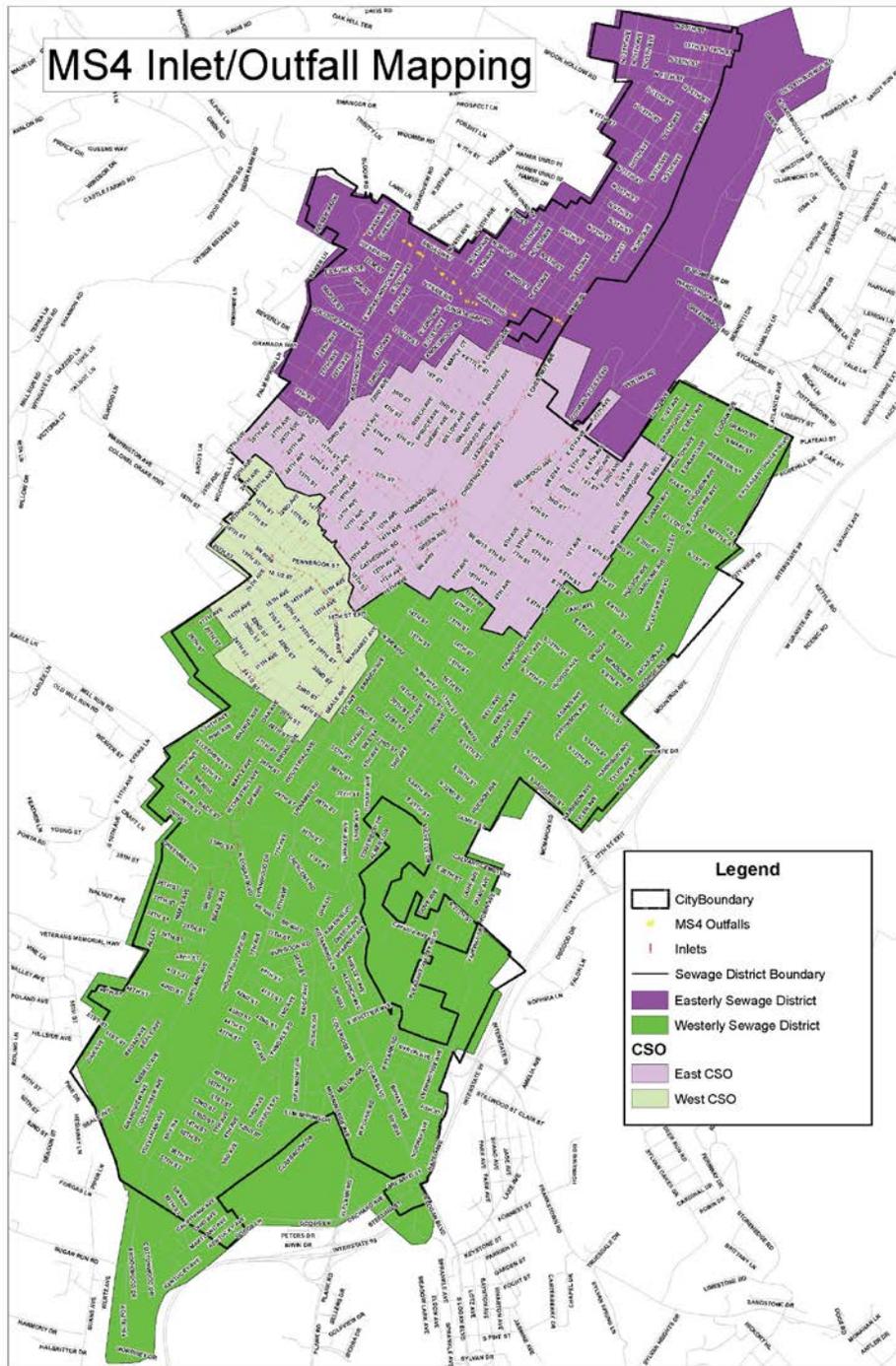
Items the City is currently working on:

- 1) To create an up to date time-line of all relevant Stormwater Management background and activities as it applies to the City of Altoona.
- 2) To finish GPS mapping of all the stormwater outfalls within the city. We will tie them into a map with the inlets and construct a map showing piping from inlet to outfall with land use associated with each sub-watershed.
- 3) To form a complete operation manual for stormwater and capture all steps and procedures needed to fulfill our permit obligations and protect our streams.

