

# Consortium for Scientific Assistance to Watersheds

Annual Report: July 1, 2012 – June 30, 2013

*Transferring knowledge and skills to watershed groups;  
Building capacity to undertake watershed assessments and monitoring.*



***The C-SAW program is funded by a Pennsylvania Department of Environmental Protection Growing Greener grant awarded to the Pocono Northeast Resource Conservation and Development Council in Partnership with:***

Alliance for Aquatic Resource Monitoring at Dickinson College  
Conemaugh Valley Conservancy  
Delaware Riverkeeper Network  
Pennsylvania Lake Management Society  
Stroud Water Research Center  
United States Geological Survey

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## Executive Summary:

There is a significant amount of work needed to protect and restore Pennsylvania's streams and lakes. There are hundreds of watershed associations and groups in Pennsylvania actively participating in these efforts. The willingness of private citizens to take action holds real promise for improving water quality and preserving streams throughout the Commonwealth. The Consortium for Scientific Assistance to Watersheds (C-SAW) program provides technical and programmatic assistance to those organizations that need assistance to accomplish their local aquatic improvement and monitoring goals. Since the conception of the C-SAW program in 2001, more than 277 watershed organizations and thousands of individuals have received watershed specific technical assistance, mentoring, and quality control support. **In the past year, C-SAW partners have supported 60 organizations and approximately 2,800 individuals.**

Citizens and local watershed organizations are critical in enhancing and improving watershed protection and restoration at the local level. Therefore, it is anticipated that demands upon the C-SAW program are expected to continue to exceed the limited resources available. **C-SAW partners have been working to help spread dollars farther by including match time and money for the program that this year equaled \$71,094, which came from volunteer time of C-SAW recipients, other funding sources of C-SAW partners, and volunteer staff time.**

## C-SAW Partners:

The scope and depth of collaboration and cooperation that has grown among the Consortium partners enables the C-SAW program to efficiently and effectively provide a range of services to watershed organizations. The Consortium partnership represents a diversity of individual and collective knowledge and skills that can be drawn upon to provide the assistance requested. The C-SAW partnership presents a model for other states to follow and the partners have emphasized this concept in other regions and states. The following organizations provide technical and programmatic support to local groups:

- Alliance for Aquatic Resource Monitoring @ Dickinson College (ALLARM)
- Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team (CVC)
- Delaware Riverkeeper Network (DRN)
- Pennsylvania Lake Management Society (PALMS)
- Stroud Water Research Center (SWRC)
- United States Geological Survey (USGS)

## **C-SAW Approach:**

Pennsylvania has long encouraged the development of local watershed groups in recognition of their unique position to lead efforts for improving water quality protection at the grassroots level. Financial support provided through the Growing Greener Stewardship Program and technical and capacity building assistance provided through the C-SAW program exemplify the Commonwealth's commitment to local watershed groups and its belief in their abilities to create positive change.

Over the past year, the Consortium partners have strived to provide statewide coverage and technical assistance to new watershed organizations requesting assistance as well as approved applicants who continue to request support as they evolve. The Consortium's ability to provide long-term support has come to define the C-SAW program. Although this approach requires an intensive dedication of time and resources initially, it significantly advances the effectiveness of watershed groups over time and builds strong, knowledgeable groups capable of completing scientific work independently. Effective local watershed groups require citizens who:

- are empowered with knowledge of aquatic systems
- have acquired and practiced technical skills, and
- have experienced watershed protection and restoration methods.

Many of the groups that apply for C-SAW assistance have only recently formed and require assistance with organizational development and program management before they can effectively proceed with watershed monitoring and assessment. Even for more seasoned organizations, the request for C-SAW assistance can include organizational development and program management. Consortium partners collaborate with C-SAW recipients to build ownership, capacity, and confidence. This approach sends ripples far beyond the individuals and organizations assisted, and helps to build stronger individuals, stronger watershed organizations, and stronger communities. One can see the independence gained by groups over time as they enhance their skills and move onto other projects that build on their increased capacity.

## **C-SAW Assistance:**

The primary goal of C-SAW is to enhance the capacity of Pennsylvania watershed organizations to implement watershed protection and restoration programs in hopes of improving water quality and function in Pennsylvania streams. This is achieved by offering the following types of assistance:

### Watershed-Specific Technical Assistance:

Targeted, short-term skills development, designed to help answer questions on a variety of scientific topics and disciplines. In many instances, recipients may request a series of targeted watershed specific technical assistance over time. Examples of assistance include:

- Monitoring plan/program development
- Watershed protection plan development
- Monitoring equipment selection
- Water quality monitoring methods
- Macroinvertebrate collection and identification
- Habitat and physical assessment
- Stream flow monitoring methods
- Acid mine drainage monitoring and treatment
- Aquatic invasive species identification and management
- Lake monitoring and management
- Stormwater monitoring and management
- Stream/lake restoration monitoring and design
- Data management
- Data analysis and interpretation
- Data/information communication strategies
- GIS support
- Strategic planning
- Volunteer recruitment and retention strategies

### Mentoring:

Intensive, long-term (2 – 5 years) assistance and capacity building, designed specifically for a watershed organization, and may include:

- New assistance – for groups just getting started
- Continuing assistance – for groups with defined goals, objectives and a restoration or monitoring study design
- Next steps assistance – for groups that have been in existence for 5 – 8 years that are moving beyond initial assessment and restoration work.

### Quality Control:

Help to verify the quality of data collected, and includes:

- Blind sample analysis for water quality (USGS)
- Split sample analysis for water quality (ALLARM)
- Macroinvertebrate identification (SWRC)

## C-SAW Spotlight: Data Logger Training

The Allegheny County Conservation District (ACCD) received a grant to implement a water monitoring program utilizing in-stream data loggers to acquire long-term, continuous data from streams susceptible to pollution from a number of sources. Because the Conemaugh Valley Conservancy (CVC) had implemented a similar monitoring program, ACCD requested technical assistance from CVC to aid with the development of monitoring design and protocols, equipment selection, volunteer training, and data management and interpretation. Working with Amy Miller, ACCD's Watershed Specialist, and April Claus of the Fern Hollow Nature Center, CVC held a workshop that presented information on its water monitoring program, including lessons learned, equipment selection and maintenance, study design, emerging databases, volunteer management, and data interpretation. CVC then helped ACCD install the first of four data loggers.



*Eric Null, CVC, answers questions on logger installation.*

## Continuing Need for Assistance:

As a direct result of efforts undertaken by the Consortium partners over the last several years, the number of watershed organizations in Pennsylvania has increased significantly. However, the demands of applicant organizations continue to outpace the resources currently available through the Consortium. Consortium partners recognize that citizens, in order to be effective in their watershed protection efforts, must be informed, confident and able to overcome the disappointments and frustrations they will invariably face. However, many of C-SAW's mentored groups are new to watershed protection and require assistance not only with monitoring study design and skills-building, but also with organizational development, outreach campaigns, and workshops. More established groups require C-SAW assistance to keep their momentum strong as they enter the data interpretation and presentation stages of their monitoring programs or revisit their study design.

Many groups that originally requested watershed-specific technical assistance continue to rely heavily on Consortium partners to provide more extensive assistance as they evolve over time. In many cases, groups receive repeated watershed specific technical assistance as new issues emerge and organizations attempt to respond. As the number of groups benefiting from C-SAW assistance grows, so does the program's exposure. Watershed organizations are seeking out experienced and knowledgeable support from environmental professionals who can help shorten their organizations's learning curve, provide insights and expertise, and help overcome



barriers. More and more groups are signing up for assistance, but resources of Consortium partners to mentor new groups are already fully committed. As a result, new groups that could benefit from mentoring have been assisted only through watershed-specific technical assistance. This annual report exemplifies the continuing success of the C-SAW program and its ability to provide the necessary programmatic and technical assistance to C-SAW recipients across Pennsylvania for the purpose of effectively addressing water quality issues.

Before the creation of C-SAW, the Consortium partners, working separately, struggled to assist watershed groups and concerned citizens with the limited resources available. Today, through the C-SAW program, Consortium partners work in concert to transfer knowledge and skills to grassroots groups and non-profit organizations undertaking watershed assessment and monitoring work that will make Pennsylvania watersheds better and cleaner places to live.

### **C-SAW Spotlight: Working on a Watershed**

The Blackleggs Creek Watershed Association (BCWA) is one of the oldest watershed organizations in the state and is making significant progress in the restoration of Blackleggs Creek and its tributaries like Big Run and Whiskey Run. When Norfolk Southern Railroad put a new line through the watershed, it was directed to contribute \$1 million to BCWA for treatment of several Abandoned Mine Discharges. With additional funds from DEP (Growing Greener), OSM, and the Foundation for PA Watersheds/GenOn settlement, BCWA has constructed the Kolb and Big Run #2, #7, and #8 treatment systems and is working on Big Run #3 and Whiskey Run #9.

Through C-SAW, the Conemaugh Valley Conservancy (CVC) helped BCWA create and adhere to a monitoring program and connect to schools and other conservation organizations in its watershed primarily through Trout in the Classroom. CVC continues to provide BCWA assistance by answering questions on funding, reporting, project management, and water quality data.



