2012
ANNUAL REPORT

DELAWARE RIVER BASIN COMMISSION

The Delaware River Basin Commission (DRBC) is a federal-interstate agency created in 1961 by compact legislation signed into law by President John F. Kennedy and the governors of the four basin states with land draining to the Delaware River. The passage of this compact marked the first time that the federal government and a group of states joined together as equal partners on a regional body with the force of law to oversee a unified approach to managing a river system without regard to political boundaries.

The Delaware is the longest un-dammed river in the United States east of the Mississippi, extending 330 miles from the confluence of its East and West branches at Hancock, N.Y. to the mouth of the Delaware Bay where it meets the Atlantic Ocean. In all, the Delaware River Basin (DRB) contains 13,539 square miles, draining parts of Pennsylvania, New Jersey, New York, and Delaware. Over 15 million people (approximately five percent of the nation's population) rely on the waters of the DRB for multiple uses, but the watershed drains only four-tenths of one percent of the total continental U.S. land area. The population served by DRB water includes about 8.3 million basin residents as well as over seven million people in the New York City area and northern New Jersey who live outside the basin. New York City gets roughly half its water from three large reservoirs located on tributaries to the Delaware.

This publication, which covers calendar year 2012, was compiled and edited by DRBC Communications Manager Clarke Rupert and created by DRBC Graphic Designer Susan Owens. Numerous commission staff provided valuable assistance. It is available on the commission's web site at www.drbc.net. Copies are available upon request by contacting the DRBC (P.O. Box 7360, West Trenton, NJ 08628; 609-883-9500; clarke.rupert@drbc.state.nj.us).

Cover photos: Fireworks over the Delaware River at Narrowsburg, N.Y. and an October view from the Lackawaxen River Fishing Access area. The Lackawaxen is one of the Delaware River's 216 tributaries. Both photos are courtesy of David B. Soete.

Delaware River Basin Commission
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This photo of a bald eagle on the Delaware River near Narrowsburg, N.Y. was taken by David B. Soete in September 2006. Additional information about Dave can be found under Basin News Briefs on page 13.

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Signatory Members

PENNSYLVANIA

Governor Tom Corbett

DEP Secretary
Michael L. Krancer

NEW JERSEY

Governor Chris Christie

DEP Commissioner
Bob Martin

NEW YORK

Governor Andrew M. Cuomo

DEC Commissioner
Joseph Martens

DELAWARE

Governor Jack A. Markell

DNREC Secretary
Collin P. O'Mara

UNITED STATES

Brigadier General
Kent D. Savre

Lieutenant Colonel
John Christian Becking

The ex officio members of the Delaware River Basin Commission include the four basin state governors and the Division Engineer (commonly referred to as the Commander) of the U.S. Army Corps of Engineers North Atlantic Division who serves as the federal representative.

The five members appoint alternate commissioners, with the governors typically selecting high-ranking officials from their state environmental agencies. Each commissioner has one vote of equal power with a majority vote needed to decide most issues. Exceptions are votes on the commission's annual budget and drought declarations, which require unanimity.

Pennsylvania

As 2012 began, the appointed representatives of **Governor Tom Corbett** on the commission continued to be Department of Environmental Protection (DEP) Secretary **Michael L. Krancer** (alternate), Executive Deputy Secretary for Programs **John T. Hines** (second alternate), Deputy Secretary for Water Management **Kelly Jean Heffner** (third alternate), and **Charles Kirkwood** (fourth alternate). Following John Hines' decision to leave DEP in February, the governor's representatives for the remainder of 2012 were Secretary Krancer (alternate), Deputy Secretary Heffner (second alternate), Director of Interstate Waters **Andrew Zemba** (third alternate), Mr. Kirkwood (fourth alternate), and Executive Assistant **Randal (Duke) Adams** (fifth alternate).

New Jersey

The following state environmental officials continued to represent **Governor Chris Christie** on the DRBC during the early weeks of 2012: DEP Commissioner **Bob Martin** (alternate), Assistant Commissioner for Water Resource Management **John Plonski** (second alternate), Division of Water Quality Director **Michele M. Putnam** (third alternate), Division of Water Supply Director **Fred Sickels** (fourth alternate), and Research Scientist **Dr. Joseph A. Miri** (fifth alternate). In February, **Michele Siekerka** was named the new Assistant Commissioner for Water Resource Management, replacing John Plonski who left DEP. The governor's representatives on the DRBC for the remainder of 2012 were Commissioner Martin (alternate), Assistant Commissioner Siekerka (second alternate), Director Sickels (third alternate), and State Geologist **Karl W. Muessig** (fourth alternate).

New York

Department of Environmental Conservation Commissioner **Joseph Martens** (alternate), Division of Water Director **Mark Klotz** (second alternate), Division of Water Assistant Director **Tom Cullen** (third alternate), and Bureau of Water Resource Management Director **Angus Eaton** (fourth alternate) continued to represent **Governor Andrew M. Cuomo** on

the commission.

New York City DEP Commissioner **Carter H. Strickland, Jr.** remained the advisor to the New York State DRBC commissioner during 2012.

Delaware

The appointees named by **Governor Jack A. Markell** to represent him on the DRBC in 2012 remained Department of Natural Resources and Environmental Control (DNREC) Secretary **Collin P. O'Mara** (alternate) and Division of Water Director **Kathleen M. Stiller** (second alternate).

Federal Government

Brigadier General Kent D. Savre assumed command of the U.S. Army Corps of Engineers North Atlantic Division (NAD) in July 2012, thereby becoming the ex officio federal representative on the DRBC. Presiding over the change-of-command ceremony was Major General Todd T. Semonite, Deputy Commanding General of the Corps and former DRBC federal representative. Brig. Gen. Savre succeeded **Colonel Christopher J. Larsen**, who served as division commander since September 2011. The appointed alternate and second alternate for the first half of 2012 were **Lieutenant Colonel Philip M. Secrist III** (Philadelphia District Engineer) and **David J. Leach** (NAD Director of Programs), respectively. **Lieutenant Colonel John Christian Becking** replaced Lt. Col. Secrist as Philadelphia District Engineer and federal alternate on the DRBC in June. Brig. Gen. Savre appointed Strategic Planner **Erik Rourke** as his third alternate in September 2012. *(Editor's note: During 2012, Brig. Gen. Savre held the rank of Colonel. He was promoted to the rank of Brigadier General in May 2013.)*

(from left to right) Commissioner Angus Eaton (N.Y.), Commissioner Philip Secrist (U.S., chair), Commissioner Kathleen Stiller (Del.), Commissioner Kelly Heffner (Pa.), Commissioner Michele Siekerka (N.J.), and Executive Director Carol Collier in front of the DRBC building on May 10, 2012. (Photo by Katharine Schmidt)

The current list of commission members and their alternates can be viewed at www.nj.gov/drbc/about/commissioners/.

Commission Officers

The Delaware River Basin Compact requires the annual election of a chair and vice chairs, which historically has been based upon rotation of the compact's five signatory parties. The following members served as commission officers during calendar year 2012:

January 1, 2012 through June 30, 2012 (one-year term began July 1, 2011)

Chair: Colonel Larsen (Federal Representative)
Vice Chair: Governor Corbett (Pennsylvania)
Second Vice Chair: Governor Christie (New Jersey)

July 1, 2012 through December 31, 2012 (one-year term to end June 30, 2013)

Chair: Governor Corbett (Pennsylvania)
Vice Chair: Governor Christie (New Jersey)
Second Vice Chair: Governor Cuomo (New York)

Commission Staff

New Employees

- **Jeff Iudicello** – Water Resources Engineer/Modeler; Modeling, Monitoring and Assessment Branch.

