



AMERICAN WATER RESOURCES ASSOCIATION

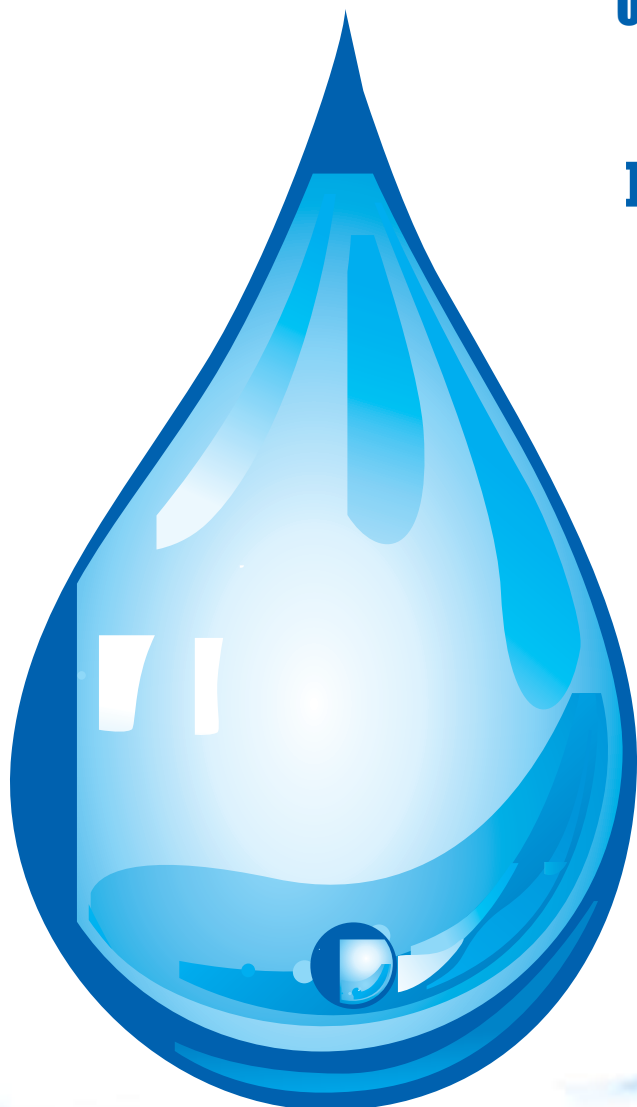
Community, Conversation, Connections

In the Flow

Online newsletter of the PA-AWRA

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In the Flow Fall 2011

In the Flow is published online twice yearly (spring and fall) by the Pennsylvania Section of the American Water Resources Association.

If you would like to be added to or deleted from the newsletter mailing list please notify the editor:

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**Did you
remember
to renew your
membership?**

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PRESIDENT'S MESSAGE

Winter may have started, but things are heating up for the Pennsylvania State Section of AWRA. On behalf of the entire Board of Directors, I think I can say that the Section feels re-energized following our 2011 Annual Conference. Ben Pratt, our out-going president, set the stage for the conference noting that the American Water Resources Association is focused on "Community, Conversations, Connections," and the conference provided a great deal of dialogue on the challenges and opportunities in water resources in our Commonwealth.

Thanks again to all the participants and speakers for helping to make our Annual Conference such a success this past October. We had a total of 36 attendees, including the 8 speakers, and more than 20 students from the Harrisburg Area Community College who joined us for part of the morning and afternoon session. The presentations covered many of the critical issues facing Pennsylvania's water resources professions, including:

- Nutrient trading with a focus on cost-effective solutions;
- Engaging communities to become stewards of their local and regional water resources;
- Supporting people and companies through plan development and implementation;
- Setting goals and establishing a framework for non-traditional watershed partners;
- Removing dams that are not providing significant benefits for the communities; and
- Creating easy to use and reliable tools for professionals and the public to access information of water quality, stream conditions, and flood flows.

Although the presentations and presenters were varied, the key points often returned to focus on improving the quality of life for Pennsylvania's residents through effective management of our water resources.

As I begin my term as President of our Section, I'd like to thank Ben Pratt who has served for these past three years at the helm of PA-AWRA. I'd also like to thank Jim Campbell and John Fulton for their service as the Susquehanna Basin Director and Ohio Basin Director, respectively. Both Jim and John have put many years of service into the Board and we owe them a debt of gratitude for their hard work on the Board. We welcome Andrew Dehoff as Vice-President, Lisa Hollingsworth-Segedy as the Ohio Basin Director, and John Shuman as the Susquehanna Basin Director. Continuing their service as Directors are Patricia Craig as our Newsletter Editor and Website Coordinator, Dale Glatfelter as the Secretary/Treasurer, and Elizabeth Boyer as Penn State's Student Chapter Advisor.

I am looking forward to this upcoming year. Our Board is continuing to work on programs, including live events and webinars, to improve our "Community, Conversations, Connections." I would be happy to hear from you with any ideas or concerns about how our Section can better serve you and our communities. Please feel free to reach out to me by email (cthomas@chesco.org) or on the phone (610.344.5400)

Looking forward to a great year!