*Art Grguric, BCWA Wetlands Coordinator, “fluffs” limestone at Big Run #8 to remove armored iron and improve the system’s function.*

# Summary of Assistance Provided:

**60**

**Groups**

Organizations directly receiving assistance from C-SAW (watershed-specific technical assistance, mentoring, and quality assurance/quality control).

**128**

**Trainings & Workshops**

A training/workshop is any hands-on or skills-oriented session in which a C-SAW partner takes the lead or facilitates skills-building in a more formal manner than at a general meeting.

Examples include: monitoring trainings, study design workshops, data interpretation workshops, presentations on water quality issues, etc.

**687**

**Consultations**

A consultation is any meeting, planning session, or contact a C-SAW provider organized or participated in as part of the assistance provided to an organization.

Examples include: scoping meetings, planning meetings, quarterly/monthly monitoring or other committee meetings, etc.

**2,793**

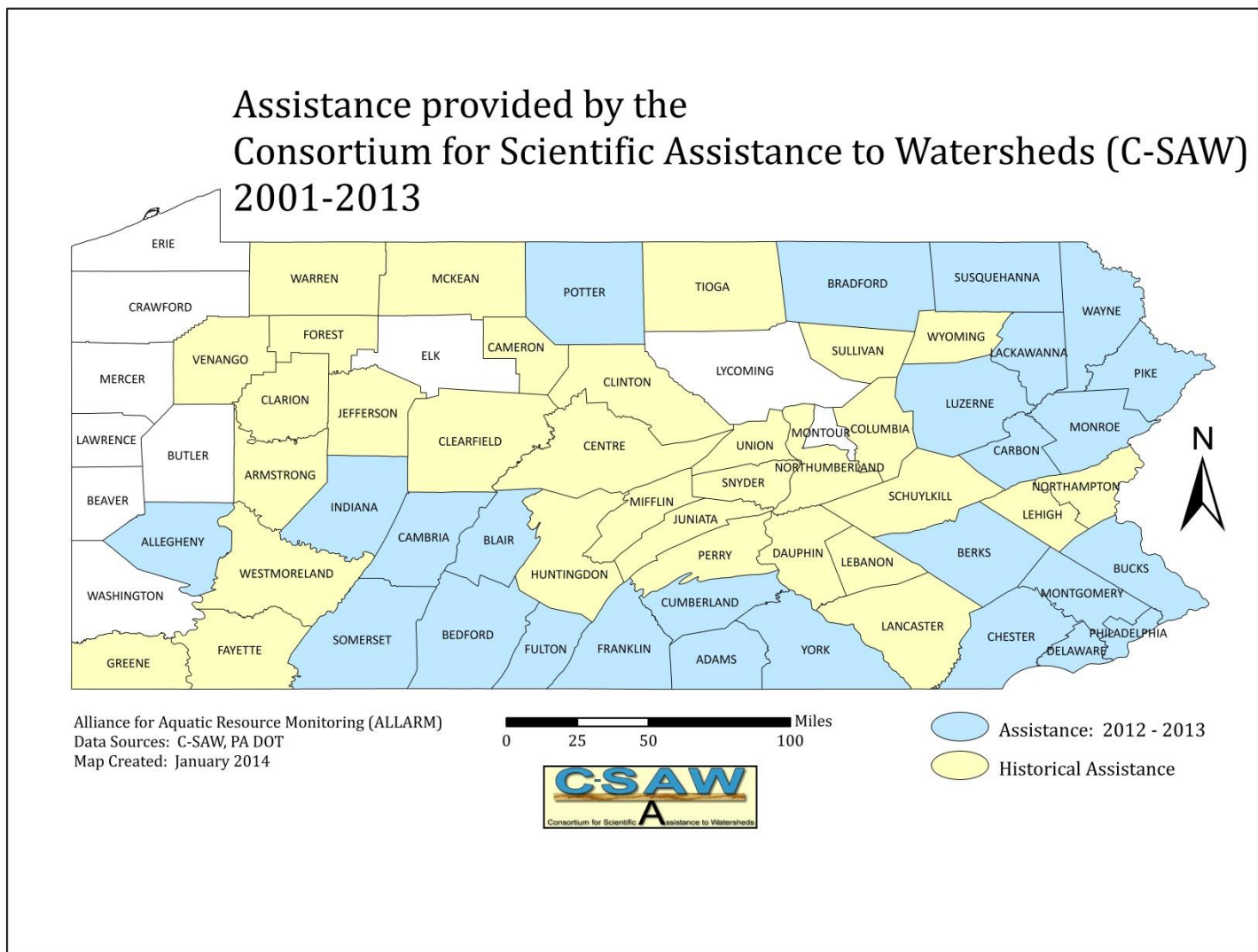
**Individuals**

The number of individuals assisted through consultations and trainings/workshops. Additional members of the organization benefit from these activities as they come into direct contact with the participants.



# Appendix A: Assistance Reports

The following reports summarize the assistance provided this year, as reported by each partner.



*Map illustrates the counties where assistance has been provided through the C-SAW program.*

## APPLICANT: Allegheny County Conservation District

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	4/18/2012
Group membership	N/A	Scoping meeting	N/A
Watershed	Monongahela & Allegheny Rivers	DEP approval	5/1/2012
Watershed size	18,960 mi <sup>2</sup>	Assistance began	5/7/2012
County	Allegheny	Assistance completed	Ongoing
In-kind match	\$1,989	Cost of assistance	\$1,100

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Mentoring

Consultations	8
Trainings/workshops	1
Individuals assisted	18
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

CVC coordinated with the Conservation District to host a training on data loggers. This workshop provided an overview of the existing project and other partners' work, and it demonstrated how to install, download, and maintain these loggers. The training also reviewed the logger software and data interpretation. CVC helped the District install their first data logger. CVC is keeping in touch with the District.

### Assistance provided October 1 – December 31, 2012

Communicated with ACCD staff regarding some technical aspects of the data loggers.

### Assistance provided January 1 – March 31, 2013

Communicated with ACCD staff regarding some technical aspects of the data loggers.

### Assistance provided April 1 – June 30, 2013

Question regarding loggers.

## APPLICANT: Antietam Watershed Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	6/30/2003
Group membership	80	Scoping meeting	N/A
Watershed	Antietam Creek	DEP approval	10/31/2003
Watershed size	94 mi <sup>2</sup>	Assistance began	10/31/2003
County	Franklin	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	18
Trainings/workshops	2
Individuals assisted	30
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM met with the AWA monitoring coordinator to answer questions related to the monitoring program. The group has recently spotted some high nutrient values within their watershed and further testing is going to take place by the group. A few AWA monitors participated in QA/QC in July.

### Assistance provided October 1 – December 31, 2012

ALLARM answered questions about monitoring for alkalinity and provided additional monitoring resources to the group. Six monitoring participated in QA/QC in November. The group is interested in learning more about what the water quality results mean as a whole in the watershed. Planning for a data interpretation workshop is in the works.

### Assistance provided January 1 – March 31, 2013

The Antietam Watershed Association has recently recruited several new monitors and would like to hold a water quality workshop in the spring. ALLARM offered assistance in choosing equipment and helped to outline the group's monitoring manual to reflect recent changes in their program.

### Assistance provided April 1 – June 30, 2013

ALLARM held a water quality monitoring workshop for the Antietam Watershed Association in April. The workshop was attended mainly by new monitors who wanted to learn new methods and how to use the water quality kits. A few experienced monitors also attended to brush up on their skills and ask questions. All monitors were able to use standards (solutions with a known concentration) to test their technique when possible. ALLARM has also helped AWA choose new monitoring equipment.

## APPLICANT: Aquatic Invasive Species Workgroup

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	3/21/2007
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	4/2007
Watershed size	N/A	Assistance began	4/2007
County	Multiple	Assistance completed	N/A
In-kind match	\$3,580	Cost of assistance	\$5,372

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	10
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

Activity during this time period consisted of attending and supporting PISC meetings, reporting progress to PALMS and other C-SAW partner and IS organizations.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Berks County Conservation District

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	9/1/2012
Group membership	40	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	9/14/2012
Watershed size	1,920 mi <sup>2</sup>	Assistance began	9/14/2012
County	Berks	Assistance completed	10/20/2012
In-kind match	N/A	Cost of assistance	\$114

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	5
Trainings/workshops	0
Individuals assisted	30
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Planning and calls for the upcoming workshop were conducted with Berks County Conservation District and other presenters for the workshop. DRN began preparing the presentation for the workshop, regarding watersheds, stream restoration, and stormwater bmp's.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.



# APPLICANT: Blackleggs Creek Watershed Association

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	12/5/2012
Group membership	150	Scoping meeting	N/A
Watershed	Blackleggs Creek	DEP approval	12/14/2012
Watershed size	45 mi <sup>2</sup>	Assistance began	12/5/2012
County	Indiana	Assistance completed	Ongoing
In-kind match	\$1,223	Cost of assistance	\$1,745

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	41
Trainings/workshops	1
Individuals assisted	229
Stream miles improved	5

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

BCWA and CVC have worked together for years, but sought to formalize their partnership through C-SAW by BCWA requesting assistance from CVC on several issues, including those pertaining to the Big Run and Whiskey Run projects, which are linked to Growing Greener, OSM, and an agreement with Norfolk Southern Railroad. CVC was present at BCWA's monthly meeting in December and has had regular communication with BCWA's Wetlands Coordinator.