Staff News

- **Robert Tudor** was the recipient of the Samuel S. Baxter Memorial Award from the Water Resources Association of the Delaware River Basin at its 30th Annual Recognition Dinner held in Philadelphia on April 18. Bob received the award "for his significant contributions, accomplishments, and leadership within the Delaware River Basin as the Executive Deputy Director of the Delaware River Basin Commission and at the New Jersey Department of Environmental Protection to the standards exemplified by the former Philadelphia Water Commissioner, Samuel S. Baxter." The award was presented by Jerry Kauffman, Project Director of the Water Resources Agency-University of Delaware and Kevin Donnelly, a former DRBC Commissioner who is now District Manager of the New Castle (Delaware) Conservation District. Established in 1959, the Water Resources Association of the Delaware River Basin (WRA) is a non-profit, non-partisan advocacy and public information organization whose mission is to promote sound water resources management within the Delaware River Basin. Visit www.wradrb.org for more information about the association.

In Remembrance

- The commission was saddened by the passing of **Todd Kratzer**, who died in October 2012 at the age of 52. Todd had over 16 years of service with the DRBC when he left in 2004 to accept a position with the N.J. Department of Environmental Protection. He most recently worked as a Senior Watershed Protection Specialist for the N.J. Water Supply Authority.
- A bench has been placed outside the southeast corner of the DRBC building, accompanied by dedication plaques and the planting of a dogwood tree, to honor commission staff members whom we have lost over the last few years. Two colleagues, Bridget Ferry and Donna Gushue, passed away in November 2009 only several days apart. Staff and family members attended a dedication ceremony on April 20 for this simple memorial, which was funded by the commission and staff donations. The two plaques read:

  In Memory of Bridget Ferry & Donna Gushue—They touched our hearts with their humor and kindness, and left us far too soon.

  In Memory of DRBC Colleagues—"The memory of a good person is a blessing."

The current list of DRBC staff members, including their phone number extensions and e-mail addresses, can be viewed at www.nj.gov/drbc/about/staff/.

Bob Tudor *(second from right)* receiving the Samuel S. Baxter Memorial Award in April 2012. Pictured here with him *(from left to right)* are Kevin Donnelly, WRA Chairman Dennis Palmer, and Jerry Kauffman. (Photo courtesy of WRA)

A dogwood tree, bench, and two plaques honor the memory of former DRBC colleagues who have passed away.

Annual Hydrologic Conditions Summary

2012 Highlights

A Dry Start

Much of the Delaware River Basin (DRB) experienced dry conditions and below-normal snowpack during the early months of 2012. The snowpack was of particular concern because the water it stores is vital for recharging the DRB's rivers, lakes, reservoirs, and groundwater. The snow survey conducted by the New York City Department of Environmental Protection (NYCDEP) on February 1 indicated less than one billion gallons (bg) of water storage in the snowpack above the Cannonsville, Pepacton, and Neversink reservoirs in the upper DRB. The historical average for that date is 27 bg. Water storage in the snowpack increased to 13 bg according to the March 1 NYCDEP survey, but it was still 70% below the historical average.

While the dry conditions in the beginning of 2012 did not trigger DRBC or state drought declarations, the impact on streamflow was nonetheless significant. Below-normal recharge from snowpack resulted in low streamflows throughout the basin in late winter and spring. During March and April, a period when streamflows should be at their highest due to melting snow and spring rains, many streams and rivers were flowing at only half (or less than half) of their normal levels.

Groundwater was also impacted by the dry conditions that started the year. By mid-spring, U.S. Geological Survey (USGS) monitoring wells in Monroe, Schuylkill, and Carbon counties in Pennsylvania recorded water levels below the drought emergency range (0- to 5- percentile depth). Several other monitoring wells in the Pennsylvania portion of the basin reported below-normal water levels in the drought watch (10- to 25-percentile depth) and drought warning (5- to 10- percentile depth) ranges.

In its April 17 report, the U.S. Drought Monitor placed the majority of the DRB in the "D1 Moderate Drought" category while portions of the upper basin were described as "D0 Abnormally Dry." Drought conditions in the state of Delaware were more acute and labeled in the "D2 Severe Drought" category. Although the basin's hydrologic conditions improved with the return of above-normal rainfall in late May, the Drought Monitor reported abnormally dry to severe drought conditions (the latter in the state of Delaware) until the arrival of Superstorm Sandy in late October.

Tropical Storm Issac

Remnants of Tropical Storm Isaac impacted the DRB in early September 2012. Flooding did not occur at any of the National Weather Service's river forecast points, but the storm produced flash flooding on some smaller streams and localized street flooding. The basin generally received between one and two inches of rainfall from this system. Locally higher rainfall amounts of three to seven inches occurred in northern Delaware, eastern Pennsylvania, and northern New Jersey.

Superstorm Sandy

Sandy, the 18th named storm of the 2012 hurricane season and the second most costly in U.S. history, made landfall as a post-tropical cyclone just south of Atlantic City, N.J. on October 29. Its arrival during the astronomical high tide period produced a major-to-record storm surge along the entire New Jersey coast. As Sandy pushed westward into Pennsylvania, the tidal sections along the Delaware River at and near Philadelphia also experienced record water levels. An animated graph of Delaware Estuary water surface elevations responding to the storm surge can be viewed at www.youtube.com/user/delrivbasincomm/.

Heavy rain and high winds began from southeast to northwest as Sandy skimmed Delaware and approached New Jersey's shores. Up to a foot of rain fell in portions of South Jersey and Delaware. Many rivers rose above flood stage in these areas, resulting in minor to moderate flooding. To the north of the hardest hit areas, one to three inches of rain was reported and flooding was minimal.

Very high wind gusts accompanied Sandy, bringing down trees and utility lines that caused extensive, long-term power outages. The strongest gusts were to the north and east of Sandy's center and the storm hit many areas of the mid-Atlantic region with some of the highest wind gusts since Hurricane Hazel in October 1954. Gusts in Ocean County, N.J. reached near 90

mph and many areas in the basin experienced gusts of more than 50 mph.

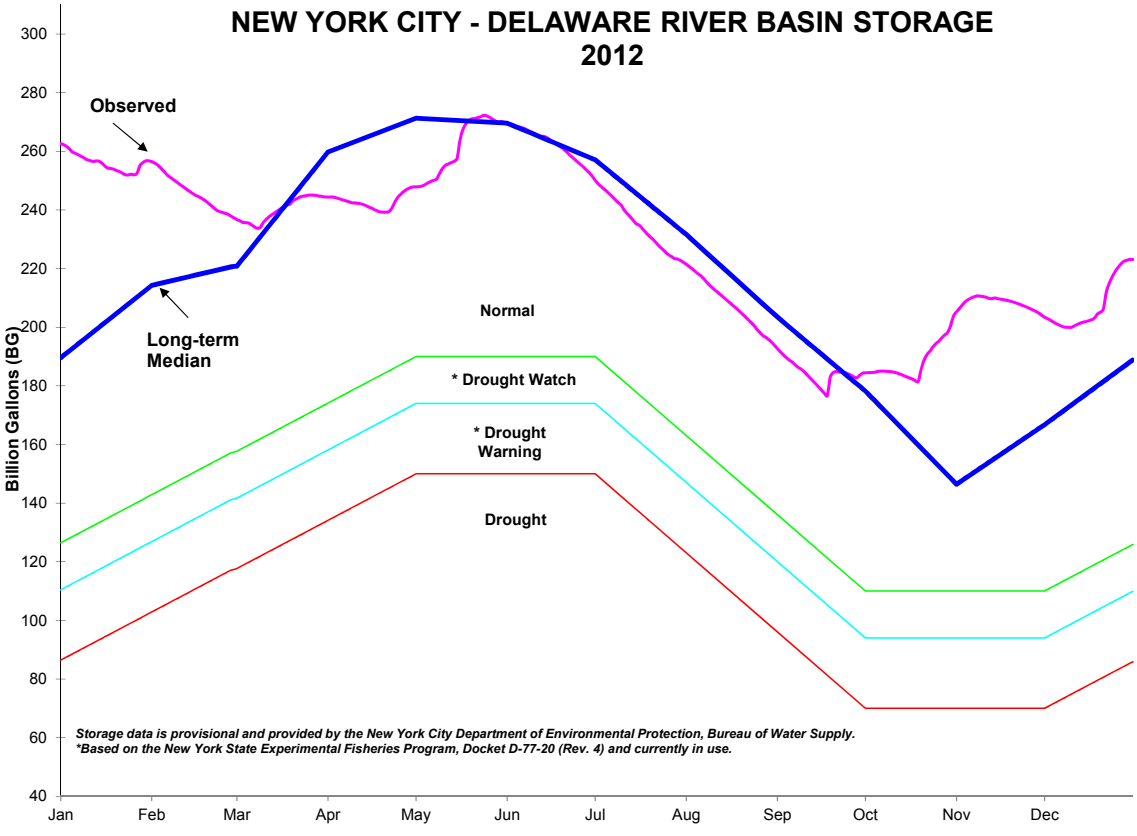
Upper Basin Reservoir Storage

The three New York City (NYC) Delaware Basin reservoirs—Cannonsville, Pepacton, and Neversink—are located in the upper DRB on headwater tributaries feeding the main stem Delaware River. Since the combined storage in these three reservoirs did not fall below the drought watch level during 2012, the implementation of DRBC's basinwide drought operating plan was not required.