Craig Thomas



DELAWARE RIVER BASIN REPORT
Submitted by Craig Thomas,
President, PA-AWRA

Tributary Highlight: The Schuylkill River - “The Revolutionary River”

Called the “Revolutionary River”, the Schuylkill River has been part of the American Revolution, the Industrial Revolution, the Environmental Revolution, and will continue to be important as the state moves into the future. As described by the Stroud Water Research Center, “Few river basins have had a longer or stronger connection to socioeconomic, cultural, and industrial development in the United States than the Schuylkill River Basin. This is because the land

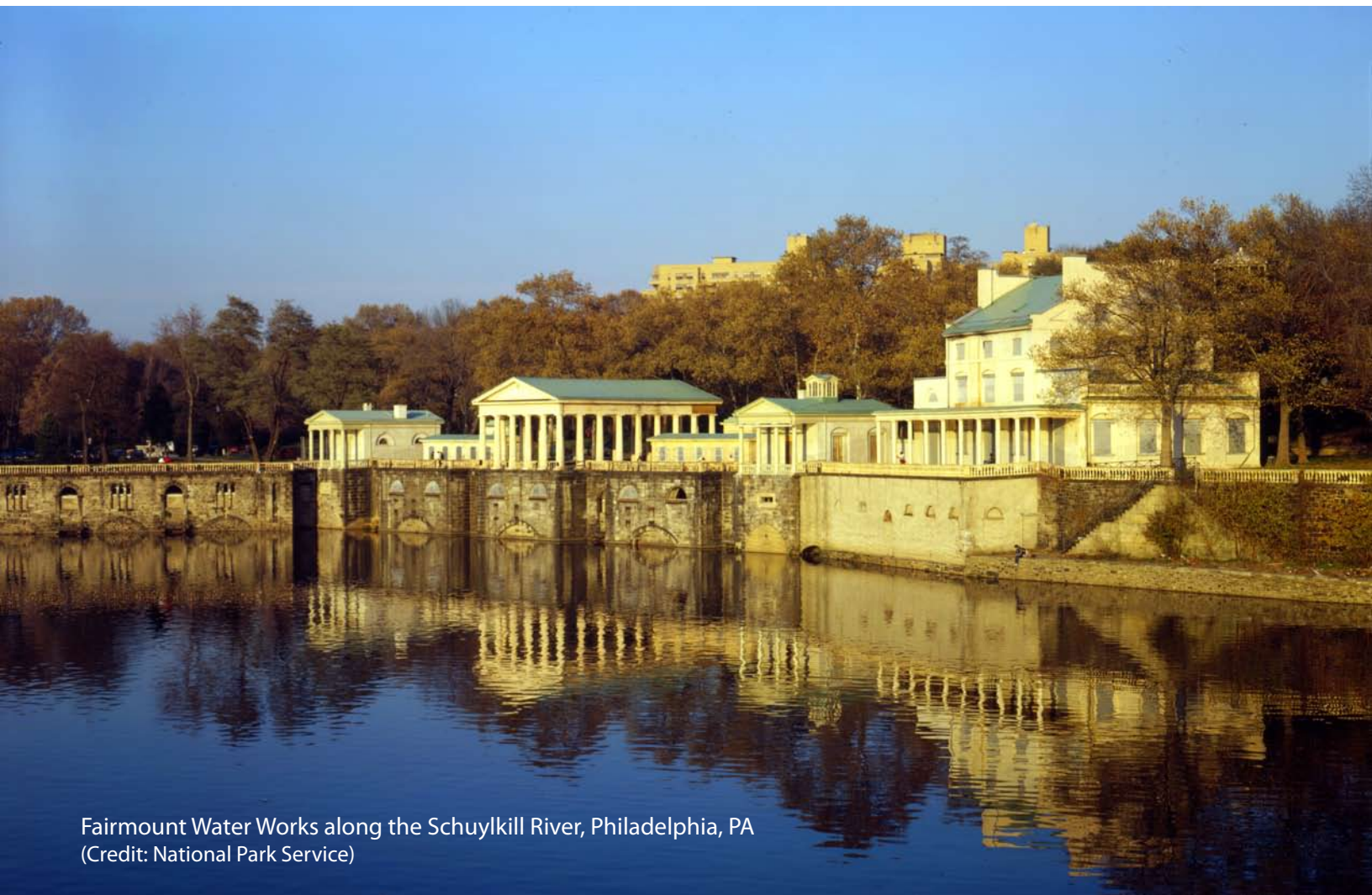
and water of the Schuylkill Basin have provided many of the resources needed over the last 350 years by colonial, industrial, and even modern Philadelphia, which lies at the downstream end of the basin.¹”

Beginning as the home to approximately 2,000 Native Americans of the Lenape Tribe², the Schuylkill River watershed is still a tremendous resource to the three million people who live within the watershed and the additional

three million people in the greater Philadelphia metropolitan area that rely on the river.¹

Today, the Schuylkill River Basin is facing challenges to protect it as a drinking water source, revitalize communities along the river, resolve acid mine drainage, improve water quality and reduce flooding.

Schuylkill continued on page 5



Fairmount Water Works along the Schuylkill River, Philadelphia, PA
(Credit: National Park Service)



Schuylkill River as seen from the Bartram Trail, Schuylkill County
(Source: Nicholas T, <http://www.flickr.com/people/14922165@N00>).

Where You Can Find More Information

Schuylkill River National & State Heritage Area

Designated as a Pennsylvania Heritage Area in 1995 and a National Heritage Area by the United States Congress in 2000, the Schuylkill River is recognized as the first spine of modern industrial development in Pennsylvania and one of the first in the United States, as well as having played a significant role in the struggle for nationhood.³

The Schuylkill River Heritage Area is managed by the non-profit Schuylkill River Greenway Association which was founded in 1974. The National Heritage Areas work to improve and restore the region through natural and cultural resource preservation, education, recreation, community revitalization, and heritage tourism.