## Assistance provided January 1 – March 31, 2013

Communicated with BCWA's Wetlands Coordinator about restoration projects; met with BCWA, FPW, and DEP representatives regarding these projects and funding; participated in a BCWA meeting; reviewed and commented on the Big Run #3 additional funding request and annual meeting / membership letters; viewed and sampled Norfolk Southern Railroad agreement water monitoring sites; helped manage resulting data; communicated with BCWA volunteers and consultant; sought biological monitoring support from PFBC and DEP; facilitated Trout in the Classroom grant application of which BCWA is the primary partner at Kiski school.

## Assistance provided April 1 – June 30, 2013

Collaborated on monitoring, membership development, environmental education outreach and partnership development, particularly through Trout in the Classroom, grant resources and reporting, project development, especially regarding Whiskey Run #9, and demonstrated macroinvertebrate collection techniques.

## APPLICANT: Blair County Conservation District

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	2012
Group membership	10	Scoping meeting	N/A
Watershed	Beaverdam Branch, Juniata River	DEP approval	4/18/2013
Watershed size	32 mi <sup>2</sup>	Assistance began	8/2013
County	Blair	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** United States Geological Survey

**Assistance type:** Watershed-specific technical assistance

Consultations	5
Trainings/workshops	2
Individuals assisted	10
Stream miles improved	N/A

### Requested assistance

BCCD is working with student interns from the Penn State University, Altoona campus to establish a baseline of water quality and quantity data in Mill Run, Brush Run, and Spring Run basins. The quality and quantity of water entering, traversing, and leaving the City of Altoona will be monitored at 7 locations. Water quality will be characterized monthly under baseflow and stormflow conditions and using Hach test kits to analyze water temperature, pH, dissolved oxygen concentration, conductivity, nutrient concentrations, sulfate concentration, and alkalinity. Water quantity will be measured simultaneously with sample collection. The student interns and BCCD seek to develop relationships between streamflow and stage commonly referred to as ratings. Assistance through C-SAW is requested to train BCCD personnel and student interns to: 1) properly identify appropriate locations for streamflow and stage measurement, 2) measure stage using staff plates or other appropriate methods, and 3) conduct streamflow measurements. Under this C-SAW request, the USGS would provide instruction and support for staff plate installation and streamflow measurement at a location mutually agreed upon during site reconnaissance. BCCD and student interns would install additional staff plates and make streamflow measurements, using knowledge transferred from USGS.

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

Coordinated with Jim Eckenrode at BCCD to plan the assistance, which is expected to be provided in October 2013.

## APPLICANT: Briar Bush Nature Center

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	N/A	Scoping meeting	N/A
Watershed	Delaware River	DEP approval	4/3/2013
Watershed size	13,000 mi <sup>2</sup>	Assistance began	4/3/2013
County	Montgomery	Assistance completed	6/26/2013
In-kind match	N/A	Cost of assistance	\$361

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	2
Trainings/workshops	1
Individuals assisted	25
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

C-SAW conducted an hour and a half presentation on the Schuylkill River clean up on June 26, 2013. Twenty five people attended the presentation.

# APPLICANT: Carroll Township

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2009
Group membership	10	Scoping meeting	N/A
Watershed	Yellow Breeches & Conewago Crs.	DEP approval	6/22/2012
Watershed size	734 mi <sup>2</sup>	Assistance began	1/2013
County	York	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** United States Geological Survey

**Assistance type:** Watershed-specific technical assistance

Consultations	5
Trainings/workshops	1
Individuals assisted	N/A
Stream miles improved	N/A

## Requested assistance

Carroll Township has experienced a series of minor or micro-earthquakes since October 2008. Won-Young and others (2009), identify diabase dikes (which underlie about 60 percent of the township) as a potential source of the earthquakes, as the dikes are brittle and break under stress. The reason for the stress is unknown, but one theory is the stress originates from loading of groundwater into old iron mines that exist beneath the township. This area was known as the Dillsburg magnetite district, and was established in the 19th Century. The District now is represented by abandoned underground tunnels and excavations of uncertain depth and breadth. Flooding of the mines increases the overburden weight on the diabase dikes and may also lubricate existing fault planes which promote the tremors felt in the township. Based upon this conjecture, monitoring of water levels in selected wells, springs, and wet lands and their relation with precipitation and earthquake events may be useful in determining the merit of the groundwater earthquake theory. Training through C-SAW has been approved for (1) selection of water-level measurement sites, (2) collection of water-level data, and (3) establishment of various supporting databases. The USGS will provide instruction and support for site selection, water-level measurements, and compilation and maintenance of collected data. Citizens will maintain and expand the earthquake network using knowledge transferred from the USGS.

## Assistance provided October 1 – December 31, 2012

No assistance provided.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

Installed pressure transducers in 3 wells. Continued coordinating with Jeri Jones and a group of volunteers to measure water-levels in about 40 wells and evaluate selected wells for installation of pressure transducers.

## APPLICANT: Chester Ridley Crum Watershed Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	N/A
Group membership	550	Scoping meeting	N/A
Watershed	Chester, Ridley & Crum Creeks	DEP approval	3/18/2003
Watershed size	132 mi <sup>2</sup>	Assistance began	3/10/2003
County	Chester and Delaware	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center

**Assistance type:** Watershed-specific technical assistance

Consultations	N/A
Trainings/workshops	1
Individuals assisted	12
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

On February 23rd, a Stroud educator provided the annual Water Quality Monitoring training in use of chemistry kits and quality assurance, quality control protocols for twelve new and returning monitoring volunteers. Twelve volunteers attended the workshop which took place at Widener University.

### Assistance provided April 1 – June 30, 2013

No assistance provided.



## APPLICANT: Clayton Park Recreational Area

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	3/2010
Group membership	400	Scoping meeting	N/A
Watershed	Lake Henry	DEP approval	N/A
Watershed size	0.5 mi <sup>2</sup>	Assistance began	N/A
County	Wayne	Assistance completed	N/A
In-kind match	\$240	Cost of assistance	\$516

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	0
Individuals assisted	3
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Statement of work in progress.

### Assistance provided October 1 – December 31, 2012

Statement of work in progress.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Delaware Riverkeeper Network

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	10/1/2009
Group membership	N/A	Scoping meeting	N/A
Watershed	Delaware River	DEP approval	9/13/2010
Watershed size	13,000 mi <sup>2</sup>	Assistance began	9/13/2010
County	Multiple	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Quality assurance/quality control

Consultations	10
Trainings/workshops	0
Individuals assisted	6
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

### Assistance provided January 1 – March 31, 2013

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

### Assistance provided April 1 – June 30, 2013

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

## APPLICANT: Delaware Valley College

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	20,000	Scoping meeting	N/A
Watershed	Multiple	DEP approval	1/25/2013
Watershed size	N/A	Assistance began	N/A
County	Bucks	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$428

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	1
Individuals assisted	30
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

A C-SAW presentation on the clean-up of the Schuylkill River was provided to about 30 students in April.

## APPLICANT: E.L. Rose Conservancy

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	6/15/2010
Group membership	275	Scoping meeting	N/A
Watershed	Silver Creek	DEP approval	11/8/2010
Watershed size	N/A	Assistance began	11/11/2010
County	Susquehanna	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance and QA/QC

Consultations	8
Trainings/workshops	1
Individuals assisted	45
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM created new data sheets and quality assurance/quality control forms for the group and helped them with data management. E.L. Rose is actively recruiting new volunteers for their monitoring program and is interested in holding another monitoring training next year to train new monitors.

### Assistance provided October 1 – December 31, 2012

ALLARM touched base with the E.L. Rose Conservancy to see how monitoring efforts were progressing. ALLARM also provided the group with 2013 monitoring tools such as data sheets and a database.

### Assistance provided January 1 – March 31, 2013

ALLARM reached out to several monitors in Susquehanna County and answered monitoring questions.

### Assistance provided April 1 – June 30, 2013

No assistance provided this quarter.

## APPLICANT: Friends of the John Heinz Refuge & Eastwick Neighbors Group

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	5/10/2012
Group membership	200	Scoping meeting	N/A
Watershed	Darby Creek	DEP approval	5/23/2012
Watershed size	77 mi <sup>2</sup>	Assistance began	6/1/2012
County	Delaware	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$6,689

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	72
Trainings/workshops	55
Individuals assisted	1,250
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW is assisting the Friends of the Heinz Refuge and Eastwick Neighbors Committee with education and outreach technical help around better floodplain protections for the Darby and Delaware River flood plains to reduce flooding conditions and enhance water quality. An emphasis on preservation of open space is also part of this work to elevate the economic driver of the John Heinz National Wildlife refuge which is the largest remaining tidal freshwater wetland in Pennsylvania. C-SAW has presented at several meetings over this quarter. C-SAW also assisted the group with developing a list of questions for an EPA led public hearing regarding the Clearview Landfill and remediation planned for this site along the Darby Creek. Distribution of DRN floodplain preservation factsheets and the importance of riparian buffers were also provided to this group to use as outreach tools.

### Assistance provided October 1 – December 31, 2012

C-SAW is continuing assistance with the Friends of the Heinz Refuge and Eastwick Neighbors Committee with education and outreach and technical help around better floodplain protections for the Darby and Delaware River flood plains to reduce flooding conditions and enhance water quality. An emphasis on preservation of open space is also part of this work to elevate the economic driver of the John Heinz National Wildlife refuge which is the largest remaining tidal freshwater wetland in Pennsylvania. C-SAW has presented at several meetings over this quarter. C-SAW also assisted the group with developing a list of questions for an EPA led public hearing regarding the Clearview Landfill and remediation planned for this site along the Darby Creek. Distribution of DRN floodplain preservation factsheets and the importance of riparian buffers were also provided to this group to use as outreach tools.