On January 1, 2012, the combined storage in the three NYC Delaware Basin reservoirs was 263 bg, which is 97% usable capacity and 73 bg above the long-term median for that date. A dry winter with below-normal snowpack available to recharge the reservoirs caused storage to decline below the median by mid-April. Conditions improved during May with the return of normal to above-normal rainfall in the upper basin. The NYC reservoirs refilled by late May, several weeks after the normal refill date of May 1. Soon after refilling, storage rapidly declined and dipped below the median on June 1. Combined reservoir storage remained below the long-term median until September. On December 31, combined storage was 223 bg, which is 82% usable capacity and 34 bg above the long-term median storage for the last day of the year.

More detailed information about the basin's hydrologic conditions can be found on the DRBC web site at www.nj.gov/drbc/hydrological.

The Office of the Delaware River Master directed releases from the NYC Delaware Basin reservoirs totaling 22.3 bg during April, July, August, and September. These releases were necessary to meet the normal flow objective of 1,750 cubic feet per second (cfs) in the Delaware River at Montague as required by the 1954 U.S. Supreme Court Decree.



This graph shows the observed combined water storage in the NYC-Delaware Basin reservoirs (Cannonsville, Pepacton, and Neversink) during 2012, as well as the long-term median and drought rating curves. The period of record represented by the long-term median values is June 1967 to November 1998.

For comparison purposes, directed releases totaled 0.85 bg in 2011 and 101 bg during the drought year 2001.

Lower Basin Reservoir Storage

Both Beltzville Reservoir (located on the Pohopoco Creek, a tributary of the Lehigh River) and Blue Marsh Reservoir (located on the Tulpehocken Creek, a tributary of the Schuylkill River) maintained storage in the normal range during 2012. Consequently, the DRBC's lower basin drought operating plan was not implemented.

The commission directed releases from Beltzville Reservoir during a brief period in late summer to maintain the Delaware River flow objective of 3,000 cfs at Trenton. DRBC-directed releases began on August 28 and ended on September 4 in anticipation of rainfall from the remnants of Tropical Storm Isaac. DRBC directed a total of 0.73 bg during 2012.

No releases were made from Merrill Creek Reservoir during 2012. Storage in this reservoir, located near Phillipsburg N.J., is used to replace evaporative losses (consumptive use) caused by power generation when the basin is under DRBC-declared drought operations and the equivalent average daily flow target for the Delaware River at Trenton is below 3,000 cfs.

Precipitation

Twenty-nine of the 38 reported counties within the DRB ended 2012 with below-normal precipitation for the year. Annual totals ranged from 36.8 inches in Philadelphia County, Pa. to 51.9 inches in Ocean County, N.J. Annual precipitation departures from normal ranged from 7.2 inches below normal in Philadelphia County to 6.3 inches above normal in Ocean County.

The observed annual precipitation above Montague, N.J. was 44.17 inches, or 0.91 inches above normal. Similarly, observed precipitation above Trenton, N.J. was 44.10 inches, or 0.79 inches below normal. Precipitation at Wilmington, Del. was 36.31 inches, or 6.50 inches below normal.

Streamflow

Monthly mean streamflow observations at select stations along the Lehigh, Schuylkill, and Delaware rivers were below normal during February through April 2012. This was due to the previously mentioned dry winter with below-normal snowpack that limited recharge to streams and rivers.

The lowest monthly mean flows occurred during April 2012. Along the main stem Delaware River at Montague and Trenton, streamflows averaged 30% and 33% of normal, respectively. During April 7-22, new daily low flow records were set for the Delaware River at Trenton. Streamflow observations along the Delaware's largest tributaries were also very low, averaging 35% of normal on the Lehigh River at Bethlehem, Pa. and 46% of normal on the Schuylkill River at Philadelphia. Flows at these stations improved during May and June, but were below normal to normal during July and August.

October produced the year's highest monthly mean streamflow observations at many locations in the DRB. Flows along the Delaware River at Montague and Trenton averaged more than double their normal and many locations along the Lehigh and Schuylkill rivers averaged two to three times their normal for October. Streamflow observations at these select stations remained above normal for the remainder of 2012.

Groundwater

The average monthly groundwater level in eight reported USGS observation wells in the Pennsylvania portion of the basin began the year above the long-term average. Water levels rapidly declined to below average by early spring due to below-normal precipitation and lack of snowpack. The average monthly groundwater level remained below the long-term average until rain in September and October recharged the monitoring wells. The improvement was short-lived because little rain fell in November. By December, the average water level for the eight wells declined again to below the long-term average.

The groundwater level in the New Castle County, Del. coastal plain well began the year above the normal range (greater than 75-percentile). Storage declined throughout the spring and early summer, but remained within the lower half (25- to 50-percentile) of the normal

range. By July, the groundwater level was below the normal range (less than 25-percentile), where it would remain until the end of 2012.

The groundwater level in the Cumberland County, N.J. coastal plain well experienced a slow decline for the first 10 months of the year, but remained within the normal range (25- to 75-percentile) for much of 2012. Rainfall produced from Superstorm Sandy increased the water level to above the normal range by November, where it remained through the end of the year.

Salt Front

The salt front or salt line is defined as the 250 parts-per-million (or milligram-per-liter) chloride concentration. The seven-day average location of the salt front is used by DRBC as an indicator of salinity intrusion in the Delaware Estuary. The salt front's location fluctuates along the Delaware River as streamflow increases or decreases in response to changing inflows, diluting or concentrating chlorides in the river.

The farthest upstream location of the salt front in 2012 was river mile (RM) 77 in late July and early August. This location is one mile downstream of the Delaware-Pennsylvania state line. In comparison, the salt front reached RM 102 (two miles upstream of the Benjamin Franklin Bridge) during the 1960's drought of record.

Delaware Basin States and NYC Renew Reservoir Operating Plan

New York State, Pennsylvania, New Jersey, Delaware, and New York City (NYC) unanimously agreed to a one-year extension of the current Flexible Flow Management Program (FFMP), which will be in effect from June 1, 2012 through May 31, 2013. The FFMP aims to meet water supply demands, protect fisheries habitat downstream of the NYC-Delaware Basin reservoirs, assist with flood mitigation, and repel the upstream movement of salt water in the Delaware Estuary.

Diversions and releases of water from the three city reservoirs located on headwater tributaries feeding the Delaware River are jointly managed by the four states and NYC under the terms of the 1954 U.S. Supreme Court Decree that settled an interstate water dispute. The Delaware River Basin Compact creating the DRBC prohibits the commission (comprised of the four basin states and the federal government) from modifying the releases or diversions provided in the 1954 decree without the unanimous consent of the decree parties (four basin states and NYC).

