

## MEMORANDUM

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TO: Commissioners  
FROM: Carol R. Collier  
DATE: October 16, 2009  
RE: **Water Resources Plan for the Delaware River Basin ~ FY 2009 Achievements**

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September 2009 marks the fifth anniversary of the *Water Resources Plan for the Delaware River Basin* (Basin Plan). During the past year, DRBC and our partners<sup>1</sup> have advanced the goals of the Plan through a number of programs and projects. This memo briefly highlights major Plan-related achievements and describes accomplishments and progress within the five Key Result Areas (KRAs).

### I. MAJOR ACHIEVEMENTS

- **Sustainable Water Supply – Water Loss Rule**

In March 2009, the Commission adopted a resolution to revise Article 2 of the DRBC Water Code to improve water accountability, supply system efficiency, and the tracking of water losses. Improvements are needed to identify and reduce the estimated 150 million gallons of water lost by systems each day. The new audit approach is being phased in starting as a voluntary program; water purveyors will be required to report 2012 audits in the new format.

- **Sustainable Water Supply - PA Water Plan**

PA adopted a new *State Water Plan*, the first since 1983, in March 2009. Required by Act 220 (2002), the Plan provides a vision for Pennsylvania's future as well as priorities and recommendations for action. The Water Plan's innovative Water Use Analysis Tool, which determines where demands may exceed supply, is being used to identify potential Critical Water Planning Areas in the Pennsylvania portion of the basin.

- **Protecting Water Quality – New PCB Criterion Proposed for the Delaware Estuary**

DRBC has published proposed changes to existing regulations that would revise the current human health water quality criteria for polychlorinated biphenyls (PCBs) to a consistent 16 picograms per liter in water quality management Zones 2 through 5, extend application of the criterion to Delaware Bay (Zone 6), and provide for the use of compliance schedules where a reduction of the pollutant concentration or loading is needed. Informational meetings and a public hearing were held in early October 2009 with plans for adoption of the revisions in December.

- **Protecting Water Quality - Special Protection Waters Implementation**

Water quality models for the Neversink and Lehigh rivers have been calibrated and the Neversink model has been employed in a docket evaluation. Improvements to the Lower Delaware model will be supported by a multi-year \$130,000 grant from the National Park Service.

- **Natural Gas Drilling Projects – Executive Director Determination**

In May 2009, DRBC Executive Director Carol Collier issued a determination that water withdrawals, wastewater disposal and other activities associated with natural gas extraction projects in shale formations pose a potential threat to water resources. The determination states that no "projects" may commence within the Special Protection Waters drainage area without Commission approval. Production wells, well pads and all appurtenant facilities are included as part of a "project;" wells intended solely for exploratory purposes are not. DRBC continues to work with other regulatory and scientific agencies at the federal, state and interstate levels to refine review criteria for natural gas projects.

- **Flood Mitigation - NJ Four County Flood Mitigation Plan**

A Flood Mitigation Plan for 43 municipalities in the counties of Hunterdon, Mercer, Sussex and Warren (NJ) was approved by the Federal Emergency Management Agency (FEMA) in November 2008. The plan contains over 160 locally-developed mitigation actions that could reduce future flood losses. Partners in the planning initiative included NJ Department of Environmental Protection, the NJ Office of Emergency Management, and county and municipal officials. Communities can use elements of this plan as part of their all-hazards management plans. The FEMA-approved "*Multi-jurisdictional Flood Mitigation Plan for Municipalities in the Non-tidal, New Jersey Section of the Delaware River Basin*" is posted on the DRBC web site.

- **Environmental Condition Reporting – State of the Basin Report**

The DRBC *State of the Basin 2008 Report*, a companion Technical Report by the University of Delaware, and the *State of the Estuary Report* prepared by the Partnership for the Delaware Estuary were released at a press conference at the John Heinz National Wildlife Refuge in Tinicum PA. Thirty-seven indicators are used to report on hydrology, water quality, living resources and landscape conditions across the basin. Special issues worthy of scrutiny and additional indicators for the next conditions report due in 2013 are also identified, along with recommendations for improving condition reporting in the future. Coverage of the press conference and report conclusions was reported on the front page of the December 5, 2008 *Philadelphia Inquirer*.