### **Assistance provided January 1 – March 31, 2013**

C-SAW is continuing assistance with the Friends of the Heinz Refuge and Eastwick Neighbors Committee with education and outreach and technical help around better floodplain protections for the Darby and Delaware River flood plains to reduce flooding conditions and enhance water quality. An emphasis on preservation of open space is also part of this work to elevate the economic driver of the John Heinz National Wildlife refuge which is the largest remaining tidal freshwater wetland in Pennsylvania. C-SAW has presented at 4 meetings and 2 strategy sessions over this quarter. C-SAW also continued assistance with the group regarding the Clearview Landfill and remediation planned for this site along the Darby Creek. A site tour was also conducted. Distribution of DRN floodplain preservation factsheets and the importance of riparian buffers were also provided to this group to use as outreach tools as they work to protect this property from development.

### **Assistance provided April 1 – June 30, 2013**

C-SAW is continuing assistance with the Friends of the Heinz Refuge and Eastwick Neighbors Committee with education and outreach and technical help around better floodplain protections for the Darby and Delaware River flood plains to reduce flooding conditions and enhance water quality. An emphasis on preservation of open space is also part of this work to elevate the economic driver of the John Heinz National Wildlife refuge which is the largest remaining tidal freshwater wetland in Pennsylvania. C-SAW has presented at 3 meetings and 1 strategy session this quarter. C-SAW also continued assistance regarding the Clearview Landfill and remediation planned for this site along the Darby Creek. A site tour was also conducted.

## APPLICANT: Friends of Silver Lake Nature Center

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	10/2012
Group membership	600	Scoping meeting	N/A
Watershed	Mill Creek & Otter Creek	DEP approval	1/22/2013
Watershed size	N/A	Assistance began	3/11/2013
County	Bucks	Assistance completed	3/20/2013
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center

**Assistance type:** Watershed-specific technical assistance

Consultations	4
Trainings/workshops	1
Individuals assisted	10
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

Friends of Silver Lake Nature Center already conducts water quality monitoring at their site. They are interested in expanding their monitoring program throughout their watershed and neighboring watersheds; however, they first need to recruit additional volunteers.

On March 20, 2013, a Stroud educator provide a program for citizens they are recruiting to become volunteer monitors. During this program 10 participants were introduced to and given a guided hands-on-experience for what sorts of activities they would conduct should they become volunteers. They learned about some of the different chemical parameters for which they can test, conducted several chemical tests, learned how macroinvertebrates can be used as water quality indicators, and learned how to identify macroinvertebrates.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Garret Hill Coalition

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	3/20/2012
Group membership	60	Scoping meeting	N/A
Watershed	Darby Creek	DEP approval	3/21/2012
Watershed size	77 mi <sup>2</sup>	Assistance began	3/21/2012
County	Delaware	Assistance completed	Ongoing
In-kind match	\$150	Cost of assistance	\$3,278

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	21
Trainings/workshops	4
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW provided project partners with technical information regarding the upcoming rain garden installation/training day, including soils, infiltration and plant selection data. DRN prepared a rain garden installation training presentation and presented it to 12 audience members; the presentation was then replayed in the municipal building on the public video screen, as well as it being available online on the municipal website.

### Assistance provided October 1 – December 31, 2012

C-SAW provided project partners with technical information regarding the rain garden installation/training day, including soils, infiltration and plant selection data. DRN prepared a rain garden installation training presentation and presented it to 12 audience members; the presentation was then replayed in the municipal building on the public video screen, as well as it being available online on the municipal website. The project was installed in late October and over 45 people came out to help plant and create the project over a multi-day period.

### Assistance provided January 1 – March 31, 2013

Limited restoration follow-up and help was conducted after the October rain garden installation project; the rain garden installation training presentation is still available at the municipal building on the public video screen, as well as it being available online on the municipal website.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: God's Country Waterdogs

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	3/22/2011
Group membership	50	Scoping meeting	N/A
Watershed	Multiple	DEP approval	6/2/2011
Watershed size	N/A	Assistance began	6/3/2011
County	Potter	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance, mentoring, and QA/QC

Consultations	6
Trainings/workshops	1
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM had many follow up phone calls with the God's Country Water Dogs. The decision was made to hold a check-in meeting with volunteer monitors in November, ALLARM received excel files of their data compilation to start reviewing in preparation of the meeting.

### Assistance provided October 1 – December 31, 2012

ALLARM provided several layers of assistance to the God's Country Waterdogs this quarter. First ALLARM worked with the coordinators to organize the first volunteer monitoring check in meeting with the group. ALLARM spent time helping to organize their data to discuss findings and inform the group's monitoring process. ALLARM also conducted another water quality monitoring workshop for the group in November.

### Assistance provided January 1 – March 31, 2013

ALLARM coordinated a call with the monitoring leaders in January to discuss internal data management. As a result of that call, ALLARM spent a considerable amount of time consolidating and reviewing the data collected and created a data template for the group.

### Assistance provided April 1 – June 30, 2013

ALLARM coordinated several calls with the Waterdog coordinators. ALLARM continues to provide data management assistance and is working to help the group compile their data.

## APPLICANT: Gold Key Lake Estates

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	4/2010
Group membership	4,000	Scoping meeting	N/A
Watershed	Fawn, Gold Key & Autumn Lakes	DEP approval	N/A
Watershed size	5 mi <sup>2</sup>	Assistance began	N/A
County	Pike	Assistance completed	N/A
In-kind match	\$320	Cost of assistance	\$612

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	0
Individuals assisted	4
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Project on hold pending input from applicant.

### Assistance provided October 1 – December 31, 2012

Project on hold pending input from applicant.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

# APPLICANT: Haverford Township Parks and Recreation

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	9/20/2012
Group membership	45	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	10/1/2012
Watershed size	1,920 mi <sup>2</sup>	Assistance began	10/9/2012
County	Delaware	Assistance completed	N/A
In-kind match	N/A	Cost of assistance	\$1,382

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	19
Trainings/workshops	2
Individuals assisted	90
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

DRN began work on the public information session.

## Assistance provided October 1 – December 31, 2012

DRN created and conducted a presentation in November to a group of about 40 people. On-site ecological review of current restoration efforts was begun to provide restoration recommendations and prioritizations; additional on-site reviews in areas targeted for restoration; and providing information and recommendations to attendees of the public education session.

## Assistance provided January 1 – March 31, 2013

Follow up assistance this quarter was provided to interested community members that attended the winter presentation. Restoration recommendations and prioritizations were provided; additional on-site reviews in areas targeted for restoration; and providing information and recommendations to attendees of the public education session.

## Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Lackawaxen River Conservancy

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	N/A
Group membership	200	Scoping meeting	N/A
Watershed	Lackawaxen River	DEP approval	12/17/2009
Watershed size	N/A	Assistance began	12/1/2009
County	Lackawanna, Pike & Wayne	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$798

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	15
Trainings/workshops	5
Individuals assisted	21
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Assistance with gas pipeline E&S violations reporting was provided. Assistance with QAQC was also provided and split sampling via ALLARM was conducted for several new volunteer monitors.

### Assistance provided October 1 – December 31, 2012

Assistance with gas pipeline E&S violations reporting was provided. Assistance with QAQC was also provided and split sampling via ALLARM was conducted for several new volunteer monitors.

### Assistance provided January 1 – March 31, 2013

Assistance with pipeline E&S violations and visual assessment protocols reporting was provided. Assistance with QAQC was provided via ALLARM.

### Assistance provided April 1 – June 30, 2013

No assistance provided.



## APPLICANT: Lake Roy Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	11/2/2007
Group membership	30	Scoping meeting	4/5/2008
Watershed	Lake Roy	DEP approval	10/8/2009
Watershed size	0.1 mi <sup>2</sup>	Assistance began	7/17/2009
County	Susquehanna	Assistance completed	N/A
In-kind match	\$2,260	Cost of assistance	\$6,595

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	8
Trainings/workshops	5
Individuals assisted	2
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

The Lake Roy Association requested assistance to determine the cause of heavy algae blooms experienced over the last four years. The association is requesting help on study design, data base design, data interpretation, non-point source impacts and treatments, etc., and, in general, is trying to figure out what to do about their algae problem. A proposal was submitted and approved for requested assistance. Phase 1 of the project was completed in 2009 and the report was submitted on April 4, 2010. Phase 2 is scheduled for completion in 2011. Project on hold pending selection of a succeeding lake manager.

### Assistance provided October 1 – December 31, 2012

The Lake Roy Association requested assistance to determine the cause of heavy algae blooms experienced over the last four years. The association is requesting help on study design, data base design, data interpretation, non-point source impacts and treatments, etc., and, in general, is trying to figure out what to do about their algae problem. A proposal was submitted and approved for requested assistance. Phase 1 of the project was completed in 2009 and the report was submitted on April 4, 2010. Phase 2 is scheduled for completion in 2011. Project on hold pending selection of a succeeding lake manager.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Land Conservancy of Southern Chester County

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	1/12/2012
Group membership	200	Scoping meeting	N/A
Watershed	Red Clay Creek & Brandywine R	DEP approval	3/20/2012
Watershed size	N/A	Assistance began	N/A
County	Chester	Assistance completed	N/A
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	N/A
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

On July 27, SWRC staff met with the education coordinator for a site visit of the upcoming training for the PA Master Naturalist program. Program participants of the program will conduct service hours as part of the program in educational programs and restoration efforts for non-profit environmental organizations in the area.