Website: www.SchuylkillRiver.org.

Stroud Water Research Center's Schuylkill River Project

For information on water quality of the Schuylkill River, the Stroud Water Research Center has a project to characterize the quality of the river and tributaries using 19 long-term study sites as well as an additional 120 sites that were sampled once between 1996-2007. The goals of the project include establishing baseline data based on aquatic macroinvertebrates, assessing available local education and community groups to encourage their efforts to appraise, improve and/or protect water quality, and providing local college students with experience in a long-term study.

Website: www.stroudcenter.org/research/projects/schuylkill.

Schuylkill Watershed Conservation Plan

A partnership comprised of The Conservation Fund, Natural Lands Trust, and the Patrick Center for Environmental Research of the Academy of Natural Sciences prepared the Conservation Plan in 2001 to identify needs and recommendations for three key focus areas as indentified by the Pennsylvania Department of Conservation and Natural Resources. These areas include water quality, landscape sustainability, and institutional assessment.

Website: www.SchuylkillPlan.org.

Other Key Resources

Schuylkill Action Network

Protecting and restoring Schuylkill Waters through partnerships with organizations, businesses and governments.

Website: www.schuylkillwaters.org.

Philly RiverCast

The Philly RiverCast is a forecast of water quality that predicts potential levels of pathogens in the Schuylkill River between Flat Rock Dam and Fairmount Dam (i.e., between Manayunk and Boathouse Row).

Website: www.phillyrivercast.org.

References

1. Stroud Water Research Center, Schuylkill River Project – Introduction, <http://www.stroudcenter.org/research/projects/schuylkill/intro.shtml>, accessed 12/2/11.
2. The Patrick Center for Environmental Research of the Academy of Natural Sciences, Natural Lands Trust and The Conservation Fund, Schuylkill Watershed Conservation Plan, May 31, 2001, <http://www.schuylkillplan.org/plan1.html>.
3. The Library of Congress, Senate Bill S.1584 – Schuylkill River Valley National Heritage Area Act, <http://thomas.loc.gov/cgi-bin/bdquery/z?d106:S1584;>, accessed 12/2/11.



Visit us online!

www.awra.org/state/pennsylvania/



SUSQUEHANNA RIVER BASIN REPORT
Submitted by John R. Shuman,
Basin Director, PA-AWRA, Susquehanna Basin

“Challenges and Threats to the Susquehanna River”

The Susquehanna River basin has a number of growing challenges facing it for the protection and improvement of water quality and biological resources. The river was named the “most endangered river in the nation” by American Rivers in May 2011, primarily based on the organization’s view of the potential impact of natural gas drilling on drinking water and river water quality.

Marcellus shale drilling is among a series of issues viewed by many as important to the river and watershed. The list of issues that are at the forefront for the Susquehanna include:

- Sediment and nutrient load reduction mandates to meet the Chesapeake Bay Total Maximum Daily Load (TMDL);
- Potential impact of Marcellus shale drilling on water quality of tributaries to the river;
- Local tributary impairments and TMDL implementation needs;
- Decline of the smallmouth bass fishery in the Susquehanna system;
- Anadromous and catadromous fish passage; and
- Sediment accumulation behind lower Susquehanna mainstem dams.

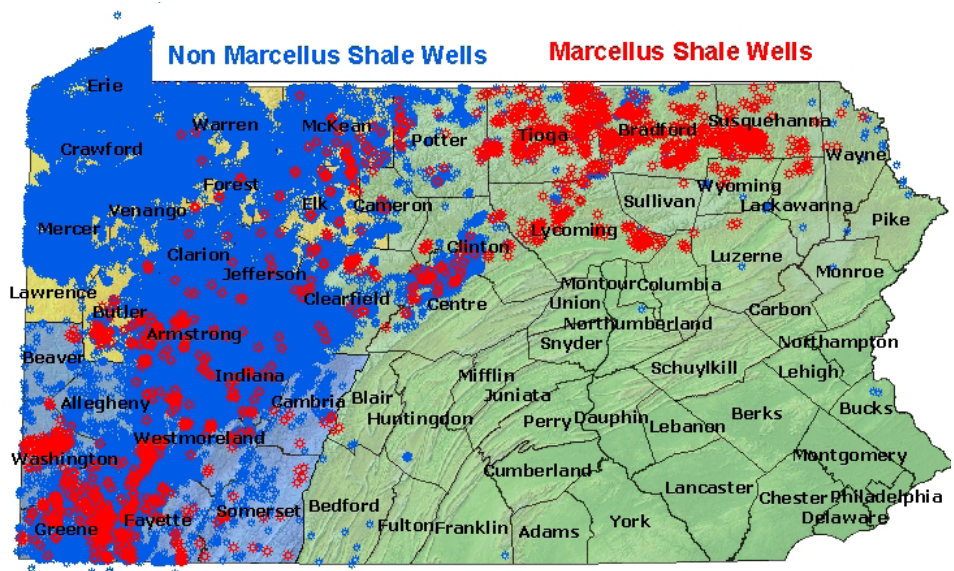
Marcellus Shale Drilling

While it is obvious to all that Marcellus shale activity is expanding exponentially in Pennsylvania, particularly within the Susquehanna and Ohio River basins, the potential impacts to ground water and surface water have not been firmly established. Numerous studies are underway to ascertain whether there are direct impacts from gas drilling. There are monitoring efforts underway in the northern counties of the watershed to collect baseline information on water quality on

