



## THE BENEFITS OF DRBC MEMBERSHIP FOR THE COMMONWEALTH OF PENNSYLVANIA

### SUMMARY OF DRBC BENEFITS TO THE COMMONWEALTH OF PENNSYLVANIA

#### ✓ **SUSTAINABLE WATER RESOURCES**

- Water supply for 5.5 million Pennsylvanians (43% of the population of the Commonwealth).
- Water for immediate and long-term economic growth throughout the Pennsylvania portion of the Delaware River Basin.
- Adequate flows in the Delaware River, Lehigh River and Schuylkill River during periods of low flow and drought.
- Protection of the City of Philadelphia's drinking water intakes on the Delaware River from salt water.
- Interstate releases (from NJ) of consumptive use make-up water to ensure continued power production by Pennsylvania generators during periods of low flow.
- Fair and equitable allocation of surface and ground waters to all classes of water users (for withdrawals above 100,000 gpd).
- Water accounting and efficiency requirements to reduce waste and help ensure sustainable supplies.
- Groundwater protection and modeling to meet water needs in areas of Southeastern Pennsylvania with limited groundwater supplies.
- Basin-wide flood loss reduction coordination through DRBC-led task force and committees.
- Enhanced flood warning programs through: improved National Weather Service forecast tools; updated flood inundation mapping; upgraded and maintained USGS flow gages; and enhanced DRBC-hosted Delaware River flood portal, all coordinated by DRBC advisory committees and staff.

#### ✓ **CLEAN AND HEALTHY WATERS**

- Significantly cleaner waters in the Delaware River Estuary under existing programs, with more improvements under development.
- Protection of Pennsylvania interstate waters with exceptional resource values.
- Improved fishing, fish habitat, fish migration and fish reproduction. Reduction in state fish consumption advisories.
- Coordinated clean-up and reduction of legacy pollutants, including PCBs, in the Estuary.
- Comprehensive assessment of known and emerging contaminants.
- \$694,000 annually in Clean Water Act section 106 grant funds for interstate waters.
- Advanced spill warning system for drinking water purveyors in Pennsylvania.

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### ✓ INTERSTATE COLLABORATION

- Vehicle for fair and equitable allocation of interstate waters.
- Fairness, consistency, support and collaboration (versus conflict) to meet the requirements of the Clean Water Act in interstate waters.
- Avoidance of legal cost associated with interstate water rights litigation, through neutral, expert technical support for the Decree Parties' continual improvement of reservoir operating plans.
- Watershed-based planning to meet future needs of all signatory parties.
- Stakeholder input, collaboration and communication on interstate water management issues through the DRBC Regulated Flow Advisory Committee, Toxics Advisory Committee, Monitoring Advisory and Coordination Committee, Water Quality Advisory Committee and Water Management Advisory Committee.
- Leveraged grant funding and signatory party funding for interstate water management programs.

### ADDITIONAL INDIRECT BENEFITS TO PENNSYLVANIA

- Sustainable management of \$8.6 million of economic value flowing to the Commonwealth for Delaware River Basin ecosystem services.<sup>1</sup>
- \$3.2 million in annual flood loss reduction from Blue Marsh and Beltzville Reservoirs.
- Avoided costs for the City of Philadelphia to either relocate its water supply intake or provide advanced treatment to reduce salinity.
- Avoided costs for Pennsylvania to establish authority and administer programs for: comprehensive water allocation; water use fees to support water storage capital and operating costs; and the provision of consumptive use replacement water.
- Avoided costs for Pennsylvania related to interstate water and waste discharge conflicts and the potential for interstate water and waste discharge litigation (versus convening and collaboration under DRBC).