The decree parties will use the additional time to further evaluate this interim reservoir management plan and use the experience to help guide ongoing negotiations to develop future multi-year agreements. DRBC staff assists the Office of the Delaware River Master, which administers the provisions of the 1954 Supreme Court Decree, to coordinate and facilitate discussion among the decree parties concerning the substance of a future FFMP. Commission staff members also continue to develop and use modeling tools to aid the decree parties in the evaluation of water resources management and associated risks in the basin.

The FFMP renewal will continue to rely on the use of the city's Operations Support Tool (OST) to manage the water that is forecasted to be available in the three upper basin NYC reservoirs and guide the selection of releases. The OST is a sophisticated monitoring and modeling system that allows for better predictions of reservoir-specific water storage levels, quality, and inflows than previous tools. The evolving OST has proven to be a very useful tool in managing the FFMP.

Release rates in the renewed one-year agreement are patterned after recommendations provided in a 2010 joint fisheries paper from the New York State Department of Environmental Conservation and the Pennsylvania Fish and Boat Commission.

It is the intention of this program to create voids in the reservoirs at key times of the year to help mitigate river flooding during periods of high inflows and heavy snowmelt.

In addition, reservoir releases will continue to be adjusted to assist in repelling the upstream migration of salty water from the Atlantic Ocean that moves up the tidal Delaware River during low-flow conditions. As salt-laced water moves upriver, Philadelphia and other public water suppliers can be affected, along with industrial surface water users and ecosystems.

The renewed FFMP maintains New Jersey's increased maximum diversion from the Delaware River Basin via the Delaware & Raritan Canal to a daily running average of 85 million gallons per day when the basin is in a drought emergency.

Additional details can be viewed on the web site of the Office of the Delaware River Master at water.usgs.gov/osw/odrm/.

Water Quality Program Highlights

Monitoring took place during 2012 to collect precise and defensible data on PCB concentrations in the estuary, which includes the tidal Delaware River and Bay. Accurate measurements of PCB concentrations are required to support the implementation and refinement of the TMDLs in the Delaware Estuary. In addition, monitoring of the estuary's ambient water for pesticides, dioxins/furans, and polycyclic aromatic hydrocarbons (PAHs), all of which have been identified as toxic pollutants of concern, was also undertaken. Toxic pollutants are those elements and chemical compounds that have adverse effects on aquatic life and human health as a result of both short-term and long-term exposure.

October 2012 PMP Workshop

The Delaware Estuary TMDL Coalition (a group of municipal and industrial dischargers) and the DRBC cosponsored a workshop on October 22 in Salem, N.J. to discuss the progress achieved through the implementation of pollutant minimization plans (PMPs) by dischargers of polychlorinated biphenyls (PCBs) and to share information on effective PMP approaches. Participants included 84 industry and government representatives.

During a DRBC staff presentation, Gregory Cavallo reported that *the loading of PCBs from the 10 dischargers that contribute 90% of the total loading to the estuary decreased 46% between 2005 and 2010.*

The event covered the following topics:

- PMP Principles and Loading Trends from 2005-2011
- Industrial Experiences with PMP Implementation
- Municipal Experiences with PMP Implementation
- Regulators' Perspectives on the PMP Process
- Panel Discussion Highlighting Dischargers' Experiences with Implementing PMPs

PMP requirements for point (end-of-pipe) and non-point discharges of PCBs in the Delaware Estuary were originally adopted by the DRBC in May 2005. Under this PMP rule, dischargers identify known and potential sources of PCBs emanating from their facility, identify procedures for tracking down unknown sources of the pollutant, and identify and implement strategies for minimizing or preventing releases from all identified sources. Dischargers measure and annually report progress made in reducing PCB loadings. This innovative approach embodies the principle of adaptive management, which encourages experimentation, measurement, and readjustment depending on the results of the actions taken. It reflects an awareness that while dramatic reductions in loadings from all source categories will be required over several decades to achieve the PCB Total Maximum Daily Loads (TMDLs), the effectiveness of any particular treatment technology or reduction activity at a facility or site remains uncertain.

PCBs have been classified by the U.S. EPA as a probable human carcinogen. The U.S. banned the manufacture and general use of PCBs in the late 1970s, but not before 1.5 billion pounds of the substance was produced.

Additional PMP-related information, including presentations given at the October 2012 workshop, can be viewed at www.nj.gov/drbc/programs/quality/pmp.html.

Contaminants of Emerging Concern in the Tidal Delaware River: Pilot Monitoring Survey 2007-2009

DRBC Environmental Toxicologist A. Ronald MacGillivray, Ph.D. authored a July 2012 report that consolidated the monitoring completed from 2007-2009 to determine the presence and concentration of select contaminants of emerging concern (CECs) in the ambient waters of the Delaware Estuary. Dr. MacGillivray also discussed the report in a September 25, 2012 webinar, "Source Water Protection and Contaminants of Emerging Concern," hosted by the Delaware River Basin Source Water Collaborative.

CECs are chemicals that have entered the environment through human activities and include pharmaceuticals and personal care products (PPCPs), hormones, flame retardants (PBDEs), detergents, flame repellents/non-stick surface coatings

(PFASs), and plasticizers (bis-phenol A). They have been detected in humans or other living organisms and have been found to persist in the environment, but are not routinely monitored and are currently unregulated.

Although most of these compounds have been detected in surface waters at very low concentrations, there is some concern about how CECs impact drinking water and the river's ecology. Increased interest in these substances and their toxic effects by scientists, the public, and regulators is occurring due to improved analytical methods and a growing body of information on the adverse effects of CECs. Therefore, it is important to understand their presence, sources, source pathways, persistence, fate, and how they degrade in surface water.

Additional information about CECs, including the July 2012 report (which was revised in August 2013) and the powerpoint presentation from the September 2012 webinar, can be found at www.nj.gov/drbc/quality/reports/emerging/.

Neversink Watershed WQ Monitoring

Funded by the Pinchot Institute's U.S. Endowment for Forestry and Communities Healthy Forests and Waters Program, this monitoring effort focuses on assessing the relationship between land use types, development, and pollution loadings throughout the entire 435 square-mile Neversink River Watershed, a N.Y. tributary to the upper Delaware River. Starting in the spring of 2012, 20 water quality parameters were evaluated eight times during the year at nine locations for three land use types: core forest, fragmented forest, and urban. The data will help evaluate the differences in pollutant loadings from specific land use types and development intensities.

Paulsboro, N.J. Train Derailment and Chemical Spill

On the morning of November 30, 2012, seven Conrail freight train cars derailed while traveling over a moveable bridge spanning Mantua Creek in Paulsboro, N.J. Four tank cars, three containing vinyl chloride and one containing ethanol, came to rest in Mantua Creek, which is a Delaware River tributary. One of the derailed tank cars was breached and released approximately 20,000 gallons of vinyl chloride into the creek and surrounding area. Vinyl chloride is a colorless, flammable gas that is used to make polyvinyl chloride (PVC) plastic and vinyl products. It is classified as a known human carcinogen by the U.S. EPA. As a precaution, local officials issued evacuation and "shelter in place" orders following the accident until the situation was deemed safe.

While not a first responder agency, DRBC staff provided "behind the scenes" support, including water quality sampling on the Delaware River. Staff members also were able to advise the U.S. Coast Guard-led unified command response team and public water suppliers through the use of the commission's hydrodynamic and water quality models to predict the movement of the contaminants.

The 2004 *Athos I* oil spill had earlier demonstrated the need to automate a hydrodynamic model for the tidal Delaware River for rapid assessment of spill impacts on water intakes. Following that incident, Dr. Namsoo Suk and John Yagecic from the Modeling, Monitoring & Assessment Branch developed an automated system to retrieve and process current hydrological and meteorological data, create a model input file, run an existing hydrodynamic model, and process the output. This DRBC computer model is run overnight, every night, without user input. Upon notification that a spill has occurred, the most recent hydrodynamic prediction file can be coupled with a water quality model to predict the relative concentration of the contaminant in the vicinity of water intakes. *By automating the hydrodynamic modeling, the time required to develop a contaminant transport prediction can be reduced dramatically, thus providing better information to response teams and water purveyors*.