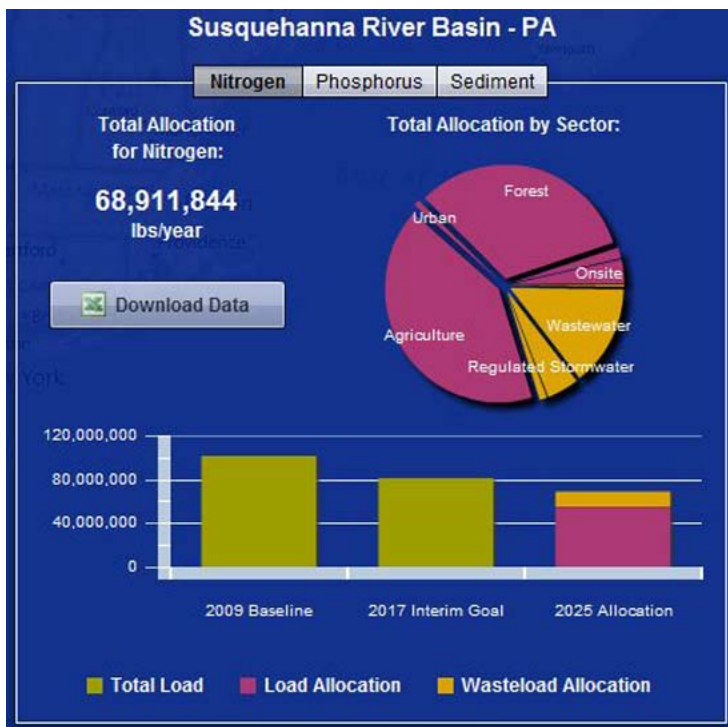
tributary streams to the Susquehanna. The Pennsylvania Department of Environmental Protection (PA DEP) and the Susquehanna River Basin Commission (SRBC) have active programs looking at Marcellus drilling activities from permitting and environmental protection perspectives.

Chesapeake Bay TMDL

The Federal TMDL for the Chesapeake Bay was issued in December 2010. Since that time, the six Bay jurisdictions have developed Phase I Watershed Implementation Plans that have been approved by the U.S. Environmental Protection Agency’s (EPA) Chesapeake Bay Program. The Susquehanna River basin in Pennsylvania has been issued nitrogen, phosphorus, and sediment load allocations that must be met by 2025, with 2017 interim goal targets and two-year milestones to document progress. Current nutrient and sediment loads must be reduced through best management practice (BMP) implementations that will cumulatively reduce current loads sufficiently to meet the allocations set by the Bay TMDL. Nitrogen, for instance, must be reduced from the 2009 annual load of 101,656 pounds



Map of current active Marcellus shale and non-Marcellus drilling sites in Pennsylvania. Source: PA DEP, Office of Oil and Gas Management.



Nitrogen load allocations for the Susquehanna River basin in Pennsylvania, broken down by source sectors. Source: Chesapeake Bay Program – ChesapeakeStat.

down to 68,912 lbs annually. Data from ChesapeakeStat indicate that the majority of the nitrogen load reductions in the Susquehanna watershed (81 percent) will be derived from agricultural source load reductions. These source load reduction targets will likely be refined as Pennsylvania moves forward with its watershed implementation planning efforts.