In addition, we have updated our ordinances so that they are compliant with the new permit requirements.

The City of Altoona is and continues to be proactive in its MS4 program and in its efforts to meet DEP/EPA requirements. We are and will continue to be actively involved in the MS4 Workgroup and participate in its efforts.

The City is working to inventory ALL of the stormwater outfalls in the City and monitor them for illicit discharges.



The above is a GIS (Geographic Information System) map of The City of Altoona's Inlets and Outfalls... at least what has been mapped with our GPS team.

We have a phone number for **NON-emergency/NON-spill** events. If you see or smell something unusual coming from an outfall, a pipe that empties into the Run or Stream, please call 949-2445.



An outfall on Spring Run – abandoned. Do NOT call.



Outfall on Mill Run - Normal (dry weather, no flow).



Outfall– scheduled to be repaired (Do NOT Call).



This is an outfall that you would CALL on... any flow in dry weather (48 hours without rain) especially if something unusual is going on with its discharge.

Remember, our most powerful ally in the fight to protect our waters is **you**. Through the **Adopt-a-Watershed** program you will be able to *help your neighborhood by caring for your local watershed*. Remember: **Everybody** lives in a watershed.

Adopt-a-Watershed Initiative

The **Adopt-a-Watershed** Program will recruit local concerned citizen-volunteers (Boy Scouts, Neighborhood, and Eco-groups) to participate in the maintenance and observation of their immediate watershed. This will be accomplished through activities that achieve visible results and encourage the stewardship of this resource. Spring Run will be the initial focus, to create a "Showcase".



Spring Run – We should keep it safe, and do our part for the next generation.



Spring Run – few Cities have such a sight –
Our goal is to keep it looking good!