Information about the freight train accident investigation, which is being conducted by the National Transportation Safety Board, can be found at www.ntsb.gov/investigations/2012/paulsboro_nj/paulsboro_nj.html. Additional information can be found on the New Jersey Office of Emergency Management's web site at www.state.nj.us/njoem/programs/paulsboro_hazmat.html.

Assessment of Metals in Estuarine Waters

In Zone 5 of the Delaware River, which extends from the Pennsylvania-Delaware state line south to Liston Point, Del., copper concentrations continue to be near water quality criteria, with several apparent exceedances of the marine criteria in the vicinity of Pea Patch Island, Del.

Assessment of metals in the estuarine waters of the Delaware River is complicated by factors such as field sampling techniques, analytical issues with contamination and detection limits associated with routine analytical procedures, the applicability of freshwater or marine criteria, and the influence of other water quality attributes that influence the partitioning and toxicity of metals.

In 2012, the DRBC performed additional data collection for copper, zinc, and nickel using enhanced analytical methods and modified collection procedures in this stretch of the Delaware River. The information collected as part of this study will provide additional data to help determine concentrations of metals in ambient water and whether the commission's metal criteria are exceeded.

The DRBC study demonstrated that its procedures resulted in very low contamination during sample collection and the achievement of lower levels of detection in the samples due to the more sensitive analytical procedure used. This data will be used in the DRBC's biannual Water Quality Assessment Report required under Section 305(b) of the federal Clean Water Act that will be issued in April 2014.

Fish Tissue Monitoring

The DRBC in 2012 continued its periodic sampling of tissues of resident fish species in the non-tidal and tidal portions of the Delaware River. In the non-tidal portion, samples of smallmouth bass and white sucker were collected at Milford, Pa., Easton, Pa., and Lambertville, N.J. In the tidal portion of the river, samples of channel catfish and white perch were collected at five locations. The samples are analyzed for PCBs, chlorinated pesticides, dioxins/furans, flame retardants (PBDEs), perfluorinated chemicals, mercury, and other metals. These data are used to track the progress of the PCB TMDLs that were established by the U.S. EPA in 2003 and to identify chemical compounds that may pose a risk to human health through fish consumption. These data are also forwarded to state agencies for their use in establishing fish consumption advisories for fish caught in the Delaware River.

DRBC Geologist Greg Cavallo (right) holds the Niskin sampler and operates a portable pump while Modeling, Monitoring & Assessment Branch Manager Dr. Tom Fikslin holds a filter and fills a sample bottle. This technique being used during a special copper survey on the Delaware River results in very low contamination of the sample by other metal sources. (Photo by DRBC)

Delaware River and Bay Water Quality Assessment Report

Every two years, DRBC compiles the Delaware River and Bay Water Quality Assessment Report, focused on the main stem river, for the U.S. EPA. The 2012 report provided an assessment of whether the Delaware River and Bay supported various designated uses during the period from October 1, 2006 through September 30, 2011 by comparing observations to water quality criteria. The following uses are protected by DRBC regulations and/or the federal Clean Water Act of 1972: aquatic life, public water supply, recreation, fish consumption, and shellfish consumption. The report, along with related information, can be viewed at www.nj.gov/drbc/quality/reports/quality/.

Basin News Briefs

Large Blooms of "Rock Snot" Discovered in the Delaware River

On April 18, 2012, DRBC Aquatic Biologist Dr. Erik Silldorff was surprised to see extensive mats of the invasive, aquatic alga *Didymosphenia geminata* (also known as Didymo or "Rock Snot") in the Delaware River near Matamoras, Pa. Further examination led to the discovery of large blooms of Didymo occurring over a 40-mile stretch of the Delaware River, extending from the area near the confluence with the Lackawaxen River downstream to the vicinity of Dingmans Ferry Bridge. This section of river includes two National Park units: the Upper Delaware Scenic and Recreational River and the Delaware Water Gap National Recreation Area. Subsequent surveys confirmed that Didymo was present throughout the entire 200-mile non-tidal portion of the Delaware River and into several tributaries.

Didymo covers rock surfaces in cold, moderate to fast flowing water. While Didymo is not a public health hazard, there is concern about the ecological effects of Didymo blooms, particularly at these high densities. Thick mats of Didymo can crowd out or smother more biologically valuable algae growing on the riverbed, thereby significantly altering the physical and biological conditions within a stream. Additionally, Didymo can easily "hitchhike" its way into nearby streams or rivers that currently lack the unwanted invader. This is alarming given that there are many cold water, low-nutrient streams in the Delaware Basin and surrounding areas. Keeping "Rock Snot" out of such streams is critically important because there is no known way to fully eradicate Didymo once it is found in a body of water.

Didymo on a rock surface in Pike County near Matamoras, Pa. (Photo by Erik Silldorff)

DRBC received funding from Pennsylvania Sea Grant in August 2012 to help delineate the threats from the expanding Didymo invasion and provide the global community of scientists with a better understanding of how nutrients may impact the alga's morphology. During surveys, Dr. Silldorff noticed that while the diatom was extensive throughout the non-tidal Delaware River, its form was notably different in the higher nutrient waters below the Lehigh River, lacking the long stalk seen in the lower nutrient waters upstream. Starting in February 2013, DRBC will perform additional surveys and will transplant colonized rocks to investigate the impact of different water chemistry on stalk morphology. The results are expected to be finalized by the end of 2013 with a report to be posted on the DRBC web site when completed.

Visit www.nj.gov/drbc/home/spotlight/approved/20120531_didymo.html for more details, including additional information on Didymo and how to properly clean recreational equipment.

Report on Delaware Estuary and Basin Environmental Conditions

The Partnership for the Delaware Estuary (PDE) released the *Technical Report for the Delaware Estuary & Basin* in 2012 after two years of collaborative effort. The 255-page assessment provides the public with insight into the status and trends of select natural resources in the estuary and basin, building on a similar technical summary prepared in 2008 for DRBC. More than 50 key indicators were used to gauge environmental conditions and future needs. Findings suggest that the overall conditions in the estuary and river basin are fair, with a mix of improving and declining indicators.

PDE worked closely with the DRBC, state and federal agencies, universities, and its 21-member Science and Technical Advisory Committee (STAC) to share data and select the key indicators. DRBC provided substantial in-kind contributions of staff time and resources, authoring or co-authoring the chapters on Watersheds and Landscapes, Water Quantity, Water Quality, and Aquatic Habitats. Participating DRBC staff included J. Kent Barr, Ronald MacGillivray, Ph.D., Chad Pindar, P.E., Karen

Reavy, Jessica Rittler Sanchez, Ph.D., David Sayers, Erik Silldorff, Ph.D., Robert Tudor, John Yagecic, P.E., and Thomas Fikslin, Ph.D, who serves as a STAC member. The 2012 report will provide a starting point and technical back-up for a DRBC State of the Basin update in 2013.

The Partnership is a private, nonprofit organization established in 1996 that leads collaborative and creative efforts to protect and enhance the Delaware Estuary and its tributaries for current and future generations. PDE is one of 28 National Estuary Programs.

A link to the report can be found at www.nj.gov/drbc/about/public/publications/pde_treb2012.html.

Natural Gas Update

How best to minimize the potential effects on water resources that may result from development of natural gas reserves from shale formations underlying much of the upper basin remained a major focus of commission study during 2012. While the DRBC's revised natural gas development regulations published in November 2011 remained in draft form, the commissioners conferred in good faith to reach consensus on a path forward. Activities included:

- Reviewing new scientific studies released on the subject of shale gas development and water resources;
- Benchmarking new regulations and best management practices adopted or proposed by state/federal agencies and organizations;
- Considering what level of minimum standards or regulatory floor would be needed to protect the basin's shared water resources;
- Continuing to conduct water quality and quantity monitoring activities under an initiative begun in 2010 to establish baseline conditions prior to the onset of natural gas development activities in the basin;
- With the help of a $650,000 grant from the William Penn Foundation, developing a tool for evaluating the impacts of land-based development on water resources to facilitate informed planning and assess effects.