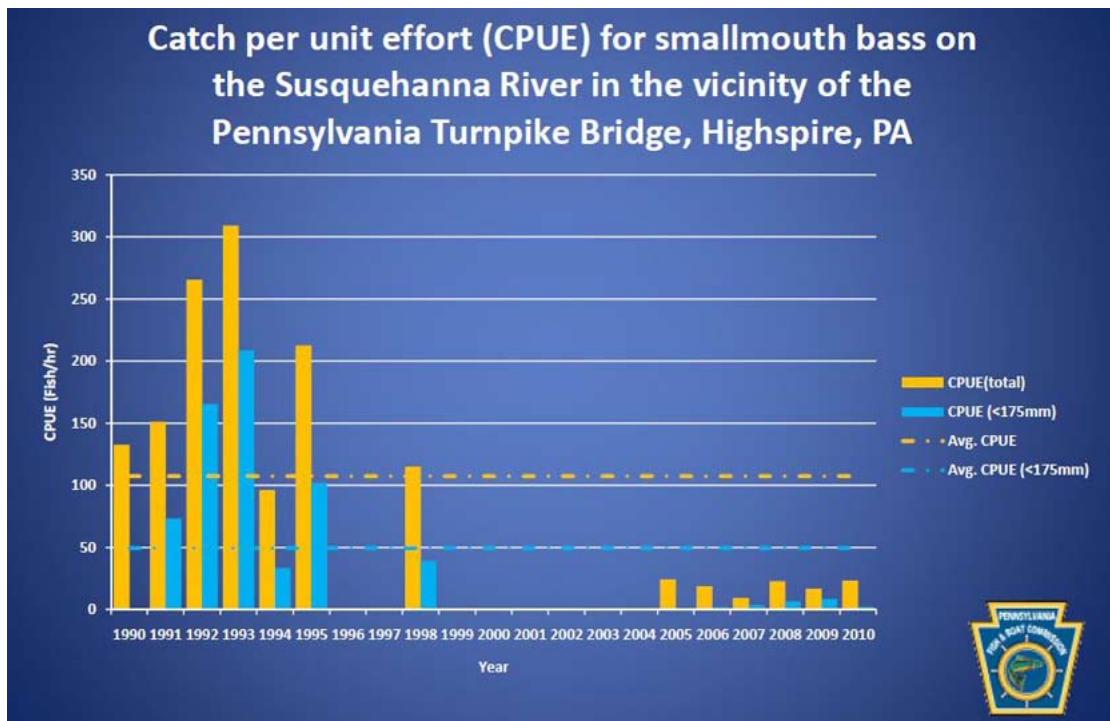
Smallmouth Bass Fishery

The Pennsylvania Fish and Boat Commission (PFBC) considers the decline in smallmouth bass densities in the Susquehanna as the most prominent issue affecting the river system. The decline in smallmouth bass densities are the result of multiple years of poor recruitment and “large-scale, disease-

related mortality of young-of-the-year fish”. The diseases were first discovered in 2005, and the PFBC has been actively researching both causes and solutions to restoring the smallmouth bass fishery in the Susquehanna. Recent research seems to point to water quality related causes for the proliferation of the bacterial disease affecting smallmouth bass, particularly phosphorus concentrations in the river. The PFBC is dedicated to resolving this issue and restoring the nationally-recognized smallmouth bass fishery in the Susquehanna.

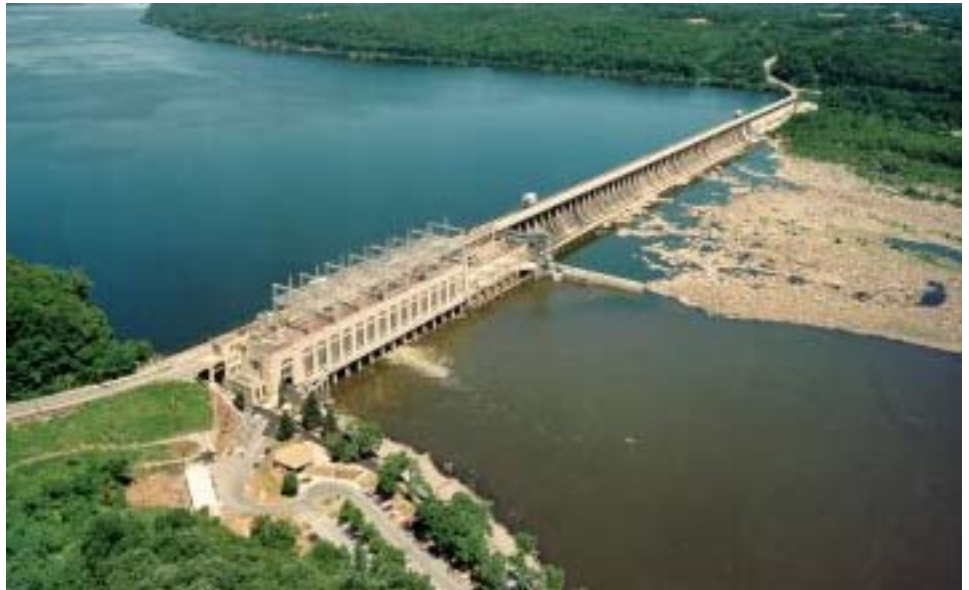
Fish Passage

Anadromous and catadromous fish passage around the four major dams on the lower Susquehanna River has been an important priority since the mid-1970’s when the first fish lift was constructed at Conowingo Dam. Over the last ten years, the passage of American shad around these dams through fish passage facilities has dramatically declined. In 2001, over 193,000 American and hickory shad moved upstream at Conowingo Dam. These numbers have declined since then to 20,571 in 2011. Shad passage at Holtwood Dam has also dramatically declined from 109,976 in 2001 to 21 shad this year. Hydroelectric redevelopment work at the Holtwood facility is expected to improve



Decline of the smallmouth bass fishery in the Susquehanna River, as indicated at Highspire, PA. Source: Arway, J. 2011. Susquehanna River Health: What are the Fish and Water Quality Telling Us – A Legislative Briefing. April 26, 2011. PA Fish and Boat Commission.

shad passage around that dam. As Federal Energy Regulatory Commission licenses are renewed for the lower Susquehanna River dams, the issue of American eel passage around these dams is also an important issue. Eels are catadromous fish that spend much of their life maturing in freshwater, and reproduce in the Sargasso Sea in the Atlantic. Construction and operation of eel passage facilities is an important consideration in the hydroelectric facility relicensing process, particularly at Conowingo Dam.



Aerial view of Conowingo Dam. Source: USGS.

Sediment Accumulation Behind Mainstream Dams

The sediments that have accumulated behind the three large dams on the lower Susquehanna River over the last 100 years pose a significant issue for achieving and maintaining phosphorus and sediment load allocations set by the Chesapeake Bay TMDL. The waters behind Safe Harbor Dam and Holtwood Dam have already reached sediment storage capacity, and the USGS estimates that waters behind Conowingo Dam will reach storage capacity in the next 15 to 20 years. The lower Susquehanna dams trap about half of the sediment and about a third of the phosphorus that move down the river. The Army Corps of Engineers, Maryland's Department of Natural Resources and Department of the Environment, SRBC, and The

Nature Conservancy are embarking on a three-year, \$1.4 million study that will examine options for averting increased sediment and phosphorus loading to the Chesapeake Bay should the Conowingo impoundment reach sediment storage capacity.