<sup>1</sup> See Socioeconomic Value of the Delaware River Basin in Delaware, New Jersey, New York, and Pennsylvania, 2011  
<http://nj.gov/drbc/library/documents/SocioeconomicValueDRB-UDEL-FinalRpt.pdf>



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### DETAILS: DRBC EXPENDITURES BENEFITING THE COMMONWEALTH OF PENNSYLVANIA

#### SUSTAINABLE WATER SUPPLY PROGRAMS

##### *1. Flow and Drought Management*

- a. DRBC directs releases from the **Beltzville Reservoir on the Lehigh River** and **Blue Marsh Reservoir on the Schuylkill River** during periods of low flow and drought, to: ensure flows sufficient to meet local and regional water supply needs, including on the Lehigh and Schuylkill rivers; **protect the City of Philadelphia's water supply intake** on the Delaware River from the migration of salt water from Delaware Bay; and ensure uninterrupted supply for all domestic, commercial and industrial withdrawers.
- b. DRBC pays the federal government over \$1.6 million annually to support the operation and maintenance, capital improvements, and debt service costs for **water supply storage in the Beltzville and Blue Marsh Reservoirs** operated by the U.S. Army Corps of Engineers. User fees paid by water withdrawers in all four basin states support flow augmentation in the main stem Delaware River that particularly benefits users of Pennsylvania's Lehigh and Schuylkill rivers.
- c. DRBC provides coordination and **technical support to the parties to the 1954 Supreme Court Decree (including Pennsylvania)** as they negotiate improved strategies for operating NYC's Delaware Basin water supply reservoirs for multiple objectives, including drought management, flood mitigation, habitat protection and recreation. Importantly, DRBC also provides the public input process for the Decree Party negotiations.
- d. To ensure that power generation and other vital uses in the Basin are not interrupted during periods of drought or low flow, DRBC **requires power generators to replace the water they consumptively use** during such dry periods. To satisfy this requirement, many generators rely on storage in the Merrill Creek Reservoir in New Jersey, which was constructed in 1994 in fulfillment of a provision of DRBC's Comprehensive Plan. Replacement water is released during low flow conditions in accordance with DRBC requirements. DRBC's consumptive use replacement policy ensures that large consumptive water users such as the Exelon Limerick Generating Station can continue operating without adversely affecting other users.

##### *2. Water Supply Planning*



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- a. DRBC provides technical input to the **Pennsylvania State Water Plan** for the Delaware River Basin.
- b. DRBC is preparing a **Water Supply Planning Study** to evaluate future water availability and water needs in 2030 and 2060 to meet Basin flow objectives and to evaluate water budgets in sub-Basins. The study includes evaluation of: water demands and efficiencies; ecologic flow impacts; climate change; and drought operations.
- c. DRBC is a significant technical contributor and partner along with the Commonwealth of Pennsylvania in the Partnership for the Delaware Estuary under the National Estuary Program (NEP). DRBC has and will continue to provide input, guidance and technical support for the **Comprehensive Conservation and Management Plan (CCMP)** for the Delaware Estuary Program.

### 3. *Water Allocation*

- a. Under Pennsylvania's current Water Rights Law, Commonwealth agencies may review and allocate waters of the Basin only to the extent that diversions are made from surface waters and by a "public water supply agency." DRBC provides a comprehensive system for **reviewing water availability and water withdrawals for both surface and ground waters** and for any and all water users withdrawing at an average rate of 100,000 gallons per day or more over 30 days. DRBC thus maintains a system of fair and equitable allocation of the Basin's water resources across the four basin states.
- b. Pennsylvania and DRBC determined that action was necessary to prevent localized lowering of groundwater tables and diminished base flow in streams, and to provide regulatory guidelines for resolving conflicts among groundwater users in a region of Southeastern Pennsylvania. **At the request of Pennsylvania, DRBC regulations were adopted in 1980 that established a groundwater protected area (GWPA).** The GWPA consists of 76 sub-basins spanning 128 municipalities in Bucks, Montgomery, Chester, Berks, and Lehigh counties. DRBC has permitted approximately 660 wells in the GWPA, for withdrawals of an estimated 17.7 billion gallons of groundwater annually. This unique DRBC program has provided effective resource management by meeting growing water demands and supporting economic development in Southeastern Pennsylvania while ensuring adequate water supplies.