Additional information as it becomes available will be posted on the commission's web site at www.nj.gov/drbc/programs/natural/.

Changes to Partner Agency Staff

During 2012, there were a number of personnel changes to various agencies and organizations that work closely with the DRBC:

- Congressmen Maurice Hinchey (D-N.Y) and Tim Holden (D-Pa.) each ended their 20 years of public service in the U.S. House of Representatives at the end of 2012. Both were steadfast supporters of the DRBC and keenly aware of the value of managing water resources without regard to political boundaries. Rep. Hinchey was a co-chair of the Delaware River Basin Congressional Task Force and helped to obtain funding towards enhancing the basin's flood warning system following the floods of 2004, 2005, and 2006. Rep. Holden played a key role in successful efforts that led to restoration of federal funding to support the DRBC's current expense budget in FY 2009 for the first time since 1996.
- David B. Soete, Senior Resource Specialist for the Upper Delaware Council (UDC), retired on September 30 after 23 years of service. An extremely talented photographer who captures the beauty of the Upper Delaware region and its wildlife, Dave has been a frequent contributor to the DRBC web site and assorted publications. Several of his photos appear in this annual report. Dave's retirement from UDC will allow him to spend much more time pursuing his passion for photography.
- Laurie Ramie was promoted to the post of UDC Executive Director in June 2012. She had been serving in an acting executive director capacity for the previous six months following the retirement of William E. Douglass. Laurie has been employed by the UDC since April 1997. The DRBC is a non-voting UDC member. Visit www.upperdelawarecouncil.org for more information about the council.
- Marie Stewart assumed the duties of Deputy Delaware River Master during 2012, succeeding Gary N. Paulachok who retired in 2011. The U.S. Geological Survey's (USGS) Office of the Delaware River Master was established by the U.S. Supreme Court Decree of 1954 to ensure that the provisions

of the decree are met. The daily operations of this office are conducted by the Deputy River Master through a USGS field office located in Milford, Pa. Additional information can be found online at water.usgs.gov/osw/odrm.

- Joseph K. Hoffman, Executive Director of the Interstate Commission on the Potomac River Basin (ICPRB), retired on March 30 after more than 13 years of service. His successor is Carlton Haywood, who has served in various roles at ICPRB since 1982. Visit www.potomacriver.org for more information about the commission.

IWRSS Forum With Basin Stakeholders Convened at DRBC

Integrated Water Resources Science and Services (IWRSS) is a new federal initiative supported by a consortium consisting of the U.S. Geological Survey, U.S. Army Corps of Engineers, and the National Oceanic and Atmospheric Administration (NOAA). These federal partner agencies are collaborating to design, develop, and implement a national water modeling and information services framework to:

- Infuse new hydrologic science into current water resource management;
- Develop hydrologic techniques and information to support operational water resources decisions; and
- Provide advanced hydrologic services to meet stakeholder needs.

In 2012, NOAA reached out to the DRBC to assist the IWRSS federal partner agencies to convene a group of basin stakeholders to learn about the hydrologic services IWRSS can provide, identify key gaps that IWRSS might fill to inform water resources decision making, and discuss possible demonstration projects to build capacity for integrated water resources management in the Delaware River Basin.

DRBC hosted a one-day forum on December 13, 2012 at its West Trenton, N.J. building to discuss IWRSS, which was attended by 43 representatives from national, regional, state, and local organizations. In advance of the meeting, participants were polled to determine the highest priority water resource issues for the basin. This poll indicated that the three issues of greatest interest were water supply, flooding, and climate change impacts. During the meeting, the attendees were divided into issue-based groups to identify key decisions, questions, and gaps IWRSS could address. The most commonly identified gaps involved (1) models, forecasts, and analysis followed by (2) data and data integration needs, and (3) communications, including expanded graphics and the conveyance of risk and uncertainty information. Each group proposed a pilot project that would demonstrate how some of these key information gaps could be filled to address priority issues.

Additional information about IWRSS and the December 2012 forum can be found at www.nj.gov/drbc/basin/intergovernmental/decision/.

Basin Plan Progress Report Highlights Stakeholder Projects

The eighth annual implementation progress report for the Water Resources Plan for the Delaware River Basin (Basin Plan) was released in September 2012. Compiled by DRBC staff, the report highlights the progress made in 2012 by agencies and organizations throughout the basin toward achieving the goals and objectives of the Basin Plan. The variety of programs and projects included in this report illustrate how the focused efforts of many agencies, organizations, citizen groups, and

Dr. Tom Graziano (Chief, Hydrologic Services Division, NOAA/National Weather Service) speaking to attendees of the one-day IWRSS forum hosted by the DRBC in December 2012. (Photo by Clarke Rupert)

DRBC partners provide the synergy and resources needed to restore and protect the water resources of the basin and maintain the Delaware River as a system of national significance.

The Basin Plan, which was published in September 2004, is a 30-year goal-based framework that serves as a guide for all governmental and non-governmental stakeholders whose actions affect water resources in the basin. It is organized into five Key Result Areas (KRAs), each with its own goals and objectives:

- KRA 1 - Sustainable Use and Supply
- KRA 2 - Waterway Corridor Management
- KRA 3 - Linking Land and Water Resource Management
- KRA 4 - Institutional Coordination and Cooperation
- KRA 5 - Education and Involvement for Stewardship

The annual implementation progress reports, along with information about the Basin Plan, can be found at www.nj.gov/drbc/programs/basinwide/plan/index.html.

Award Recognizes Efforts to Enhance Flood Warning in Basin

The *Flood Warning/DRBC Team* received the U.S. Army Corps of Engineers (USACE) Philadelphia District's "External Partnership Team Award—Civil" on June 19 in Philadelphia. Jason Miller, Flood Plain Management Services Branch Chief for USACE-Philadelphia, accepted the award on behalf of the team.

The award recognizes the multi-agency collaboration among staff from the National Weather Service (NWS), DRBC, and USACE-Philadelphia that led to the development of new flood inundation maps for nine NWS forecasting locations on the Delaware River that can now be accessed online by the public.

Flood inundation mapping is an interactive, web-based product that shows the extent and depth of floodwaters over given land areas, enabling public safety officials and residents to examine the threat of flooding and determine areas of highest flood risk. Originally added to the NWS Advanced Hydrologic Prediction Service (AHPS) web site in September 2010 and July 2011, enhancements to all nine inundation maps and a new, more interactive user interface became available to the public in February 2012. Congressional and grant funding was secured by the DRBC over a multi-year period to finance portions of the project.

Flood inundation mapping was one of the recommendations identified in the Delaware River Basin Interstate Flood Mitigation Task Force Report following the floods of 2004, 2005, and 2006 to improve flood warnings and aid in conveying an awareness of flood risk along the Delaware River.

Additional information about flood warning enhancements can be found on the DRBC web site at www.nj.gov/drbc/programs/flood/warning.html.

WaterSMART Study in DRB Underway

Led by the U.S. Geological Survey (USGS), the WaterSMART (Sustain and Manage America's Resources for Tomorrow) program was initiated by Congress to address current and future water availability issues for people, the economy, and the environment. The Delaware River Basin was chosen as one of three WaterSMART focus areas nationwide. DRBC is working with USGS as a stakeholder partner on this project, which is expected to be completed in 2015.

Basin-related WaterSMART activities include the following:

- A main stem Delaware River study will focus on how reservoir releases affect habitat for fish, macroinvertebrates, and dwarf wedgemussels. Dwarf wedgemussels are a federally listed endangered species that have been found in portions of the upper basin.
- A basinwide rainfall/runoff model will be developed and used to evaluate how future water use, land use, and climatic conditions could affect streamflows across the basin.
- Critical information characterizing flow, storage, use, quality, management, the integration of water-use and water-supply data, and ecological needs will be developed by the USGS. In addition, estimates will be made for commercial, industrial, and agricultural uses, and monthly data will be compiled by 12-digit hydrologic unit codes.