- **Federal Funding for FY09**

Congress approved legislation providing \$715,000 to fulfill the federal obligation to support DRBC's current expense budget for the first time since 1996. The funding was contained in the Omnibus Appropriations bill signed into law by President Obama on March 11, 2009.

## II. PROGRESS BY KEY RESULT AREA

### KEY RESULT AREA 1 - SUSTAINABLE USE & SUPPLY

64 % OF DRBC WORK HOURS

#### 1.0 WATER SUPPLY & WATER QUALITY PLANNING & MANAGEMENT

- 1.1 EQUITABLY BALANCE DEMANDS
- 1.2 ENSURE ADEQUATE SUPPLY OF SUITABLE QUALITY WATER FOR ECOSYSTEMS
- 1.3 ENSURE ADEQUATE SUPPLY OF SUITABLE QUALITY WATER FOR PUBLIC & COMMERCIAL NEEDS
- 1.4 ENSURE ADEQUATE & SUITABLE QUALITY FLOW FOR RECREATION

#### SUSTAINABLE WATER SUPPLY

DRBC continued to collaborate with the basin states' water supply planning efforts. Pennsylvania's State Water Plan has been updated after 26 years. The Act 220 process relied on regional committees and stakeholder input to develop a plan suitable for each of the state's major river basins. The new plan, released in March, includes an innovative Water Use Analysis Tool used to screen for areas of potential deficit. DRBC and USGS applied the tool to all watersheds in the basin, three of which - Brodhead, Neshaminy and Little Lehigh - have been identified as potential Critical Water Planning Areas.

New Jersey's long-awaited water supply plan has been drafted and will be released in 2010 after incorporation of newly acquired water use data that will enhance results and recommendations.

Delaware has extended authorization of the Water Supply Coordinating Council, added the State Climatologist as a member, and tasked the Council with developing plans for Kent and Sussex counties through 2030.

The Decree Parties have been working through DRBC in anticipation of the New York City tunnel shutdown and repairs.

**Data Management.** A database management system was designed and put into use in 2009 to improve data sharing and management within DRBC and ultimately with external partners. Refinements will include improved reporting and an online interface.

#### FLOW MANAGEMENT

**FFMP.** Additional reservoir releases were made in accordance with the adaptive

management provisions of the Flexible Flow Management Program (FFMP). During the summer of 2009, releases from Cannonsville Reservoir were increased to support the tailwater fishery. A release program was in effect between October '08 and May '09 to offset the lack of diversions from the NYC reservoirs for dewatering and repair work on a portion of the NYC water supply system.

#### WATER QUALITY

**Antidegradation.** Water quality models for the Neversink and Lehigh were calibrated using available dischargers' data and staff-estimated values. The models' reliability will increase as more discharger effluent data are collected and included. The Neversink model was used in one docket evaluation. DRBC and the National Park Service (NPS) are collecting data to refine the calibration of the Lower Delaware model. This work is supported by a multi-year \$130,000 grant from the NPS. The 3<sup>rd</sup> year of Scenic Rivers Monitoring for the Upper and Middle Delaware by DRBC and NPS has been completed.

**PCB Sourcing.** DE DNREC completed the *PCB Mass Loading Report for the Christina Basin*, a study on the presence and levels of Polychlorinated Biphenyls (PCBs) on waste sites that includes estimates on relative contributions to nearby surface waters. This holistic approach to cumulative impacts will improve TMDL development, help prioritize sites for remediation, and lead to innovative management solutions.

**Contaminants of Emerging Concern.** Sampling for pharmaceuticals and personal care products was undertaken in 2009 at a limited number of sites in the estuary.

**Coastal Water Quality.** Delaware was rated among the top 3 states for best beach water quality in 2008 by the Natural Resource Defense Council. Delaware's Recreational Water Program was rated #1 nationally by the Clean Beaches Council. The program monitors water quality, provides public information, supports citizen monitoring and funds research to improve assessment of potential human health effects associated with recreational contact in coastal waters.

**2.0 WATERWAY CORRIDOR MANAGEMENT****2.1 FLOOD WARNING, MITIGATION AND MANAGEMENT****2.2 WATER-BASED RECREATION****2.3 RIPARIAN & AQUATIC ECOSYSTEMS****FLOODING**

**Flood Mitigation Implementation.** DRBC continues to track flood-related studies and projects that meet the 2007 Interstate Flood Mitigation Task Force Action Agenda recommendations and to match projects with funding opportunities.