Presentations on best management practices for dealing with stormwater and on understanding watersheds were delivered to 12 participants of the PA Master Naturalist program at SWRC on September 13th. On the 15th of September, participants of the program were trained in stream monitoring techniques. Stroud staff sent follow-up materials to the coordinator for distribution on September 26th.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Lansdowne YMCA

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	4/2/2011
Group membership	1,500	Scoping meeting	6/2011
Watershed	Darby Creek	DEP approval	6/10/2011
Watershed size	77 mi <sup>2</sup>	Assistance began	6/8/2011
County	Delaware	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$86

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	0
Individuals assisted	1
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Minimal assistance this quarter was conducted. One phone call was made to follow up with the YMCA on potential next steps.

### Assistance provided October 1 – December 31, 2012

Minimal assistance this quarter was conducted.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Little Conemaugh Watershed Association

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	11/6/2012
Group membership	20	Scoping meeting	N/A
Watershed	Little Conemaugh	DEP approval	11/29/2012
Watershed size	190 mi <sup>2</sup>	Assistance began	11/7/2012
County	Cambria	Assistance completed	Ongoing
In-kind match	\$713	Cost of assistance	\$216

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	6
Trainings/workshops	2
Individuals assisted	27
Stream miles improved	3

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

The LCWA and DEP contacted the CVC's Kiski-Conemaugh Stream Team and requested assistance for the watershed in the recruitment, training, and mentoring of a volunteer(s) to begin monitoring four newly constructed AMD treatment systems along the South Fork of the Little Conemaugh River. CVC visited these sites with Cambria County Conservation District staff in November.

### Assistance provided January 1 – March 31, 2013

Trained volunteers to collect water samples from four AMD treatment systems in the South Fork of the Little Conemaugh River Watershed. Discussed highlighting "Watershed Heroes" via trading cards solicited by the AMR Conference Planning Committee; completed a card.

### Assistance provided April 1 – June 30, 2013

Coordinated and supervised monitoring effort and collaborated with DEP on behalf of LCWA.

# APPLICANT: Meadowood Nature Preserve/Worcester Elementary School

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	N/A	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	6/5/2013
Watershed size	1,920 mi <sup>2</sup>	Assistance began	6/5/2013
County	Montgomery	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$257

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	6
Trainings/workshops	N/A
Individuals assisted	13
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

No assistance provided.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

C-SAW assisted Meadowood with:

- Advise on priorities and provide technical issues for restoration projects
- Consult on invasive species management
- Provide technical assistance for planting related to buffer restoration and stormwater BMP's

## APPLICANT: Mengel Natural History Society

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	6/7/2012
Group membership	40	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	7/1/2012
Watershed size	1,920 mi <sup>2</sup>	Assistance began	6/13/2012
County	Berks	Assistance completed	9/28/2012
In-kind match	\$643	Cost of assistance	\$719

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	2
Trainings/workshops	1
Individuals assisted	50
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW conducted a community presentation for about 50 members about the legacy of coal mining and water quality impacts to the Schuylkill River Basin. The presentation also covered the monumental government clean-up project – the Schuylkill River de-silting project - that came after the anthracite boom went bust. This historical perspective has implications today as Pennsylvania is undergoing another fossil fuel extraction boom in the Marcellus shale. DRN and author, Chari Towne conducted the presentation.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Middle Spring Watershed Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	6/15/2007
Group membership	70	Scoping meeting	N/A
Watershed	Middle Spring Creek	DEP approval	8/17/2007
Watershed size	25 mi <sup>2</sup>	Assistance began	7/16/2007
County	Cumberland & Franklin	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	11
Trainings/workshops	2
Individuals assisted	25
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM attended Middle Spring's monthly meetings. The group is in a transitional stage with regards to their monitoring program. They are currently in the process of outlining what the future will look like in terms of types and frequency of monitoring efforts.

### Assistance provided October 1 – December 31, 2012

ALLARM attended MSWA's monthly meetings. The group has decided to put monitoring on hold at the end of 2012, but would like to learn how to analyze the data they have collected to date and to develop an overall message from monitoring. A data interpretation workshop is scheduled for the spring.

### Assistance provided January 1 – March 31, 2013

ALLARM worked with members of the Middle Spring Watershed Association to gather and compile all of the water quality data that have been collected to date. The group is interested in interpreting the data and communicating the results to the community. Communication strategies are being discussed by the group before beginning the data project. MSWA also hopes to use the results of the monitoring project to inform whether or not monitoring should be a priority of the group in the future.

### Assistance provided April 1 – June 30, 2013

ALLARM has helped MSWA with data analysis and interpretation, and a data interpretation workshop is planned for next quarter. The information learned from this process will help the group identify trouble areas to monitor in the future.



# APPLICANT: Monroe Conservation District

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	12/13/2010
Group membership	230	Scoping meeting	N/A
Watershed	Tobyhanna & Tunkhannock Crs.	DEP approval	N/A
Watershed size	N/A	Assistance began	N/A
County	Carbon & Monroe	Assistance completed	N/A
In-kind match	\$720	Cost of assistance	\$1,055

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	3
Trainings/workshops	1
Individuals assisted	N/A
Stream miles improved	N/A

## Requested assistance

This request for assistance has two parts and involves the Tobyhanna Creek/Tunkhannock Creek watershed in Monroe County. The stream part will be handled by USGS, and the Lake related part by PALMS. An initial telephone conference was held with the Monroe Conservation District in December to discuss roles and responsibilities with the various parties involved with the RFA. A scope of work and budget was prepared and approved by DEP.

## Assistance provided July 1 – September 30, 2012

Final report for the project is being prepared.

## Assistance provided October 1 – December 31, 2012

Final report for the project is being prepared.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Montgomery County Community College

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	20,000	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	3/4/2013
Watershed size	1,920 mi <sup>2</sup>	Assistance began	3/4/2013
County	Montgomery	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$577

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	1
Individuals assisted	N/A
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

A workshop was conducted for the students on April 25, 2013. About 30 students attended the C-SAW presentation.

## APPLICANT: Mountain Lake

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	8/17/2010
Group membership	N/A	Scoping meeting	8/17/2010
Watershed	Mountain Lake	DEP approval	7/26/2012
Watershed size	0.3 mi <sup>2</sup>	Assistance began	7/18/2011
County	Bradford	Assistance completed	2/29/2012
In-kind match	\$2,360	Cost of assistance	\$3,046

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	2
Trainings/workshops	2
Individuals assisted	5
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Princeton Hydro and local stakeholders conducted a water quality monitoring and training event on October 17, 2011. The results were included in a test report.

### Assistance provided October 1 – December 31, 2012

This project was completed this quarter.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: North Coventry Township

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	1/23/2012
Group membership	7,381	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	2/6/2012
Watershed size	1,920 mi <sup>2</sup>	Assistance began	2/6/2012
County	Chester	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$114

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	8
Trainings/workshops	0
Individuals assisted	60
Stream miles improved	0.2

### Assistance provided July 1 – September 30, 2012

DRN continued providing technical assistance regarding the restoration of the park along the Schuylkill. Concepts including habitat improvement with natives, buffer creation and expansion, erosion control, invasive plants, and stormwater management were discussed. Assistance with restoration planning is underway.

### Assistance provided October 1 – December 31, 2012

DRN continued providing technical assistance regarding the restoration of the park along the Schuylkill. Concepts including habitat improvement with natives, buffer creation and expansion, erosion control, invasive plants, and storm water management were discussed. Assistance with restoration planning is underway.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: North Lake Improvement Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	7/3/2009
Group membership	30	Scoping meeting	8/30/2009
Watershed	North Lake/Hunlock Creek	DEP approval	N/A
Watershed size	0.2 mi <sup>2</sup>	Assistance began	8/30/2009
County	Luzerne	Assistance completed	N/A
In-kind match	\$1,150	Cost of assistance	\$205

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	0
Individuals assisted	28
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Project on hold pending input from applicant.

### Assistance provided October 1 – December 31, 2012

Project on hold pending input from applicant.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Old Marcel Lake Property Owners Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	5/18/2009
Group membership	120	Scoping meeting	8/15/2009
Watershed	Dingman's Creek	DEP approval	3/4/2011
Watershed size	4 mi <sup>2</sup>	Assistance began	8/15/2009
County	Pike	Assistance completed	N/A
In-kind match	\$4,070	Cost of assistance	\$4,533

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	7
Trainings/workshops	4
Individuals assisted	11
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Assisted Old Marcel Lake Property Owners Association with development of bathymetric mapping and production of their water quality report for 2011. This project is complete and awaiting administrative closeout.