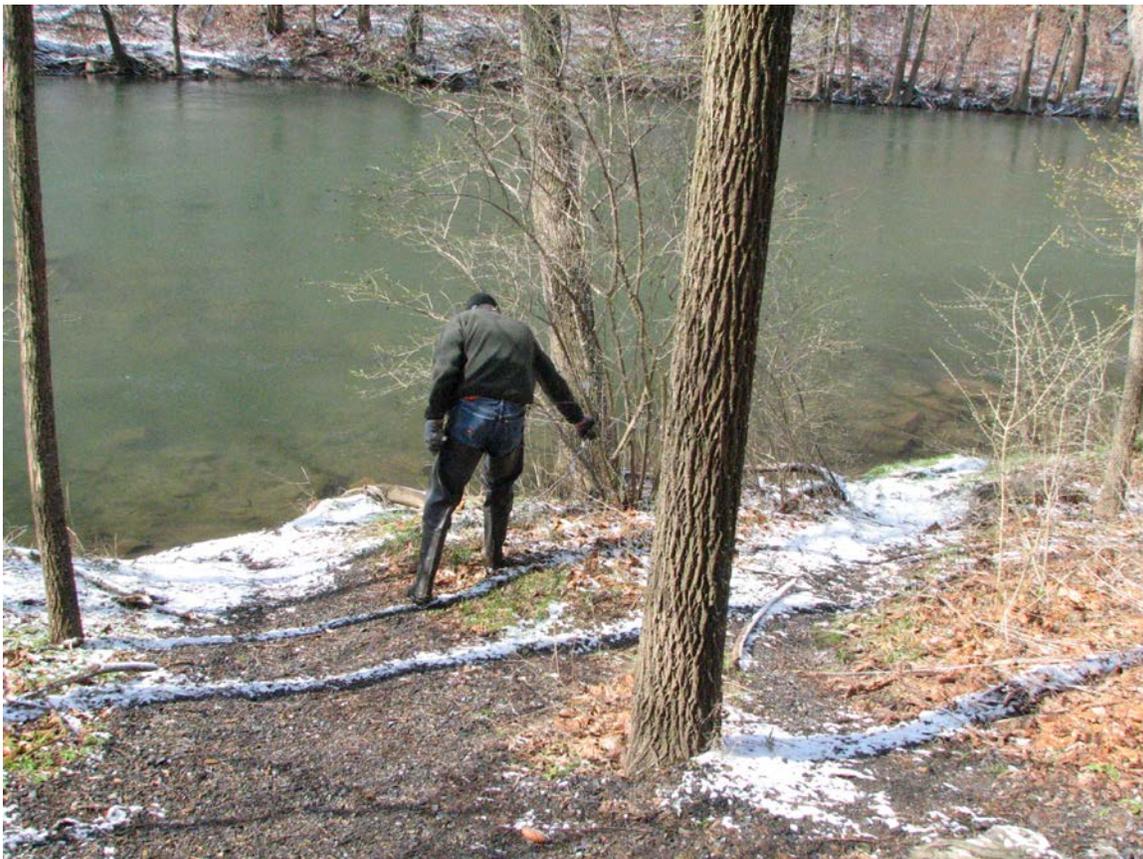


Spring Run – clean water is healthy –
Let's work to keep it healthy, together.

Three (3) specific activities & goals:

1) Volunteers/neighbors will clean up and monitor the watersheds. The primary clean up occurs in the spring with instructions on detecting illicit & illegal discharges. What an outfall is was addressed previously. Below we see what a typical clean-up can accomplish. This particular clean-up occurred downstream from the City.

This part of the clean-up, organized by the "Little Juniata River Association", was accomplished by 3 adults and 2 younger Scouts as part of a larger effort of close to 80 people.



A clean-up along the Little Juniata River by Baree.

Events like these happen several times per year... a lot of our staff participates in them... and the City lends its' support by using heavy equipment and trucks to haul off the debris.



Hard at work!



By the end of the day – One crew had two pick-up trucks full.

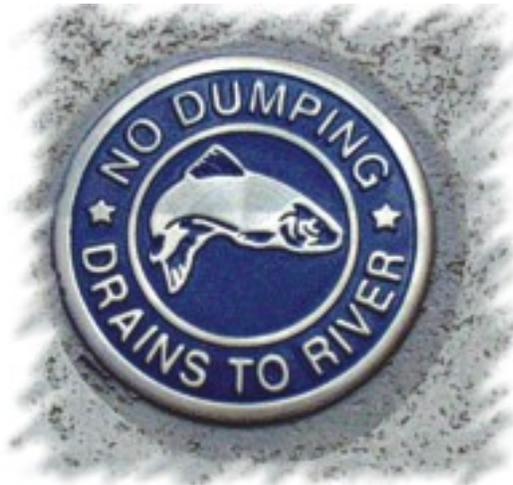


Another truck had nothing but tires in it!



Time to unload the trash where it belongs – a dumpster!

2) Volunteers (e.g. Eagle Projects, etc.), aided by technicians from the Public Works Dept., will place 4" stainless steel disks at the inlets of the storm water system. They feature a fish with the words "No Dumping" "Drains to Creek" (see illustration). 1000 of these disks will be purchased and installed to cover the city watersheds that drain into the Little Juniata River. Spring Run, alone, will need Approx. 600 disks.



3) Establishing a dedicated local phone number for citizens to be used for **non-emergency/non-spill** reporting where a problem or suspicious discharge or dumping is noticed. That number is 949.2445

Stormwater Timeline:

BLAIR COUNTY MS4 GROUP TIMELINE AND SUMMARY OF MS4 PROGRAM

MS4 PERMIT TIMELINE ~ for Altoona and surrounding municipalities.