**NOAA Flood Warning Improvements.** Thanks to Congressional sponsors Dent, Holt, Lautenberg and Menendez, DRBC will receive \$235,000 in federal funds from NOAA-NWS for work on improved flood warning in the basin. The funds will support an evaluation of existing precipitation and stream gage networks, flood hardening of select prioritized stream gages, and implementation of USACE flood inundation mapping into AHPS at flood forecast points.

**Delaware River Basin Flood Analysis Model.** A multi-agency team including DRBC, USACE-Hydrologic Engineering Center, USGS, and NOAA-National Weather Service developed an integrated flood analysis model to evaluate the effects of various reservoir operating alternatives for downstream flood mitigation. Results are expected to be released in late-2009.

**Floodplain Regulations Evaluation Subcommittee.** Formed at the request of the NJ & PA Commissioners, a subcommittee of the Flood Advisory Committee (FAC) addressed Task Force Recommendation FR-1: "Catalog, Evaluate and Update Existing Floodplain Regulations in the Basin." The subcommittee has reviewed and evaluated the similarities and differences in floodplain regulations throughout the basin and has developed recommendations for consideration by the FAC who will report the results of their deliberations at the October 2009 Commission meeting.

**RECREATION**

**20th Annual River Cleanup.** Since 1990, Ruth Jones' Kittatinny Canoe livery has sponsored an annual cleanup on the National Wild and Scenic River section of the

Delaware River. In 20 annual events, Ruth and more than 8,000 volunteers have removed over 7800 tires, 4 tons of cans, and 385 tons of other refuse including sticks of dynamite, bathtubs, false teeth, renegade plastic duckies and even a few kitchen sinks.

**RIPARIAN & AQUATIC ECOSYSTEMS**

**Bioassessment.** Work reported in 2008 continued through 2009 as DRBC and partners work to establish narrative criteria for the array of macroinvertebrate and periphyton communities typical of the non-tidal Delaware River's varied regions.

**Invasive Species Management.** The Brodhead Watershed Association completed analysis and mapping of invasive species, Phase 1 in the development of an Invasive Species Management Plan for the watershed. Educational workshops, native plants sales and knotweed removal projects are underway as part of Phase 2. The completed Plan is expected in 2010. For more information, contact Trish Attardo, Monroe County (PA) Conservation District; [pamccd@pdt.net](mailto:pamccd@pdt.net).

**Stream & Wetland Restoration.** The Philadelphia Water Department (PWD) produced the Philadelphia Wetland and Stream Project Registry which lists and maps over 200 potential projects for wetland creation, enhancement, and restoration; invasive management, stream restoration and daylighting, and dam removal within the Philadelphia's five watersheds.

**Aquatic Habitat & Fish Passage.** PWD has undertaken 14 stream and habitat restoration projects including major upgrades to the Fairmount Dam Fishway completed in the spring of 2009. The US Fish and Wildlife Service estimates that these fishway improvements will allow at least 200,000 American shad per year to migrate upstream.

**Regional Sediment Management (RSM).** A workgroup has been formed to develop a set of regionally-targeted goals and a framework for the integrated management of upland, riverine and coastal sediments in the estuary. Based on a sound understanding of sediment transport and balance, the Plan will include a sediment budget, identify sources and sinks, and link sediment availability with beneficial re-use needs. A target date of Sept. 30, 2011 has been set for plan development.

### 3.0 WATERSHED MANAGEMENT

The integration of water and land use management frequently takes place at the watershed scale as DRBC works with local, regional and state program partners to improve conditions in specific watersheds. Below is a report of significant progress in watershed management by DRBC and partners related to KRA3 Goals:

3.1 PRESERVE / RESTORE NATURAL HYDROLOGY

3.2 MAINTAIN FUNCTION OF HIGH VALUE WATER RESOURCE LANDSCAPES

3.3 INTEGRATE WATER RESOURCE CONSIDERATIONS INTO LAND USE PLANNING & GROWTH MANAGEMENT

3.4 ENCOURAGE DEVELOPMENT & REDEVELOPMENT WHILE PROTECTING WATER RESOURCES.

3.5 STRENGTHEN SOCIAL, HISTORIC, CULTURAL, RECREATIONAL AND ECONOMIC CONNECTIONS TO WATERWAYS.

#### STORMWATER MANAGEMENT

**Upper Central Region Watersheds.** In 2009 three more of 17 Brodhead Creek watershed communities - Stroudsburg Borough, Jackson Twp. and Pocono Twp - adopted new stormwater management ordinances consistent with the (PA Act 167) Stormwater Management Plan for the Brodhead-McMichaels watershed, bringing the total of consistent communities to 11 or 65%. Like the Monroe County model, the adopted ordinances are designed to preserve existing natural drainage systems and offset the impacts of development on water quality via non-structural Best Management Practices (BMPs).

**Lower Region Watersheds.** In September 2009, the Philadelphia Water Department (PWD) submitted to PADEP the *Green City, Clean Waters: a Long Term Control Plan Update* that outlines the City's commitment to improve water quality through the installation of green stormwater infrastructure over the next twenty years. PWD has already completed construction of 27 land-based demonstration projects including stormwater wetlands and low impact design projects that retain and restore natural hydrologic functions in the City and at least 26 additional projects are planned through 2010. PWD has also provided technical assistance for many traditional projects, such as basin retrofits,

rain gardens and low impact design demonstration projects in the Wissahickon Creek and Darby-Cobbs Creek Watersheds.

**Philadelphia.** Philadelphia's *Model Neighborhoods* initiative, a program within the *Green City, Clean Waters* plan, is the result of the PWD's partnership in the Next Great City Coalition with Citizens for Pennsylvania's Future, the Fairmount Park Commission, Pennsylvania Horticultural Society, and a diverse group of civic representatives. The goal is to transform the neighborhoods of Philadelphia into model green communities that manage stormwater in innovative ways and showcase green infrastructure elements such as street tree trenches, sidewalk planters, and vegetated bump-outs/curb extensions. Design and construction in the first year of the program is limited to the first three neighborhoods where every resident on the block has signed a petition in favor of greening their street

**Wilmington.** In August 2009, the Wilmington City Council adopted a Source Water Protection ordinance to protect the watershed within the city boundary upstream of its intake. The ordinance complements improvements to the City's comprehensive land use plan and longstanding protection measures in New Castle County to protect the watershed upstream.

#### HIGH-VALUE WATER RESOURCE LANDSCAPES

**Watershed Land Prioritization.** In 2007, a model was developed through the cooperative efforts of the Natural Lands Trust, Philadelphia Water Department and the Delaware Valley Regional Planning Commission to evaluate and prioritize parcels of land most important to water resources. The model has been applied in the Schuylkill watershed, and is now being applied to four counties in the Upper and Central basin regions - Pike and Monroe (PA), Sullivan (NY) and Sussex (NJ). Preliminary model results are to be presented at the *Common Waters* Regional Symposium on October 29, 2009. See next.

**Upper and Central Region Landscape Management.** *Common Waters* is a regional partnership - the Pinchot Institute, the National Park Service, US Forest Service, multiple public agencies and non-profit organizations - focused on supporting the

development of sustainable communities and working landscapes in the Delaware River watershed upstream of the Water Gap. Its primary focus is providing scientific information at a regional level and encouraging cross-boundary communication. A grant has been provided by the William Penn Foundation to support "Common Waters." For more information, visit [http://www.pinchot.org/gp/common\\_waters](http://www.pinchot.org/gp/common_waters).

**Wickecheoke-Lockatong.** With support from the Natural Resource Conservation Service, the NJ Water Supply Authority has produced a set of reports designed to improve riparian conditions and water quality in the Lockatong and Wickecheoke Creek watersheds, including a characterization and assessment, a non-point source pollutant loading buildout analysis, a sediment and phosphorus source report and an assessment of the sufficiency of municipal plans and regulations that affect water quality. For more information, visit [www.njwsa.org](http://www.njwsa.org).