### Assistance provided October 1 – December 31, 2012

Project was completed this quarter.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: PA Alliance for Geographic Education

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/1/2013
Group membership	1150	Scoping meeting	1/9/2013
Watershed	Multiple	DEP approval	2/6/2013
Watershed size	N/A	Assistance began	2/6/2013
County	Multiple	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance

Consultations	20
Trainings/workshops	2
Individuals assisted	50
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

ALLARM participated in two workshops organized by the PA Alliance for Geographical Education on February 23 and March 23. Both workshops introduced middle school teachers to water quality monitoring methods and ways they could incorporate stream monitoring into their classrooms.

### Assistance provided April 1 – June 30, 2013

ALLARM provided resources and materials to many of the teachers who attended the winter water quality workshops.



## APPLICANT: PA Council of Trout Unlimited

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/1/2010
Group membership	12,000	Scoping meeting	5/17/2010
Watershed	Multiple	DEP approval	2/24/2010
Watershed size	N/A	Assistance began	2/24/2010
County	Multiple	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Quality assurance/quality control

Consultations	200
Trainings/workshops	0
Individuals assisted	127
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

### Assistance provided October 1 – December 31, 2012

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

### Assistance provided January 1 – March 31, 2013

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

### Assistance provided April 1 – June 30, 2013

ALLARM provided volunteers with quality assurance/quality control support with their chemical monitoring program.

# APPLICANT: Penn State University – 2011 Pond & Lake Workshops

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/15/2011
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	3/4/2011
Watershed size	N/A	Assistance began	3/26/2011
County	Multiple	Assistance completed	N/A
In-kind match	\$4,610	Cost of assistance	\$1,073

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	N/A
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

This project was completed this quarter.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

No assistance provided.

# APPLICANT: Penn State University – 2012 Pond & Lake Workshops

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/1/2012
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	3/4/2011
Watershed size	N/A	Assistance began	2/7/2012
County	Multiple	Assistance completed	6/18/2012
In-kind match	\$4,460	Cost of assistance	\$1,437

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	N/A
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

This project is complete and is awaiting administrative closeout.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

No assistance provided.

# APPLICANT: Penn State University – 2013 Pond & Lake Workshops

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	1/11/2013
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	3/4/2011
Watershed size	N/A	Assistance began	N/A
County	Multiple	Assistance completed	N/A
In-kind match	\$0	Cost of assistance	N/A

**Assistance provided by:** Pennsylvania Lake Management Society

**Assistance type:** Watershed-specific technical assistance

Consultations	N/A
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

## Requested assistance

Several pond and lake workshops are proposed for 2013 involving collaboration between members from Pennsylvania Lake Management Society, Penn State University, and speakers from several government agencies across the state. A tentative schedule of workshops for 2013 includes:

- March 2, 2013: 9 AM – 12 PM Lancaster, PA
- March 23, 2013: 9 AM – 12 PM Lawrence County
- April 13, 2013: 9 AM – 12 PM Washington, PA
- April 23, 2013: 6 PM – 8 PM Elk County
- April 24, 2013: 12 PM – 1 PM Statewide webinar on plat/algae control
- August 2013: 9 AM – 12 PM Emporium, PA

These popular educational workshops are held during weekday evenings or on Saturday during the spring and summer to assist pond and lake owners with proper management strategies for pond and lake problems. Each workshop is unique but most cover the following topics:

- Pond and Lake Ecology – an introductory look at the components and functions of lakes and ponds along with an understanding of the importance of nutrients, dissolved oxygen and other water quality parameters.
- Dredging, Shoreline Stabilization and Permitting – an explanation of the various permits that may be necessary for pond and lake management activities with an emphasis on sediment dredging and control.
- Aquatic Plant Identification and Control – how to identify common nuisance aquatic plants and algae and the various physical, biological and chemical control strategies that can be used for common problem plants.
- Fisheries Management – identification, stocking and management of common pond and lake fishes in Pennsylvania.

- Pond and Lake Wildlife – how to identify and encourage or discourage common wildlife that occur in and around ponds and lakes.

C-SAW funds are requested to support PALMS members to travel to these workshops to present various portions of the programs. PALMS speakers will be compensated up to \$65 per hour. Reimbursable costs for workshops with 35 or less attendees will not exceed \$1,400 per workshop, including travel, materials and equipment. For each 1 to 15 additional attendees, the baseline not-to-exceed limit may increase by \$600 per workshop.

**Assistance provided July 1 – September 30, 2012**

No assistance provided.

**Assistance provided October 1 – December 31, 2012**

This is a new project. Statement of work in progress.

**Assistance provided January 1 – March 31, 2013**

No assistance provided.

**Assistance provided April 1 – June 30, 2013**

No assistance provided.

# APPLICANT: Pidcock Creek Watershed Association

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	2005
Group membership	250	Scoping meeting	N/A
Watershed	Pidcock Creek	DEP approval	9/10/2012
Watershed size	N/A	Assistance began	9/10/2012
County	Bucks	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$513

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	8
Trainings/workshops	1
Individuals assisted	10
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

No assistance provided.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

After an initial visual assessment that was conducted by the Pidcock Creek WA, Pidcock Watershed Association reached out to C-SAW to help in the establishment of a routine water quality sampling program, incorporating students from the local school district and environmental club. The group fundraised to purchase equipment and C-SAW assisted the group with a four hour training streamside at Bowman’s Wildflower Preserve on June 1, 2013. C-SAW had also assisted the group to determine parameters to monitor and helped develop a datasheet for the group to use. The group purchased needed equipment and ten adults and students attended the training and are currently monitoring 5 stations along the Pidcock Creek for dissolved oxygen, nitrogen, temperature, and pH. The adult teacher who was trained has also since taught the protocols to other interested students and plans to incorporate testing during the school year.

## APPLICANT: Pike/Wayne Trout Unlimited

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	N/A
Group membership	300	Scoping meeting	N/A
Watershed	Multiple	DEP approval	7/16/2010
Watershed size	N/A	Assistance began	7/2/2010
County	Pike & Wayne	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$855

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	10
Trainings/workshops	5
Individuals assisted	27
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Monitoring assistance and Q&A was provided this quarter to individual volunteer monitors as well as visual assessment guidance for future and past pipeline projects. Volunteers requested assistance documenting current conditions pre-pipeline. Assistance was also provided regarding a USGS groundwater study that is being considered for Wayne County if funding is secured. This study would mimic USGS's work in other regions where gas drilling could be conducted.

### Assistance provided October 1 – December 31, 2012

Monitoring assistance and Q&A was provided this quarter to individual volunteer monitors as well as visual assessment guidance for future and past pipeline projects. Volunteers requested assistance documenting current conditions pre-pipeline. Assistance and initial set up for a spring season macro-invertebrate training was discussed.

### Assistance provided January 1 – March 31, 2013

Monitoring assistance and Q&A was provided to individual volunteer monitors as well as visual assessment guidance for future and past pipeline projects. A training course on VAP for pipelines was also conducted. Volunteers requested assistance documenting current conditions pre-pipeline. Assistance and initial set up for a spring season macro-invertebrate training was discussed.

### Assistance provided April 1 – June 30, 2013

No assistance provided.



## APPLICANT: Potter County Conservation District

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/23/2012
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	2/24/2012
Watershed size	N/A	Assistance began	2/25/2012
County	Potter	Assistance completed	12/31/2012
In-kind match	\$1,468	Cost of assistance	\$1,681

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	5
Trainings/workshops	1
Individuals assisted	5
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

CVC and PCCD planned a fall macroinvertebrate training.

### Assistance provided October 1 – December 31, 2012

Conducted a macroinvertebrate collection and identification training very much like the one done in the spring. Consulted with PCCD staff on some technical issues pertaining to data loggers.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Primrose Creek Watershed Association

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	9/22/2010
Group membership	90	Scoping meeting	N/A
Watershed	Primrose Creek	DEP approval	5/15/2012
Watershed size	N/A	Assistance began	N/A
County	Bucks	Assistance completed	N/A
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center

**Assistance type:** Watershed-specific technical assistance

Consultations	3
Trainings/workshops	N/A
Individuals assisted	N/A
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

On September 22, 2012, 20 individuals participated in a macroinvertebrate identification training held at Honey Hollow Environmental Education Center in New Hope, PA. The training included macroinvertebrate identification, proper collecting techniques, and data analysis. All participants took at pre- and post-test which netted the following results:

Average correct on pre-test: 45%

Average correct on post-test: 83.8%

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Protecting Our Waters

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	1/10/2010
Group membership	550	Scoping meeting	10/2010
Watershed	Schuylkill & Delaware River	DEP approval	12/10/2010
Watershed size	13,539 mi <sup>2</sup>	Assistance began	12/10/2010
County	Philadelphia	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$741

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	6
Trainings/workshops	0
Individuals assisted	6
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

Assistance was provided to POW with the planning and implementation of a gas drilling conference and group session planned in Philadelphia this summer. Assistance was also provided to concerned citizens with potential groundwater water quality concerns. Information on certified laboratories was shared.

### Assistance provided October 1 – December 31, 2012

C-SAW provided information relating to stream sampling results and parameters to test for.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Radnor Conservancy

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	8/23/2012
Group membership	200	Scoping meeting	N/A
Watershed	Darby Creek & Cobb Creek	DEP approval	11/20/2012
Watershed size	N/A	Assistance began	11/1/2012
County	Delaware	Assistance completed	11/29/2012
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center  
**Assistance type:** Watershed-specific technical assistance

Consultations	5
Trainings/workshops	1
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

After several phone conversations and email exchanges to target the specific stormwater problems in Radnor Township, Stroud Water Research Center provided an evening lecture at the Radnor Township building for the public and for municipal employees on November 29, 2012. This talk was videotaped and available through their local television station and could be viewed on the township website.