1937 ~ Pennsylvania "The Clean Streams Law" is passed.

1972 ~ EPA/"Clean Water Act" is passed... largely based upon Pennsylvania's "The Clean Streams Law". Waterways of the USA are to be Fishable, Swimmable, and Drinkable. In Pennsylvania DEP administers this mandate.

2003 March 10 - MS4 Phase 2 NPDES Permit first cycle began.

2003 March 10 - 2004 March 9 (Year 1) - During permit cycle year 1, education and outreach and public participation programs were established based on the a protocol outlined by DEP and the outfalls for each MS4 were to be mapped. The Blair County Conservation District (BCCD) also carried out tasks that fulfilled the permit requirements for each MS4 relating to education and outreach. The BCCD also mapped most of the outfalls within the MS4 areas. Stormwater Management, Erosion and Sedimentation Control, and Operation and Maintenance sections of the Subdivision and Land Development Ordinances were updated to incorporate low impact development criteria, stricter earth disturbance regulations and more detailed operation and maintenance requirements. Operation and Maintenance procedures for municipal operations and stormwater control facilities were also established during the first permit year. Annual reports are submitted within three months of the end of each permit year (On or before June 9 of each year).

2003 November 24 ~ the City of Altoona receives its' 2003-2004 permit.

March 10, 2004 - March 9, 2008 (Years 2 - 5) - Plans established during permit year 1 were carried out and improved upon. All outfalls were screened for illicit discharges at least twice during dry weather conditions and action was taken to remove the illicit discharges found during the process.

September 8, 2007 - Permits are administratively extended for 12 months (March 10, 2008 - March 9, 2009).

August 23, 2008 - Permits are administratively extended for 12 months (March 10, 2009 - March 9, 2010).

August 15, 2009 - Permits are administratively extended for 12 months (March 10, 2010 - March 9, 2011).

April 2010 - The EPA performed file reviews for most of (possibly all) MS4's in the DEP South-central Region. EPA Orders were sent out to 79 MS4's as a result of the reviews, including many in Blair County. The deficiencies outlined in the orders were to be fulfilled by October 2010.

August 13, 2010 - Permits are administratively extended for 9 months (March 10, 2011 - December 9, 2011).

December 11, 2010 - Permits are administratively extended for 6 months (December 10, 2011 - June 9, 2012).

September 17, 2011 - Permits are administratively extended for 6 months (June 10, 2012 - March 15, 2013).

March 20, 2012 - First meeting for the Blair County MS4 Work Group was held in an effort to share municipal resources throughout the County. Each MS4 municipality made individual efforts toward submitting applications to renew their NPDES Permit while utilizing shared resources, insight, and advice established during meetings held by the Blair County MS4 Work Group during the months to follow.

July 16, 2012 - A joint public education meeting was held at the Logan Township building by the Blair County MS4 Work Group and solicited public attendance within all Blair County MS4 municipalities.

July/August 2012 - Memorandum of Understanding (MOU) was executed between each MS4 municipality and the Blair County Conservation District. The MOU outlines the responsibilities the Blair County Conservation District will take on in fulfilling permit requirements for the next permit cycle. Language was included in the MOU's specific to Best Management Practices established in each MS4 municipality's Stormwater Management Program.

September 14, 2012 - Deadline for MS4 NPDES Permit renewal submission. Each MS4 municipality submitted NPDES Permit renewal applications, which included a Stormwater Management Program (modeled from a DEP document formerly known as the stormwater protocol); proposed revisions to the Subdivision and Land Development Ordinance specific to stormwater management operation and maintenance requirements; updated MS4 system maps (e.g. outfalls, storm sewer system, ditches, roadways, etc.); Total Maximum Daily Load (TMDL) Strategy Plans; updated Operation and Maintenance Procedures for municipal operations and stormwater control facilities; among other items.

March 27, 2013 - Joint municipal training sessions were held at the Logan Township building for highway and maintenance crews from all Blair County municipalities.