Summary

This synopsis is by no means inclusive of all the issues in the Susquehanna River watershed. What is clear from a review of these issues and others is that there are significant and pressing factors that affect or could potentially affect the water quality, biological resources, and resource value of the Susquehanna basin. At the same time, there are active and focused efforts underway to examine these issues so that water resources are protected and restored.

Save the Date!

Visit www.awra.org/



2012 AWRA Spring Specialty Conference

Geographic Information Systems (GIS)
and Water Resources VII

Sheraton New Orleans
New Orleans, Louisiana
March 26-28, 2012



OHIO RIVER BASIN REPORT
Submitted by Lisa Hollingsworth-Segedy,
Basin Director, PA-AWRA, Ohio River Basin

2011 Ohio Basin Highlights

Paddlefish reintroduction

The Pennsylvania Fish and Boat Commission (PFBC) continues its reintroduction of paddlefish into the Pennsylvania portion of the Ohio Basin. This summer approximately 6,000 juvenile paddlefish were tagged at the Linesville hatchery and released into the Allegheny River at Harmarville. The program will continue in 2012 with a release into the Ohio River. Dr. David Argent, California University of Pennsylvania, has monitored paddlefish in the Pennsylvania-Ohio watershed since PFBC began the reintroduction program several years ago. "Water quality gains in the rivers are aiding the program's success", said Bob Ventorini (PFBC). "River barriers are still one of the biggest challenges to the longevity of paddlefish in Pennsylvania." For more information visit: <http://workforce.calu.edu/argent/>.

Ohio River Watershed Celebration's Tenth Anniversary

The 10th annual Ohio River Watershed Celebration was held on Sept. 22, 2011. This annual river cruise and networking opportunity drew 400 children and 600 adults who spent the day aboard the Gateway Clipper's Princess and Empress learning about watershed protection activities, water use, and water quality in Pennsylvania's Ohio River basin. Twenty-five exhibitors provided educational information on water treatment processes, watershed activities, dam removal, wildlife, natural gas production, and other activities in the basin. The celebration was sponsored by the Port of Pittsburgh, Foundation for Pennsylvania Watersheds, Westfield Water Authority, Michael Baker Company, and Stream Restoration, Inc. For more information



Dr. David Argent, Chair, Department of Biological and Environmental Sciences at California of Pennsylvania University, holding paddlefish.

visit: <http://www.streamrestorationinc.org/rsvp/view.php?EventID=52>.

Three Dams Removed

In 2011, three fish passage barriers were removed in the Pennsylvania Ohio basin. The Western Pennsylvania Conservancy and the Allegheny National Forest partnered with local landowners to remove two lowhead dams on Morrison Run, an Exceptional Value tributary to the Wild & Scenic reach of the Allegheny River. This project benefits wild brook trout populations in Warren County. American Rivers partnered with Ellsworth Borough to remove the Ellsworth #2 dam on Pigeon Creek in Washington County. This dam removal provides resident species with a free flowing reach of Pigeon Creek and connects the stream with high quality wetlands that will improve water quality. If you are interested in a dam removal project, contact Lisa Hollingsworth-Segedy at lh-segedy@americanrivers.org.

Ohio Basin continued on page 10



Conemaugh River Lake and Conemaugh Power Plant. Source: U.S. Army Corps of Engineers; Photo by: Margaret Luzier <http://corpslakes.usace.army.mil/visitors/projects.cfm?id=H403750>.

Ohio Basin continued from page 9

Ohio River Basin Fish Habitat Plan

The Ohio River Basin Fish Habitat Plan was completed and is now available through the U.S. Fish and Wildlife Service's Ohio Basin section. The plan identifies the middle and upper Allegheny River as priority areas for restoration and barrier removal, and provides a competitive grant program each year. In 2011, the PFBC received grant funding through this program to provide streambank restoration and enhanced boating access on Oil Creek in Oil City. For more information visit: http://fishhabitat.org/index.php?option=com_content&view=article&id=230:ohio-river-basin-fish-habitat-partnership&catid=44:partner-profiles&Itemid=37.

GenOn Settlement

In the summer of 2011, Pennsylvania settled the largest natural resource damage claim in Commonwealth history. The GenOn Northeast Management Company paid \$5 million to settle the 2007 lawsuit brought by PennEnvironment and The Sierra Club, which charged numerous violations of the Clean Water Act for contaminated discharges from the company's coal-fired plant into the Conemaugh River. The proceeds of the settlement have been allocated to the Foundation for Pennsylvania Watersheds to be distributed through a grant process to projects that will benefit the Conemaugh Watershed. For more information visit: <http://www.pennsylvaniawatersheds.org/>.

2011 Fall Conference

Conference Wrap-Up

The 2011 Annual Conference this fall provided a great opportunity for sharing ideas and hearing about what other professionals across the state are working on. There were 36 attendees, as well as over 20 students from the Harrisburg Area Community College who joined us for part of the morning and afternoon session.

The eight speakers were engaging and they discussed many critical issues facing Pennsylvania's water resources.