The presentation showcased various best management practices that could be easily implemented by the homeowner as well as some larger scale strategies that were being implemented by other municipalities in the region.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Reading Area Community College

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	3/1/2012
Group membership	35	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	3/12/2012
Watershed size	1,920 mi <sup>2</sup>	Assistance began	3/12/2012
County	Montgomery	Assistance completed	N/A
In-kind match	\$474	Cost of assistance	\$575

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	4
Trainings/workshops	1
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW conducted a community presentation for about 20 participants about the legacy of coal mining and water quality impacts to the Schuylkill River Basin. The presentation also covered the monumental government clean-up project – the Schuylkill River de-silting project that came after the anthracite boom went bust. This historical perspective has implications today as Pennsylvania is undergoing another fossil fuel extraction boom in the Marcellus shale. DRN and author, Chari Towne conducted the presentation.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

# APPLICANT: Ridge and Valley Streamkeepers

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	9/15/2003
Group membership	30	Scoping meeting	N/A
Watershed	Sideling Hill Creek & Town Creek	DEP approval	10/7/2003
Watershed size	252 mi <sup>2</sup>	Assistance began	10/7/2003
County	Bedford & Fulton	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	16
Trainings/workshops	1
Individuals assisted	25
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

ALLARM presented at the annual RVS meeting and gave an overview on volunteer monitoring in Pennsylvania. RVS is looking at ways of communicating their data to reach a broader audience and ALLARM plans to work with the group to select the best methods. The group still continues to monitor and will be participating in QA/QC in October.

## Assistance provided October 1 – December 31, 2012

Ten RVS monitors participated in QA/QC in October and November. The group is continuing to monitor on a regular basis. ALLARM is helping RVS to communicate their group’s message and monitoring results to interested stakeholders.

## Assistance provided January 1 – March 31, 2013

ALLARM attended an RVS meeting and brainstormed ideas on how the group can interpret their data, use it on a local level, and communicate their results to the surrounding community. The group is interested in recruiting new members into the organization. ALLARM helped the data manager create a database for 2013.

## Assistance provided April 1 – June 30, 2013

ALLARM helped RVS with data management and talked to the group about the data analysis and interpretation process. RVS wishes to summarize their data along with information on the monitoring program in a watershed report that can be used as an informational and educational tool.

## APPLICANT: Schuylkill Center for Environmental Education

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	N/A	Scoping meeting	N/A
Watershed	Delaware River	DEP approval	6/11/2013
Watershed size	13,000 mi <sup>2</sup>	Assistance began	6/11/2013
County	Philadelphia	Assistance completed	6/27/2013
In-kind match	N/A	Cost of assistance	\$276

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	2
Trainings/workshops	1
Individuals assisted	30
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

C-SAW conducted a presentation on the Schuylkill River clean up on June 27, 2013. Thirty people attended the presentation.

## APPLICANT: Shade Creek Watershed Association

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	1/3/2012
Group membership	55	Scoping meeting	N/A
Watershed	Shade Creek	DEP approval	2/24/2012
Watershed size	34 mi <sup>2</sup>	Assistance began	2/25/2012
County	Somerset	Assistance completed	Ongoing
In-kind match	\$914	Cost of assistance	\$307

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Watershed-specific technical assistance, mentoring, and QA/QC

Consultations	4
Trainings/workshops	3
Individuals assisted	13
Stream miles improved	2

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

In November, CVC staff accompanied SCWA's volunteer and intern to the headwaters of Piney Run and helped determine monitoring sites, demonstrated sampling technique, and performed QA-QC on field parameters. CVC reviewed and commented on SCWA's Growing Greener grant application. CVC calibrated SCWA's field meters.

### Assistance provided January 1 – March 31, 2013

Trained SCWA's new president and their intern on proper water sampling techniques.

### Assistance provided April 1 – June 30, 2013

Discussed potential fundraising / membership increasing opportunities including Green Drinks.



# APPLICANT: Silver Lake Nature Center

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	3/15/2011
Group membership	300	Scoping meeting	N/A
Watershed	Otter Creek	DEP approval	3/20/2011
Watershed size	N/A	Assistance began	3/15/2011
County	Bucks	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$1,382

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	15
Trainings/workshops	3
Individuals assisted	64
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

CSAW assisted the group with follow up monitoring questions raised by the volunteer monitors who began their monitoring of Otter Creek this summer. Efforts are underway to assist the group with an adult learning course for environmental stewards that will begin this winter with class room workshops on topics including the water cycle, restoration, water quantity and water quality issues as well as monitoring macroinvertebrates.

## Assistance provided October 1 – December 31, 2012

Efforts and presentation are underway to assist the group with an adult learning course for environmental stewards that will begin this winter with class room workshops on topics including the water cycle, restoration, water quantity and water quality issues as well as monitoring macro-invertebrates.

## Assistance provided January 1 – March 31, 2013

John Nystedt provided the Master Naturalist Training series to volunteers who enrolled in this Silver Lake Nature Center program this winter (12 participants). Two presentations and workshops were provided through C-SAW in February and March. Silver Lake Nature Center was pleased with the workshops and requested additional assistance for their next Naturalist training sessions.

## Assistance provided April 1 – June 30, 2013

Due to success of the first quarter’s presentations as part of Silver Lake Nature Center’s stewardship program, they have requested additional presentations in their upcoming naturalist training series. Faith Zerbe and John Nystedt will be assisting the group with two different presentation about restoration and water quality monitoring.

## APPLICANT: Society for Mining Engineers – PA Anthracite Chapter

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	N/A	Scoping meeting	N/A
Watershed	Delaware River	DEP approval	5/17/2013
Watershed size	13,000 mi <sup>2</sup>	Assistance began	6/18/2013
County	Luzerne	Assistance completed	6/21/2013
In-kind match	N/A	Cost of assistance	\$979

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	2
Trainings/workshops	1
Individuals assisted	60
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

A presentation was provided on June 20, 2013 and over 50 members and the public attended to hear about the Schuylkill River cleanup project.

# APPLICANT: Stonycreek Conemaugh River Improvement Project

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	2/14/2011
Group membership	80	Scoping meeting	N/A
Watershed	Little Conemaugh & Stonycreek R	DEP approval	8/4/2011
Watershed size	659 mi <sup>2</sup>	Assistance began	9/1/2011
County	Cambria and Somerset	Assistance completed	Ongoing
In-kind match	\$177	Cost of assistance	\$54

**Assistance provided by:** Conemaugh Valley Conservancy/Kiski-Conemaugh Stream Team

**Assistance type:** Mentoring

Consultations	4
Trainings/workshops	0
Individuals assisted	5
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

No assistance provided.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

Provided advice and some outreach assistance regarding SCRIP and PFBC's Paddle PA! Program at the Quemahoning Reservoir.

# APPLICANT: Stream School - Pike County Conservation District, Pike/Wayne Trout Unlimited & Wayne County Conservation District

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	3/1/2013
Group membership	N/A	Scoping meeting	N/A
Watershed	Delaware River	DEP approval	4/3/2013
Watershed size	13,000 mi <sup>2</sup>	Assistance began	5/3/2013
County	Pike	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Stroud Water Research Center & Delaware Riverkeeper Network  
**Assistance type:** Watershed-specific technical assistance

Consultations	7
Trainings/workshops	1
Individuals assisted	28
Stream miles improved	N/A

## Assistance provided July 1 – September 30, 2012

No assistance provided.

## Assistance provided October 1 – December 31, 2012

No assistance provided.

## Assistance provided January 1 – March 31, 2013

No assistance provided.

## Assistance provided April 1 – June 30, 2013

A two-day workshop conducted on April 26 & 27th, 2013 educated 28 existing and interested volunteer monitors from the Upper Delaware River region on macroinvertebrate sampling, identification, and utilization in determining stream health. Most of these volunteers already collect water chemistry data at over 70 locations so the benthics adds additional tools the volunteers can use to help protect these fragile habitat types that are primarily high quality and exceptional value streams. Conservation district staff and DCNR staff also participated in the training and are working with DRN to use volunteer data collected for specific protection projects. Volunteers trained received both field and classroom attention and many teams left the training with monitoring equipment to perform benthic surveys at their existing monitoring stations and streams. Stroud also assisted the group with protocol selection and database development to house the volunteer data. (DRN time for this workshop was match time as DRN is a user of the volunteer data and was one of the groups who benefited from the training and who is working to coordinate the volunteer sampling). Participants completed a pre and post-test which netted the following results: 47% correct on pre-test and 82% correct on post-test.

## APPLICANT: The Tincum Conservancy

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	2,300	Scoping meeting	N/A
Watershed	Swamp Creek	DEP approval	3/28/2013
Watershed size	N/A	Assistance began	3/15/2013
County	Bucks	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$1,967

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	18
Trainings/workshops	2
Individuals assisted	25
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

C-SAW provided technical assistance to Tincum Conservancy and residents regarding the Swamp Creek riparian corridor management, with a focus on riparian restoration and management of invasive species. Assistance with invasives management and a volunteer work day was conducted during this quarter.