**Schuylkill Action Network (SAN).** SAN hired a coordinator this summer, marking the beginning of a new era for the Network now that the federally funded Schuylkill Watershed Initiative Grant (SWIG) is done. The SWIG focused on the effects of nutrients and pathogens from agricultural activities; acid mine drainage (AMD); and poor stormwater practices. SWIG accomplishments are numerous and include: installation of more than 2,000 trees and 20,000 feet of fencing on 19 priority farms; a dozen stormwater projects on public and private lands, including eight schools, where an educational component integrated outreach and stewardship; and three acid mine drainage remediation projects. Calculations for 3 clustered agricultural projects predict the capture of 360 tons of sediment, 512 lbs. of phosphorus and 928 tons of nitrogen annually, while the two passive AMD projects are expected to eliminate nearly 200,000 lbs of metals that would have annually flowed into the Schuylkill, a drinking water source for over 1.5 million people. Remarkably, the \$1.15 million federal grant has been used to leverage more than \$2 million in additional investments in water quality improvements. For more, visit [www.schuylkillwaters.org](http://www.schuylkillwaters.org).

**Christina River Watershed.** Since the completion of the Targeted Watershed Initiative Grant (TWIG), the Christina Basin

Clean Water Partnership (CBCWP) has been busy advancing its goal to achieve fishable, swimmable basin waters by 2020. The CBCWP is actively addressing MS4 stormwater requirements and TMDLs in the basin. The partnership is also pursuing grant opportunities, with the latest funding of \$1.8M being provided to the Chester County Conservation District by PennVest from federal stimulus funds for agricultural and urban BMPs in the Brandywine and Christina watersheds. The CBCWP is also reviewing sustainable funding mechanisms (e.g., fees for service) for long-term financing of clean water projects in the basin.

## **PLANNING, REDEVELOPMENT AND GROWTH MANAGEMENT**

**Upper Basin.** The Orange County (NY) Water Authority has proposed a *Water Master Plan* as an amendment to the County Comprehensive Plan. The Water Master Plan coordinates the development of water infrastructure with county-wide growth planning goals while preserving the County's rural character. Future demand will be directed to *Growth Areas* with existing water and sewer infrastructure, such as Port Jervis. The Plan also addresses "the need for source water protection, water conservation, research, monitoring, and the promotion of water policies that encourage the efficient use of energy.

**Lower Basin.** Montgomery County (PA) is implementing a Revitalization Program that effectively supports community economic revitalization with emphasis on riverfront brownfields. The program has successfully supported redevelopment efforts on the Schuylkill River in Royersford and Pottstown.

## **CONNECTING COMMUNITIES TO THE RIVER**

The *Port Jervis/Delaware River Waterfront Revitalization Plan*, unanimously adopted this year by city council, integrates social, historic, and cultural resources with the existing Downtown Economic Development Plan. Features include the creation of a whitewater river park for kayaking, tubing and rafting; enhanced signage; and interconnections of the city's historic trails with access to the Delaware. The Plan was funded through NY's *Local Waterfront Revitalization Program*. Port Jervis is a regional recreation destination popular with visitors from the New York City and Philadelphia metropolitan areas.

**4.0 INSTITUTIONAL COORDINATION AND COOPERATION**

- 4.1 IMPROVE COORDINATION & COLLABORATION
- 4.2 INCREASE SHARING OF DATA & IDEAS
- 4.3 SECURE ADEQUATE RESOURCES FOR COOPERATIVE PLANNING AND MANAGEMENT
- 4.4 ENSURE ACTIONS IN ACCORDANCE WITH THE BASIN PLAN
- 4.5 USE DRBC REGIONAL AUTHORITY TO FACILITATE COORDINATION & COOPERATION

**BASIN COORDINATION AND COOPERATION**

DRBC is a major forum for negotiation, coordination and collaborative efforts in the basin and a national leader on issues that involve development of regional scale resource management frameworks (integrated water management; toxics pollution control; and real-time monitoring).