Additional information can be found on the U.S. Department of the Interior's web site at www.doi.gov/watersmart/html/index.php.

Another Round of Grants to Improve the Schuylkill Watershed

The Schuylkill River Restoration Fund (SRRF) in 2012 distributed nearly $240,000 in grants to support five projects and four land transactions that will improve water quality in the Schuylkill River Watershed. The Schuylkill is the Delaware River's largest tributary.

The five SRRF grant recipients and projects that will mitigate stormwater runoff and agricultural pollution included:

- Berks County Conservancy - $99,750 for agricultural improvements on two Berks County farms along Mill Creek and Upper Maiden Creek.
- Meadowood Retirement Community - $58,000 for a stormwater basin retrofit project along the Skippack Creek in Worcester, Pa.
- Pennsylvania Horticultural Society - $38,500 for the Hunsberger Woods stormwater project in Collegeville, Pa. Partners assisting with this project in the Perkiomen Creek Watershed include Ursinus College, Montgomery County Conservation District, and Perkiomen Middle School.
- Wissahickon Sustainability Council - $27,065 to install a native meadow at the Cook-Wissahickon Elementary School in Philadelphia near Fairmount Park.

In addition, the four land transaction grants each totaling $4,000 will assist with costs associated with permanent protection of priority watershed parcels located in Berks, Montgomery, and Schuylkill counties.

Exelon contributed $211,092 to this year's fund and the Philadelphia Water Department (PWD) donated $100,000. Aqua PA, a first-time contributor, provided $2,500. Remaining 2012 funds will roll over to the 2013 grant program. Exelon has provided $1.6 million to the fund since it was founded in 2005. The SRRF was previously known as the Exelon Schuylkill River Watershed Restoration Fund, but was renamed to indicate the expansion from a solely Exelon-funded initiative. It originated in conjunction with a DRBC docket issued to Exelon for its Limerick Generating Station. The SRRF, which also supports projects that mitigate abandoned mine drainage, is administered by the Schuylkill River Heritage Area (SRHA).

The 2012 grant announcement event took place in August at the Russell Guntz Farm in Oley, Pa., a prior year SRRF recipient. This Berks County dairy farm recently completed an agricultural remediation project designed to prevent manure and other pollutants from washing into the Manatawny Creek, a tributary of the Schuylkill River.

Speakers at the grant announcement included PWD Deputy Commissioner Christopher Crockett, SRHA Executive Director Kurt Zwikl, DRBC Basin Planner Jessica Rittler Sanchez, Chris Gerdes with Exelon's Limerick Generating Station, and State Rep. David M. Maloney, Sr. (Berks-130th District).

The non-profit organizations and government agencies that receive money annually from the fund are selected by a committee comprised of representatives from Exelon, DRBC, PWD, U.S. EPA, Pa. DEP, Partnership for the Delaware Estuary, and SRHA.

For more information, including a presentation given by SRHA Grants Program Coordinator Tim Fenchel at the July 2012 DRBC meeting, please visit www.nj.gov/drbc/programs/project/wadesville/schuylkill.html.

18th Annual Delaware River Sojourn

The theme of the 2012 sojourn, *Adventures on the Delaware*, highlighted the fun one can have on and along the Delaware River. While paddling the Delaware's exciting rapids, hiking nearby trails, and camping along its banks, approximately 65 daily participants of all ages learned about various river experiences and the region's history. The week-long sojourn, which ran from June 24-30, included stretches covering nearly 75 miles of river from Callicoon Access in Pennsylvania downstream to Palmyra Cove Nature Park in New Jersey. Although many paddlers were veterans of the annual June event, one of the oldest river sojourns in the nation, 25 participants took advantage of the

"first time on the Sojourn" discount.

The Delaware River Sojourn is organized by a steering committee consisting of individual volunteers and representatives from various non-profit organizations and agencies, including DRBC. Richard Egan, a volunteer with the National Park Service's Upper Delaware Scenic and Recreational River, chaired the committee in 2012.

Prior to this year's event, the "Delaware Sojourn Family" lost a dedicated friend with the passing of Richard 'Dick' Rhodes on April 17, 2012. Dick, who served on the sojourn steering committee, was a founding member of the National Canoe Safety Patrol and a volunteer with the National Park Service.

Visit www.delawareriversojourn.org to learn more about this annual paddling experience.

New Web Site Launched

The DRBC updated its web site, www.drbc.net, with a new look and organizational layout in January 2012. "We are extremely excited about the new web site," Executive Director Carol R. Collier said. "The commission's old site housed copious amounts of information, but navigating it was sometimes a challenge. The goal of this redesign was to continue to be a great resource for the public, but with a fresh look and enhanced functionality," she continued.

The upgrade was performed by the New Jersey Office of Information Technology's (NJOIT) Creative Services Unit. DRBC's web site continues to be hosted by New Jersey.

The commission's communications staff worked closely with DRBC colleagues and NJOIT partners, suggesting design concepts and creating the new site's architecture, as well as organizing and adding content to the new site. DRBC is grateful to the NJOIT staff who worked on this project for their expertise, hard work, and patience.

Along with improved navigation within the site, the redesign also provides the commission with additional outreach capabilities to help the public stay connected with DRBC. These new features will help streamline information dissemination, allowing for increased sharing of DRBC news, programs, and activities.

Executive Director Speaks at Event Unveiling New River Basin Commission Bill

DRBC Executive Director Carol R. Collier was the keynote speaker at the third annual Mighty Waters Conference hosted by U.S. Rep. Paul Tonko (D-N.Y.) on June 14, 2012 at Union College in Schenectady, N.Y.

At the conference attended by over 250 participants, Congressman Tonko announced that he had introduced a bill, H.R, 5927, which would direct the president to establish a Hudson-Mohawk River Basin Commission. Drawing comparisons to DRBC and the Susquehanna River Basin Commission, Congressman Tonko noted that the new commission he is proposing would carry out projects and conduct research on water resources in the Hudson-Mohawk Basin, which stretches across five states and includes five subbasins.

In her remarks, Collier said, "Rivers do not respect political boundaries. Therefore the best way to manage water resources is on the river's terms—using watershed

The commission's original web site (left) and new site unveiled in 2012 (right). The updated web site includes enhanced functionality, improved navigation, and additional outreach capabilities.

boundaries. River basin commissions like DRBC manage the river system holistically while leveraging scarce resources, avoiding duplication of effort, and maximizing efficiencies among governments."

No congressional action was taken on H.R. 5927 during 2012.

DRBC-Hosted Watershed Ambassador Has Another Productive Year

The AmeriCorps New Jersey Watershed Ambassadors Program is an environmental community service initiative administered by the state's DEP to raise public awareness about water issues and to promote watershed stewardship through direct community involvement. AmeriCorps members are assigned to different watersheds throughout New Jersey to serve as "watershed ambassadors" to their communities.

Since 2001, DRBC has hosted the ambassador for Watershed Management Area 11 (WMA 11), which includes the Central Delaware River region. This year's watershed ambassador, Allison Kohler, participated in several noteworthy environmental stewardship events.

A unique logo depicting an eagle in the Delaware River headwaters and a horseshoe crab in the Delaware Bay was created for the *Dash for the Trash* event.

To commemorate National AmeriCorps Week (March 10-18), 10 *Dash for the Trash* cleanups along the Delaware River and Bay were organized by eight watershed ambassadors, including Allison. Spanning from the Skylands region of Sussex County in Northwest N.J. to Lower Township in Cape May County, over 400 volunteers logged more than 1,500 hours collecting 536 bags of trash and 52 tires. NJDEP Assistant Commissioner for Water Resource Management Michele Siekerka, who represents Governor Christie on the DRBC, participated in the cleanup and remarked, "The Watershed Ambassadors positively glow with enthusiasm and their concern for the environment is infectious." DRBC Executive Director Carol R. Collier attended the closing ceremony held along the Delaware River in Lambertville, N.J. later in the month to thank the sponsors, ambassadors, and participants for exemplifying the AmeriCorps motto of "Getting Things Done." In addition to the AmeriCorps New Jersey Watershed Ambassadors Program and the nonprofit New Jersey Clean Communities Council, sponsoring organizations included the Governor's Office on Volunteerism and Service, New Jersey Water Supply Authority, New Jersey Environmental Infrastructure Trust, and DRBC.