March/April 2013 - The Blair County MS4 Work Group and the Blair County Conservation District began efforts to secure grant funding to assist in creating and implementing the TMDL Plans as well as executing or enhancing other BMP's outlined in the municipal Stormwater Management Programs. The sources of potential grant money include the Chesapeake Bay Foundation (CBF) and the National Fish and Wildlife Foundation (NFWF).

May 14, 2013 - A letter of intent was authored by the Blair County Planning Commission on behalf of the Blair County MS4 Group to apply for a CBF grant providing funding for consultant services to assist the Blair County MS4 municipalities complete the NPDES Permit renewal and write and implement the required TMDL Plans.

May 23, 2013 - The grant through the CBF was approved pending an executed agreement by all parties to begin work with the Center for Watershed Protection, the consultant hired by CBF. A scope of work was established and includes developing a TMDL plan for the TMDL streams within the MS4 urbanized areas and the Chesapeake Bay TMDL Plan and assisting the Blair County MS4 municipalities with the outstanding permit items required for NPDES Permit renewal.

May/June 2013 - Multiple phone conversations with DEP revealed significant deficiencies in the NPDES Permit renewal applications, the most significant items involving the TMDL Strategy Plans.

June 24, 2013 - An agreement was executed between CBF and the Blair County Planning Commission (on behalf of the Blair County MS4 Work Group) and work officially began with the Center for Watershed Protection.

August 12, 2013 - A meeting was held at DEP's South-central Regional Office in Harrisburg between DEP South-central, DEP Central Office, EPA, the Blair County MS4 Work Group, the Center for Watershed Protection, and the Pennsylvania State University. This meeting discussed the deficiencies in the NPDES Permit renewal applications and the steps necessary to address these deficiencies. Issues with the TMDL documents prepared by DEP and approved by EPA for the Little Juniata River and the Beaverdam Branch were also briefly discussed. Research into solutions to the TMDL issues to follow.

September 2013 - Major issues with the Little Juniata River TMDL were identified and added a substantial amount of work load to the Center for Watershed Protection's scope of work.

October 2013 - NFWF officially awarded a \$421,424 grant, with \$437,180 match, to the Blair County Conservation District acting on behalf of the Blair County MS4 Work Group. This grant will focus on implementing several projects identified by the TMDL Plans to be approved with the NPDES Permit renewals as well as provide additional resources to assist the Blair County MS4 municipalities in executing and properly documenting many of the items identified in their Stormwater Management Programs.

December 2-3, 2013 - Individuals from the Center for Watershed Protection and representatives from the Blair County MS4 Work Group toured the Blair County MS4 municipalities to identify sites for potential structural BMP's (e.g. stream restoration, stormwater detention facility retrofits, riparian buffer plantings, etc.) and create an inventory organized by priority based on a number of contributing factors.

December 4, 2013 - A Blair County MS4 Work Group Meeting was held at the Logan Township Building with Bryan Seipp of the Center for Watershed Protection to discuss the previous days' progress. Representatives from DEP were also in attendance to discuss the major issues with the TMDL's for the Little Juniata River and Beaverdam Branch and to discuss the current progress and next steps toward addressing the NPDES Permit renewal deficiencies.

June 2, 2014 - A draft TMDL Report was supplied to the Blair County MS4 Work Group by the Center for Watershed Protection for discussion, review, and comment.

June 3, 2014 - A Blair County MS4 Work Group Meeting was held with Bryan Seipp to discuss the draft TMDL Report.

Note: Throughout much of the timeline leading up to and following submission of the NPDES Permit renewal applications, regular meetings were being held by the Blair County MS4 Work Group, or individuals within the Group, and substantial effort was being made to obtain or generate the necessary documents and plans to be submitted to DEP and to assist the Center for Watershed Protection in their efforts to revise DEP's TMDL's and develop TMDL Strategy Plans for both the Little Juniata River and the Beaverdam Branch watersheds.

Remember: We ALL live downstream!