Efforts in FY2009 included:

- Federal Water Resource Management: National Water Quality Monitoring Network Pilot Study; Participation in USACE Leadership.
- FFMP negotiation support: meetings, water code amendments and modeling.
- Delaware Estuary: Estuary Implementation Committee (EIC) and Science & Technical Advisory Committee (STAC); Oyster Revitalization Task Force; Estuary Habitat Restoration Alliance, Regional Sediment Management Workgroup.
- State Water Management: Delaware Water Supply Coordination Council; New Jersey Clean Water Council, Water Monitoring Coordination Council, and Water Supply Advisory Committee; Pennsylvania State Water Plan: Statewide Committee, Delaware Regional Committee, Policy & Implementation Subcommittee, Critical Water Planning Area Subcommittee, Water Conservation Subcommittee, Wissahickon Watershed Critical Area Planning, and the PA Water Resource Advisory Committee
- Watershed initiatives including the Schuylkill Action Network (SAN), the Christina, Pocono Creek, and Upper Wissahickon projects
- Natural Gas Well Development Coordination (PA, NY, SRBC, ORSANCO, USGS, EPA)

- Standing interstate and national associations such as ASIWPCA, ICWP, AWRA, WEF, AWWA, Fish & Wildlife Cooperative, and Commission Advisory Committees
- Administrative Agreement development with EPA and states
- Other collaborative monitoring, assessment, data management and mapping efforts

In addition to DRBC, other agencies and organizations work to promote inter-organizational collaboration. A few of the efforts are noted below:

**Schuylkill River Restoration Fund.** Initiated as a DRBC docket condition, the Fund provided \$175,000 for restoration projects this year. Berks County Conservancy was awarded \$75,000 to leverage an additional \$182,000 for management improvements on a farm in the Manatawny Creek watershed. The Fund also awarded \$100,000 to the Schuylkill Headwaters Association to prevent infiltration at Wheeler Run, part of the Pine Knot Discharge, the largest contributor of aluminum, iron and manganese to the Schuylkill River. The Fund is administered by the Schuylkill River Heritage Area (SRHA). Additional contributors are being sought to join Exelon and the Philadelphia Water Department in protecting the Schuylkill. Contact Tim Fenchel at SRHA: TFenchel@schuylkillriver.org.

**Philadelphia Watershed Partnerships.** Established by PWD, members from each of Philadelphia's five watersheds share resources for meeting municipal permit requirements, public education programs, and information on stormwater BMPs and watershed protection. The partnerships also work together on various educational programs and restoration projects.

**Intra-city Coordination for Sustainability.** In 2009, Philadelphia unveiled *Green City, Clean Waters: a Long Term Control Plan Update* (LTCP) that outlines the city's 20 year plan to implement the green stormwater management portion of Philadelphia's sustainability plan *Greenworks* that outlines a framework of inter-agency coordination. Through this framework, Philadelphia hopes to become "The Greenest City in America."

**5.0 EDUCATION AND STEWARDSHIP**

- 5.1 ESTABLISH A BASIN-WIDE SENSE OF PLACE
- 5.2 INCREASE STUDENT AND YOUTH AWARENESS OF WATER RESOURCES
- 5.3 INCREASE PRIVATE SECTOR AWARENESS OF WATER RESOURCES
- 5.4 INCREASE LOCAL PUBLIC OFFICIAL AWARENESS OF WATER RESOURCES

DRBC is involved directly and indirectly with education and outreach activities that promote stewardship and, per the Basin Plan, help to establish a basin-wide sense of place. In addition to participating in multiple regional events during the year – such as state Coast Days, the Lambertville Shad Festival, Narrowsburg Riverfest, Bay Day, Schuylkill and Lehigh events, and the annual Delaware River Sojourn - the staff also makes presentations at special conferences and prepares annual and special reports, sharing information and learning from research activities. Below is a select list of DRBC and partner activities aimed at achieving stewardship by increasing awareness of water resource issues among students and youth, the private sector, and public officials.

**EVENTS & COMMUNITY OUTREACH**

**Water Quality Standards Academy.** Through the efforts of DRBC, EPA held a week of water quality standards education at the Rutgers Eco-Complex in Bordentown NJ in January 2009. This special session enabled more than 80 government and non-government staff to refresh their knowledge of federal Clean Water Act regulatory programs at a greatly reduced cost.

**2009 Sojourn Co-chaired by DRBC.** Media and political attention focused on the 15<sup>th</sup> annual Delaware River Sojourn as two “Lord High Admiral” awards were bestowed on special Basin notables this year: On day two, Congressman Christopher Carney (PA-10<sup>th</sup> District) spoke to participants at Kittatinny Canoes’ River Beach in Milford PA. When the sojourners docked in Philadelphia on day seven, Mayor Michael Nutter was on hand to welcome paddlers and announce the launch of *Kayak Penn’s Landing* (see next).