#### **4. Water Efficiency**

DRBC **water conservation and efficiency programs** proactively help the region manage its finite water supplies. DRBC's **water audit** program helps purveyors identify and reduce water losses in public systems. The audit tracks how effectively water is moved from its source to users' taps, ensuring that systems quantify and address water losses over time. Focus on this issue is allowing PA utility managers to save both water resources and money.

#### **5. Flood Loss Reduction**

- a. In response to a joint directive of the basin state governors after devastating floods in 2004, 2005 and 2006, DRBC convened an **interstate flood mitigation task force** in October 2006. The task force report contains 45 consensus recommendations relating to reservoir operations, structural and non-structural mitigation, stormwater management, floodplain mapping, floodplain regulation, and flood warning. This action agenda moves the basin toward a proactive, sustainable, and systematic approach to flood damage reduction.
- b. DRBC provided funding for the construction of storage in two federal reservoirs in Pennsylvania – the Blue Marsh Reservoir on the Schuylkill River and the Beltsville Reservoir on the Lehigh River. Products of DRBC comprehensive planning, both facilities serve flood protection and water supply functions, as well as providing recreational amenities to thousands of Pennsylvanians.
- c. DRBC continues to serve as the non-federal sponsor of projects to be reviewed and evaluated by the U.S. Army Corps of Engineers for additional flood mitigation potential. In August 2017 the DRBC submitted a “Section 7001” proposal under the Water Resources Reform and Development Act of 2014 for the development of a Comprehensive Flood Mitigation Study of the Delaware River Basin.
- d. Several improvements have been made to the enhanced Delaware River flood warning system stemming from the DRBC-led task force including:
  - i. USGS Stream Gage upgrades
  - ii. Flood Inundation Mapping
  - iii. NWS Forecasting Upgrades
  - iv. DRBC Flood Resources Portal



## THE BENEFITS OF DRBC MEMBERSHIP FOR THE COMMONWEALTH OF PENNSYLVANIA

### CLEAN AND HEALTHY WATERS PROGRAMS

#### 1. *Delaware Estuary Quality Improvements*

Before DRBC was formed in 1961, reaches of the Delaware River Estuary near Philadelphia were so polluted that the river lacked the dissolved oxygen required to sustain aquatic life. **DRBC provided the scientific foundation and leadership for significant water quality improvements that have reduced pollution in the Estuary** to the point where the river and riverfront communities are thriving environmentally and economically. The DRBC recently recognized these significant improvements and is conducting extensive studies to evaluate potential revisions to the water quality standards.

#### 2. *Protecting Clean Waters*

DRBC's **Special Protection Waters program** has served to keep the "clean waters clean" in the non-tidal portion of the main stem river and portions of its tributaries from the basin's headwaters in New York State down to Morrisville, PA/Trenton, NJ. These exceptionally clean waters support recreation, healthy ecosystems, a vibrant water-based economy, and water quality improvements downstream.

#### 3. *Reducing PCBs in the Delaware Estuary*

At the request of PA, DE, NJ, and the U.S. EPA, DRBC is leading a program to **reduce PCB contamination in the tidal Delaware River and Bay** that may eventually eliminate the need for existing state-issued fish consumption advisories. Due to these efforts, PCB loadings from the top 10 dischargers contributing 90% of total point source loadings decreased by 71% between 2005 and 2013.

#### 4. *Water Quality Monitoring and Assessment*

DRBC programs include extensive monitoring and assessment of the quality of Basin waters.

- a. DRBC performs an **interstate waters assessment of the Delaware River and Bay**, the results of which are provided to Pennsylvania and other Basin states to help them meet **Clean Water Act** requirements.