In another project, Watershed Ambassador Kohler worked with Trenton Thunder Director of Public Relations Bill Cook on the sixth annual Clean Water Pledge program, which was started by former WMA 11 Ambassador Lorna Gifis in 2007. Following classroom presentations, New Jersey students were asked to sign a form promising to do their part to conserve water and limit the amount of pollution that they and family members contribute to their local watershed. Students who returned a signed pledge form to the Thunder were eligible for two complimentary tickets for the April 21 baseball game featuring the Double-A affiliate of the New York Yankees. Building upon the efforts of former ambassadors, Allison expanded the event into neighboring watershed management areas resulting in over 200 students and their families attending the minor league game. After six years, this educational event has become a tradition and future WMA 11 watershed ambassadors have a strong foundation to build upon in future years.

Financial Summary

DRBC's financial records are audited annually as required by the *Delaware River Basin Compact* and are available for inspection, upon request, at the commission's West Trenton headquarters.

"The respective signatory parties covenant and agree to include the amounts so apportioned for the support of the current expense budget in their respective budgets next to be adopted, subject to such review and approval as may be required by their respective budgetary processes."

Delaware River Basin Compact (Public Law 87-328, Section 13.3c)

DRBC Fiscal Year 2013 (July 1, 2012 – June 30, 2013)

On May 10, 2012 following a public hearing, the commissioners unanimously approved the DRBC's current expense budget of $5,824,350 for the fiscal year ending June 30, 2013. It calls for the following signatory member contributions: Pennsylvania $848,350, New Jersey $893,000, federal government $0, New York $246,000, and Delaware $447,000. Under the tacit agreement reached by the commission members in 1988 to apportion signatory party contributions, the annual full payments would have been Pennsylvania $893,000 (25%), New Jersey $893,000 (25%), federal government $715,000 (20%), New York $626,000 (17.5%), and Delaware $447,000 (12.5%). *(Editor's Note: Pennsylvania's actual FY 2013 payment totaled $948,350, or $100,000 above the amount in the adopted budget. This is the first extra payment intended to make up for the $400,000 shortfall in FY 2012 that is described below.)*

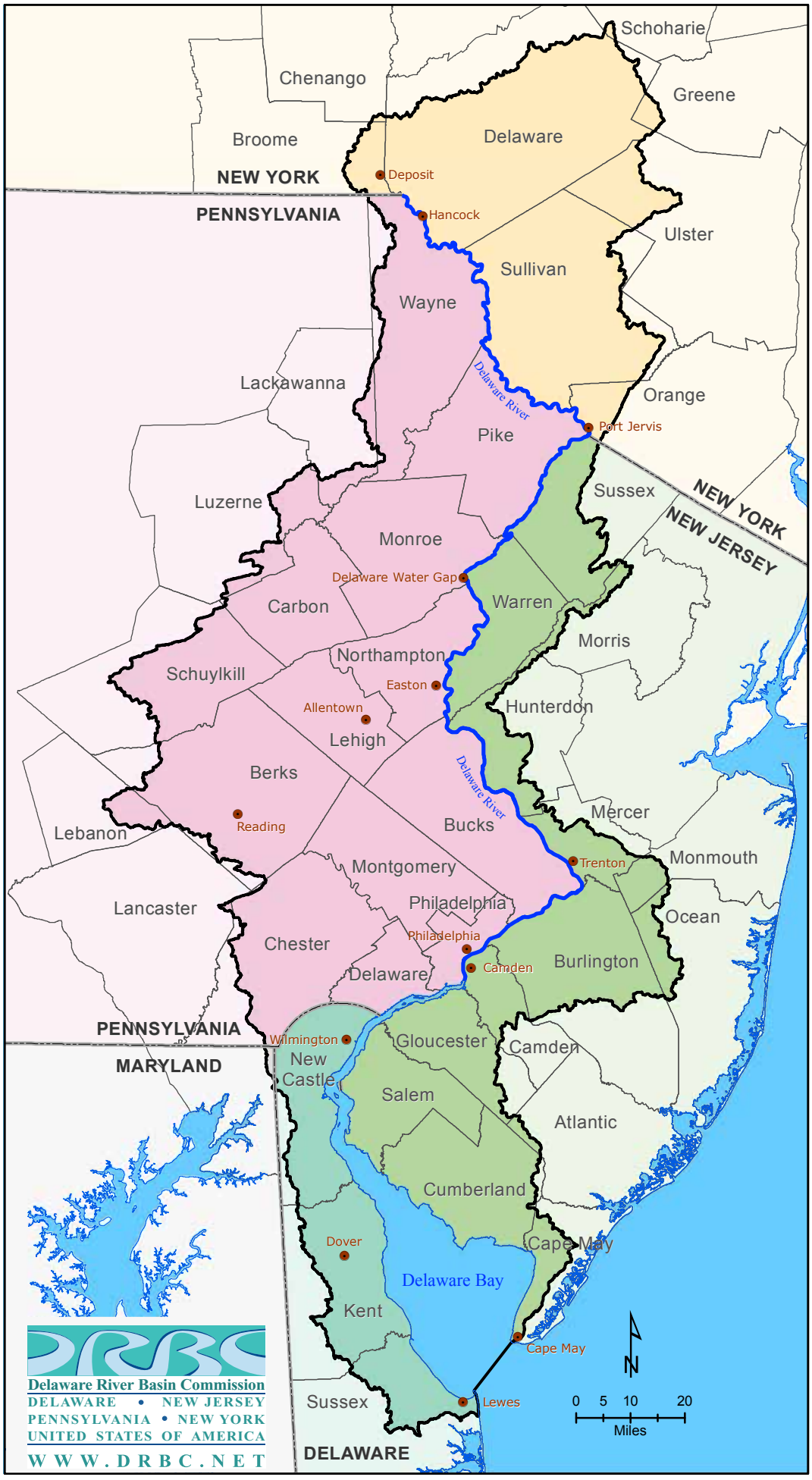
In addition, the commissioners approved the DRBC capital budget (Water Supply Storage Facilities Fund), providing for expenditures of $3,738,500.

DRBC Fiscal Year 2012 (July 1, 2011 – June 30, 2012)

During FY 2012, New Jersey and Delaware each paid their full fair share of $893,000 and $447,000, respectively. New York's payment of $355,000 was $271,000 below its 17.5% full fair share and Pennsylvania's $493,000 payment was $400,000 below its 25% full fair share. Pennsylvania has indicated that it plans to make up the $400,000 FY 2012 shortfall over fiscal years 2013-2015. No federal contribution to support the DRBC's current expense budget was received during FY 2012, and has only been provided once since October 1, 1996. Cumulative shortfalls in federal signatory member funding from FY 1996 through FY 2012 continue to grow and now total $9,994,250.

Delaware River Basin Commission Fiscal Summary - Agencywide for Fiscal Year Ending June 30, 2012

Revenues:	
Signatory Contributions	$2,188,000
Grants & Special Projects	1,165,723
Surface Water Supply Charges	3,417,057
Project Review Fees, Investment Income & Other	1,769,428
Expenses:	
Salaries & Benefits	$4,938,504
Operating Expenses	2,706,266
Debt Service & Depreciation	1,224,827
Building Improvements/Equipment Acquisition	166,196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Orange
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Sussex
NEW YORK
NEW JERSEY
Luzerne
Monroe
Delaware Water Gap
Warren
Carbon
Morris
Northampton
Schuylkill
Easton
Hunterdon
Allentown
Lehigh
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