The topics discussed include:

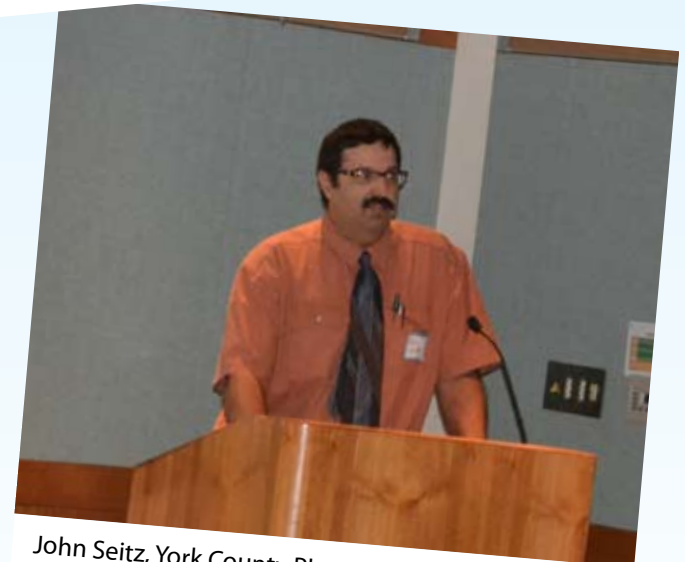
- The Conewago Discovery Watershed and their approach to identify resources and coordinate efforts to target watershed conservation.
- Lycoming County's pro-active efforts to address the Chesapeake Bay TMDL through nutrient trading with a focus on cost-effective solutions.
- York County's Integrated Water Resources Plan and the flowchart that was developed to present a clear tool that is easy to use and easy to follow so that future development will be able to determine which existing laws, regulations, plans, and agencies should be considered during the development process.
- Penn State University's MapShed 1.0 model that is a GIS-based watershed modeling tool that can estimate sediment and nutrient transport in a watershed.
- Chester County's approach to including stormwater standards for transportation projects and setting restoration targets in their Valley Creek Watershed Stormwater Management Plan.
- American Rivers efforts to evaluate the benefits of hazard mitigation for communities when assessing the options for restoring rivers and removing unwanted dams.
- The Susquehanna River Basin Commission's Susquehanna Inundation Map Viewer that provides real-time stream elevation data and



Matt Royer, Strategic Initiatives Director for the Lower Susquehanna Basin and Lead for the Conewago Creek Conservation Initiative.



Meghan Lehman, Environmental Planner, Lycoming County.



John Seitz, York County Planning Commission

Conference continued on page 10

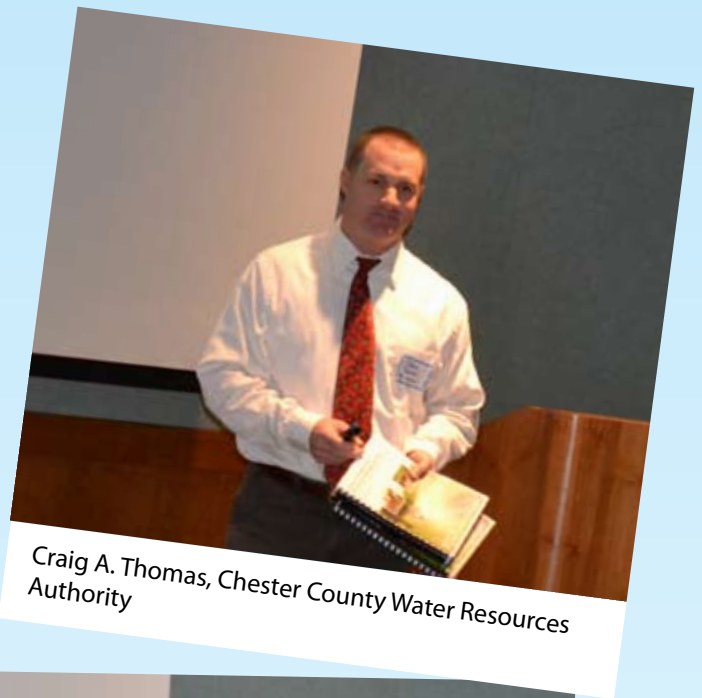
Conference continued from page 9

hazard mapping to inform residents, emergency responders and others of flood forecasts and warnings.

- The U.S. Geological Survey's upcoming BaSE: Baseline Streamflow Estimator tool that will add functionality to the StreamStats tool in order to evaluate many watershed parameters to find the best fit for ungaged watersheds.

Special thanks goes out to the speakers at this year's conference: Matt Royer, Meghan Lehman, John Seitz, Barry Evans, Craig Thomas, Lisa Hollingsworth-Segedy, Ben Pratt and Marla Stuckey.

Hope to see you at next year's conference!



Craig A. Thomas, Chester County Water Resources Authority



Barry Evans, Director, Penn State GIS Support Center.



Lisa Hollingsworth-Segedy, AICP American Rivers



Benjamin A. Pratt, Susquehanna River Basin Commission.



Marla Stuckey, Hydrologist, USGS Pennsylvania Water Science Center

Meet the Board



President

Craig Thomas

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Brief Bio:

Craig has served on the Board of PA-AWRA since 2009, first as the Delaware Basin Director before being elected President this past October. He works for the Chester County Water Resources Authority as the Field Engineering and Operations Manager, and has been with CCWRA since 1998. Before joining CCWRA, he served as a Soil Conservation Specialist with the Peace Corps in Botswana after graduating from Virginia Tech with a Bachelors degree in Agricultural Engineering.



Past President

Ben Pratt

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Brief Bio:

Ben is the immediate Past-President of the Pennsylvania chapter and has been involved with the chapter as a member and on the Board of Directors for more than 10 years. Ben is a licensed Professional Engineer in the Commonwealth of Pennsylvania and currently works for the Susquehanna River Basin Commission. With the Commission, Ben focuses on flood risk reduction strategies through advanced warning. Ben lives in Lancaster, PA with his wife and two children.