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- b. DRBC's **Special Protection Waters** monitoring program is used to determine whether the management objective of no measurable change in existing water quality is being maintained in DRBC Special Protection Waters. To date, monitoring demonstrates that overall, the objective is being attained.
- c. DRBC's **bio-monitoring** program samples sediment, rocks, algae, aquatic insects, and water chemistry to provide a comprehensive overview of the diversity and health of the aquatic community and water quality in the 200-mile non-tidal interstate Delaware River. DRBC is utilizing this information to develop bio-criteria as part of its Special Protection Waters regulations for the non-tidal portion of the main stem. Bio-monitoring data are also included in the Water Quality Assessment Report that DRBC develops every other year to help our members states satisfy their Clean Water Act requirements established by the U.S. EPA.
- d. DRBC's **Delaware Estuary Boat Run** is one of the longest running monitoring programs in the world. The goals of the program are to provide accurate, precise, and defensible estimates of the surface water quality of the Delaware Estuary.
- e. DRBC monitors **metals**, such as copper, zinc, nickel, and mercury, in ambient water, sediment, and the tissue of fish of the Delaware River Estuary to measure the attainment of water quality criteria.
- f. As part of ongoing programs to control **toxic substances** in the Delaware River Estuary, the DRBC conducts periodic monitoring of ambient water toxicity in the estuary and has directed monitoring of acute and chronic effluent toxicity by dischargers.
- g. DRBC periodically samples tissues of resident **fish species** in the non-tidal and tidal portions of the main stem Delaware River.
- h. DRBC has adopted criteria and monitors **chlorides** as part of the Commission's flow and drought management program, which focuses on controlling the upstream migration of salty water from the Delaware Bay during low-flow conditions.
- i. The DRBC has an ongoing monitoring program for **PFAS/PFC** in the main stem Delaware River, examining surface water, fish tissue, and sediment.

- j. **Polychlorinated biphenyls (PCBs)** are a class of carcinogenic chemicals present in the waters of the Delaware River Estuary at concentrations up to 1,000 times higher than the water quality criteria. There are numerous sources of PCBs in the Estuary, which enter fish and other wildlife through absorption or ingestion, and accumulate in their tissues at levels many times higher than in the surrounding water and sediment – levels that are unsuitable for human consumption. In addition to measuring PCBs in water, sediment, and fish, DRBC requires dischargers to develop and implement Pollutant Minimization Plans (PMPs) to track down and reduce or eliminate PCBs where they are found.

#### **5. Wastewater Discharge Management**

- a. **DRBC works collaboratively with the PADEP** to regulate point source discharges (wastewater treatment) and to support the goals of the Clean Water Act. DRBC review does not duplicate the National Pollutant Discharge Elimination System (NPDES) program administered by the PADEP under the federal Clean Water Act. Rather, DRBC requirements supplement those of the PADEP and other state and federal agencies, by ensuring that DRBC water quality standards are met.
- b. DRBC maintains and runs real-time models for **estimating contaminant transport**. This service enables DRBC staff to provide information rapidly to emergency response teams and drinking water purveyors **in the event of a spill on the interstate mainstem Delaware River**.



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### INTERSTATE CONVENING AND COORDINATION PROGRAMS

#### 1. *Interstate Coordination and Management*

- a. For over 55 years the federal government and the four basin states have joined together as equal partners to cooperatively manage a shared natural resource.
- b. The Commission provides a unique structure for the management of shared water resources without regard to political boundaries. The hallmarks of this structure have been sound science, collaboration, and adaptation.
- c. In adopting the compact that created DRBC, the signatory states effectively agreed to manage their shared waters collaboratively, not by litigation.
- d. Trans-boundary water crises between other states cost taxpayers millions of dollars without providing the benefits of collaborative water management programs like those of the DRBC.

#### 2. *Advisory Committees*

- a. The DRBC's advisory committees provide a critical forum for the exchange of information and perspectives on a variety of issues, enhancing understanding and informing new policies. The Commissioners recognize the importance of engaging qualified representatives from state and federal government agencies, industry, municipalities, academia, public health, and environmental/watershed organizations to inform their policy decisions. Advisory committee meetings are open to the public. Pennsylvania representatives contribute and participate in the following standing committees:
  - Flood Advisory Committee
  - Monitoring Advisory and Coordination Committee
  - Regulated Flow Advisory Committee
  - Toxics Advisory Committee
  - Water Management Advisory Committee
  - Water Quality Advisory Committee