## APPLICANT: Union Township EAC

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	N/A
Group membership	200	Scoping meeting	N/A
Watershed	Mill Creek	DEP approval	4/22/2009
Watershed size	N/A	Assistance began	4/23/2009
County	Berks	Assistance completed	2/28/2011
In-kind match	N/A	Cost of assistance	\$456

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	6
Trainings/workshops	2
Individuals assisted	24
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW assisted the EAC members with monitoring technical assistance and with assembling a package that was submitted to PA DEP and other local agencies that summarized new datasets collected by volunteers during this timeframe and in the spring. Volunteers are collecting stream temperature data and monitoring for nutrients and dissolved oxygen. C-SAW is also assisting with benthic analysis to supplement the volunteer data.

### Assistance provided October 1 – December 31, 2012

Ongoing assistance related to monitoring for a stream upgrade petition that had been submitted.

### Assistance provided January 1 – March 31, 2013

C-SAW assistance provided regarding planning for spring monitoring along a segment of the Mill Creek where special protection is being sought. The local group is implementing a regular monitoring program to help supplement data.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Upper Providence Township, Recreation Department & Friends of Mingo Creek

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	21,219	Scoping meeting	N/A
Watershed	Perkiomen Creek	DEP approval	3/25/2013
Watershed size	N/A	Assistance began	3/4/2013
County	Montgomery	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$2,651

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	7
Trainings/workshops	1
Individuals assisted	40
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

C-SAW provided written, verbal, and graphic recommendations for the restoration; and provided review of native plant lists for 2013 plantings. DRN assisted with recommendations to remediate the existing low-functioning rain garden to improve the project with a retrofit project and participated with on-site field walks with the community to discuss options.

## APPLICANT: Villanova University

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	N/A
Group membership	20,000	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	1/22/2013
Watershed size	1,920 mi <sup>2</sup>	Assistance began	N/A
County	Montgomery	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$592

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	1
Trainings/workshops	1
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

No assistance provided.

### Assistance provided October 1 – December 31, 2012

No assistance provided.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

A C-SAW presentation on the clean-up of the Schuylkill River was provided to about 20 students in April.



## APPLICANT: Watershed Alliance of Adams County

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	7/15/2007
Group membership	100	Scoping meeting	N/A
Watershed	Multiple	DEP approval	7/12/2007
Watershed size	N/A	Assistance began	7/12/2007
County	Adams	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Watershed-specific technical assistance and mentoring

Consultations	12
Trainings/workshops	1
Individuals assisted	30
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

The Watershed Alliance of Adams County has been concerned about low flow for a number of years and recently wanted to revamp their monitoring program. A stream flow monitoring workshop took place the end of September where volunteers learned the basics of stream flow and stage and how to measure both. Going forward, volunteers will measure stage regularly and convert those values to approximate flow values using a rating curve established at each site. ALLARM helped the WAAC data manager find and develop a data management system that would be easy to use.

### Assistance provided October 1 – December 31, 2012

ALLARM followed up with WAAC after the September workshop and provided the group with data sheets and a database to record and manage their data. Several people have volunteered to collect stage data in the county and the group is planning to launch their monitoring program in the spring.

### Assistance provided January 1 – March 31, 2013

ALLARM began creating a new stage monitoring manual for monitors of the Watershed Alliance of Adams County.

### Assistance provided April 1 – June 30, 2013

ALLARM helped to improve and expand options related to the stage monitoring program.

## APPLICANT: Watershed Alliance of York

Applicant information:		Procedure information:	
New group?	Yes	Initial contact with group	8/1/2012
Group membership	N/A	Scoping meeting	N/A
Watershed	Multiple	DEP approval	9/27/2012
Watershed size	N/A	Assistance began	10/3/2012
County	York	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	N/A

**Assistance provided by:** Alliance for Aquatic Resource Monitoring (ALLARM)

**Assistance type:** Mentoring and organizational assistance

Consultations	10
Trainings/workshops	1
Individuals assisted	20
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

ALLARM was contacted by Gary Peacock, the watershed specialist of York County in August to discuss strategic planning needs of the Watershed Alliance of York. ALLARM started conducting research on WAY's operation to design an appropriate strategic planning design.

### Assistance provided October 1 – December 31, 2012

ALLARM provided strategic planning assistance to the Watershed Alliance of York this semester. First ALLARM attended a board meeting to get up to speed with WAY's current activities. After which ALLARM facilitated two strategic planning meetings and conducted interviews with individual board members unable to attend meetings.

### Assistance provided January 1 – March 31, 2013

ALLARM facilitated a strategic planning session in January for the organization at their annual board meeting. After the meeting ALLARM created a board survey to evaluate the goals of the individual members moving forward. ALLARM also spent time consolidating the survey results and analyzing the results to provide feedback to WAY. Also during this time, ALLARM created and piloted a strategic planning and volunteer recruitment conference workshop.

### Assistance provided April 1 – June 30, 2013

ALLARM facilitated a fourth strategic planning session in April. ALLARM continued to work with the survey data to provide insight to the strategic planning process.

## APPLICANT: Watershed Citizenship Learning Community at Cabrini College

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	10/4/2010
Group membership	20	Scoping meeting	N/A
Watershed	Schuylkill River	DEP approval	10/15/2010
Watershed size	1,920 mi <sup>2</sup>	Assistance began	N/A
County	Montgomery	Assistance completed	N/A
In-kind match	\$326	Cost of assistance	\$1,097

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance, mentoring, and QA/QC

Consultations	4
Trainings/workshops	2
Individuals assisted	60
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW conducted a community presentation for about 30 members about the legacy of coal mining and water quality impacts to the Schuylkill River Basin. The presentation also covered the monumental government clean-up project – the Schuylkill River de-silting project - that came after the anthracite boom went bust. This historical perspective has implications today as Pennsylvania is undergoing another fossil fuel extraction boom in the Marcellus shale. DRN and author, Chari Towne conducted the presentation.

### Assistance provided October 1 – December 31, 2012

C-SAW conducted a community presentation this fall for about 30 members about the legacy of coal mining and water quality impacts to the Schuylkill River Basin. The presentation also covered the monumental government clean-up project – the Schuylkill River de-silting project - that came after the anthracite boom went bust. This historical perspective has implications today as Pennsylvania is undergoing another fossil fuel extraction boom in the Marcellus shale. DRN and author, Chari Towne conducted the presentation.

### Assistance provided January 1 – March 31, 2013

No assistance provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## APPLICANT: Worcester Elementary School

Applicant information:		Procedure information:	
New group?	No	Initial contact with group	N/A
Group membership	500	Scoping meeting	N/A
Watershed	Zacharias Creek	DEP approval	8/27/2010
Watershed size	N/A	Assistance began	9/1/2010
County	Philadelphia	Assistance completed	Ongoing
In-kind match	N/A	Cost of assistance	\$371

**Assistance provided by:** Delaware Riverkeeper Network

**Assistance type:** Watershed-specific technical assistance

Consultations	10
Trainings/workshops	0
Individuals assisted	9
Stream miles improved	N/A

### Assistance provided July 1 – September 30, 2012

C-SAW assistance on proper maintenance of the restoration project was provided.

### Assistance provided October 1 – December 31, 2012

C-SAW assistance on proper maintenance of the restoration project was provided and follow up reporting was provided for the applicant.

### Assistance provided January 1 – March 31, 2013

C-SAW assistance on maintenance of the implemented restoration project was provided.

### Assistance provided April 1 – June 30, 2013

No assistance provided.

## Quality Assurance/Quality Control:

The following QA/QC assistance was provided by the Alliance for Aquatic Resource Monitoring:

Month	Group	Parameters									# of Monitors	# of Samples
		Alkalinity	Chloride	Conductivity	Nitrate	pH	Phosphorus	Total Dissolved Solids	Turbidity	Other		
July 2012	Antietam Watershed Association	X			X	X	X		X		1	16
July 2012	PA Council of Trout Unlimited			X		X		X			18	180
August 2012	PA Council of Trout Unlimited			X		X		X			11	110
September 2012	PA Council of Trout Unlimited			X		X		X			20	240
October 2012	Ridge and Valley Streamkeepers	X			X	X			X		7	84
October 2012	Delaware Riverkeeper Network		X	X				X			2	20
October 2012	PA Council of Trout Unlimited			X		X		X			2	24
November 2012	Delaware Riverkeeper Network		X	X				X			2	20
November 2012	God's Country Waterdogs			X		X		X			3	36
November 2012	Antietam Watershed Association	X			X	X	X		X		6	96
November 2012	Ridge and Valley Streamkeepers	X			X	X			X		3	36
November 2012	PA Council of Trout Unlimited			X		X		X			17	204
December 2012	God's Country Waterdogs			X		X		X			8	96
January 2013	Delaware Riverkeeper Network		X	X				X			2	20
February 2013	PA Council of Trout Unlimited			X		X		X			5	60
March 2013	PA Council of Trout Unlimited			X		X		X			5	60
April 2013	PA Council of Trout Unlimited			X		X		X			22	264
April 2013	Delaware Riverkeeper Network		X	X				X			2	20
April 2013	God's Country Waterdogs			X		X		X			1	12
May 2013	PA Council of Trout Unlimited			X		X		X			22	384
June 2013	PA Council of Trout Unlimited			X		X		X			5	60
<b>Total</b>	<b>5 groups</b>										<b>164</b>	<b>2,042</b>