Vice President

Andrew Dehoff

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Brief Bio:

Andrew spent twelve years as a water resources engineer at SRBC before becoming the Director of Planning and Operations. Serving in that capacity for 3 years, he was involved in many aspects of water resources management, including water availability and safe yield analyses, reservoir operations, and drought and flood management. Since mid-2010, he has managed the Project Review activities of the Commission's regulatory program, directing the review of applications and formulation of recommendations related to proposed surface and ground water withdrawals, interbasin transfers, and the consumptive use of water by industries, public water suppliers, power generation facilities and the natural gas industry.



Secretary/Treasurer

Dale R. Glatfelter

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Brief Bio:

Dale is a Principal Project Manager in the Planning and Management Section, Water and Wastewater Practice, Environmental Resources Division of Gannett Fleming, Inc. He is responsible for management of planning and technical studies, preliminary designs, and various annual services to water and wastewater system clients. He supervises technical and administrative personnel who perform planning, financial, and management studies; project management; and annual services for more than 30 water systems and wastewater systems. He is also responsible for performing and directing engineering services related to water resources and water and wastewater utilities, such as planning studies, data collection and analysis, and financial analyses. He also serves as primary contact for several Pennsylvania water system clients.

Meet the Board



Ohio Basin

Lisa Hollingsworth-Segedy
American Rivers Western PA Field Office
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Brief Bio:

Lisa is Associate Director for River Restoration in American Rivers' Western PA Field office. Lisa provides technical and funding assistance to river restoration projects in the Ohio, Erie, and West Branch Susquehanna river basins of Pennsylvania. Her training and experience include three decades of environmental planning, a BS in Geology from State University of West Georgia, graduate study in Hydrogeology at Georgia State University, and membership in the American Institute of Certified Planners.



Susquehanna Basin

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Brief Bio:

John is a senior environmental scientist with Johnson, Mirmiran & Thompson in York, PA and Hunt Valley, MD. He received a Bachelor of Arts degree in Biology from Millersville University, and his Ph.D. in environmental science from Kansas State University, with his dissertation research on the Influence of Agricultural Runoff on the Water Quality and Ecology of an Impounded River. He is also president of the Octoraro Watershed Association in Lancaster and Chester Counties in Pennsylvania, and Cecil County in Maryland, where he is actively working with the Plain Sect farming community on agricultural compliance and voluntary BMP implementations.



Website/Newsletter

Patricia Craig
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Brief Bio:

Patty has been the Director of Communications for the Penn State Institutes of Energy and the Environment since June of 2000. In 2011 she also assumed the role of Assistant Director of the Pennsylvania Water Resources Research Center. Patty has served as webmaster and newsletter editor for PA-AWRA since 2006. She also was a member of Penn State's Student Chapter while in graduate school.



Student Advisor - Penn State Student Chapter

Elizabeth W. Boyer
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Brief Bio:

Beth is an Associate Professor of Water Resources in Penn State's College of Agricultural Sciences, Director of the Pennsylvania Water Resources Research Center, and Assistant Director of the Penn State Institutes of Energy & the Environment. Her research explores hydrological and biogeochemical processes that affect water quality (e.g., nutrients, matrix ions, trace elements) and water quantity (e.g., streamflow and water yield) issuing from watersheds. She is particularly interested in how human activities and environmental variability influence conditions and trends in streams, rivers, and estuaries.

Note: Delaware Basin Director position currently is vacant.

MEMBERSHIP AND DUES

Take part, join the Section, and become more aware of our precious water resources!

The American Water Resources Association (AWRA) is a multi-disciplinary organization dedicated to the advancement of research, planning, management, development, and education in water resources. AWRA provides a focal point for the collection, organization, and dissemination of ideas and information in the physical, biological, economic, social, political, legal, and engineering aspects of water related issues.

The Pennsylvania Section of AWRA is financially independent of the national organization and is supported by its own membership dues. Membership in the Pennsylvania Section is easy to obtain and inexpensive.

Membership in the Section provides the following:

- The informative Section Newsletter delivered to your email inbox twice a year;
- An annual conference and other water-resource related announcements and information;
- A network of colleagues living and working in the Ohio, Susquehanna, and Delaware Basins in water-resource-related fields; and
- A forum for the dissemination of information on all aspects of water-related issues.

MEMBERSHIP APPLICATION - ANNUAL DUES PAYMENT

If you are not currently a member or would like to renew your membership, please complete the form below. The National AWRA does not collect dues for State Sections, so it is the responsibility of the individual or the organization to submit dues directly to the Pennsylvania Section AWRA.

Contact Information:

Name: _____ City: _____
Title: _____ State/Zip: _____
Employer: _____ E-Mail Address: _____

Type of Membership:

Please indicate whether this membership is a: New Membership or Renewal

The Section by-laws provide four classes of memberships: Individual, Associate, Institutional, and Corporate. Individual members are those individuals who are regular, student, emeritus, or transitional members of AWRA. Persons who are not members of AWRA, but wish to be members of the Pennsylvania Section, are eligible for Associate membership. Please check below the type of membership desired.

Individual \$10.00 Associate \$10.00 Institutional \$20.00 Corporate \$25.00

Return this form with your payment made out to PA-AWRA to:

Dale Glatfelter
Secretary/Treasurer PA-AWRA
Gannett Fleming, Inc.
P.O. Box 67100
Harrisburg, PA 17106-7100