**Kayak Penn’s Landing.** The Pennsylvania Environmental Council (PEC), along with many stakeholders, created a Tidal Delaware Water Trail to encourage recreational boating and stewardship of the river. This summer, PEC collaborated with the Delaware River Waterfront Corporation, to sponsor a free kayak program in the Penn’s Landing Marina, part of the *Take Me to the River* program administered by the Delaware Valley Regional Planning Commission (DVRPC) and funded by the William Penn Foundation. Nearly 800 people participated in the program this summer. A post-event survey found that 30% of participants are interested in learning more about how they can help improve water quality in the river, and 25% would like to participate in a clean up event. For many of the participants, who ranged in age from 12 to 74, this was the first time they had the chance to actually *touch* the river.

**Trout Tales and Trails.** The Brodhead Watershed Association and the Pocono Arts Council received an Arts & Culture Award from the Pennsylvania Environmental Council (PEC) for creating a successful collaboration to promote environmental awareness. Fifteen 5-foot tall fiberglass trout - individually designed by area artists – were strategically placed throughout the watershed to tell the tale of ecological flows. The project was part of the outreach component of the collaborative *Framework for Sustainable Watershed Management in the Pocono Creek Watershed* project.

**Fairmount Water Works Interpretive Center.** FWWIC is the Philadelphia Water Department’s (PWD) education center dedicated to the story of the Schuylkill River. Interactive exhibits and innovative educational programs meld history, technology and science to provide education on issues facing the regions’ urban watersheds. Since opening its doors in October 2003, over 150,000 visitors have toured the center, participated in its programs, and signed-up for educational events and online updates. In 2008, FWWIC reached nearly 40,000 people through its educational displays, classes, workshops, summer camps, and career program for high school students.

### **Urban Watersheds Revitalization Conference and *Water Wheel* Newsletter.**

The Stormwater Best Management Practices (BMP) Recognition Program was established in 2005 by PWD and partners to recognize developers, engineers, architects, and others who are designing and implementing innovative and environmentally-friendly BMPs - such as rain gardens, green roofs, infiltration swales, and treatment wetlands - in southeastern PA. Projects are recognized at an annual conference and the number of submissions has grown steadily every year. Approximately 80 submissions have been received to date and 37 awardees have been recognized at the conference and in the *Water Wheel* newsletter, which is distributed to over a half million residents and businesses in Philadelphia. The conference had 175 attendees last year.

In addition, tours of green stormwater infrastructure are regularly offered by PWD to highlight local examples. More than 185 local public officials, landscape architects and New York City Parks Department representatives have attended over the past year and a half. For more information, visit <http://www.stormwaterbmp.org>.

**Eco-nomics.** The Pocono Mountain Visitors Bureau (PMVB) regularly sponsors programs and forums, and promotes green business practices sensitive to the water resource issues that are crucial to Pocono tourism. In March 2009, the PMVB sponsored *Water We Going To Do?*, a watershed management forum to address potential impacts to water resources in the Pocono Creek Watershed and emphasize the need to integrate planning, regulatory, economic development and infrastructure development efforts in the process.

In May, the PMVB sponsored its second annual Green Tourism Day and Achievement Awards luncheon honoring exemplary actions by local businesses. The 2009 recipient was the Shawnee Inn for green onsite improvements. For more information visit <http://www.800poconos.com>.

**DRBC.net.** The commission's web site continues to be a valuable communications tool not only for the general public, but also for government officials, the regulated community, students, educators, and the news media. Overall usage of the web site in FY 2009, measured in bytes of information transferred, increased by about 30% over the previous year. One of the more popular new pages provides information on the Floodplain Regulations Evaluation Subcommittee. Efforts are currently underway to redesign the web site for the first time since its debut in 1996.

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<sup>1</sup> We are grateful for the responses from our partners that have contributed to this brief, including: Kittatinny Canoes, Inc., Pocono Mountain Visitors Bureau (PMVB), Monroe County (PA) Conservation District (MCCD), Montgomery County (PA) Planning Commission, Philadelphia Water Department (PWD), Pennsylvania Environmental Council (PEC), DE Dept. of Natural Resources and Environmental Control (DNREC), New Jersey Dept. of Environmental Protection (NJ DEP), and the US Environmental Protection Agency (EPA).