

## MEMORANDUM

---

TO: Commissioners  
FROM: Carol R. Collier  
DATE: September 27, 2006  
RE: Basin Plan Implementation -- Report on Progress since September 2005

---

September 2006 marks the second anniversary of the *Water Resources Plan for the Delaware River Basin* (Basin Plan). During the past year, DRBC and our partners have advanced the goals of the Plan through a number of activities. This memo briefly highlights some of the Plan-related achievements and works in progress. In addition, the Water Resources Program, which we update annually, includes ongoing efforts as well as projects planned for future years that will provide progress towards meeting the goals and objectives of the Basin Plan. Following are points of general accomplishment and specific progress within the five Key Result Areas (KRA).

### Basin-wide Impact

- **State of the Basin Report:** In cooperation with basin state Water Resource Research Institutes, the Partnership for the Delaware Estuary, USGS, EPA and the National Park Service, relevant data sets are being assembled and analyzed as part of a reporting process as directed by the Commissioners in the resolution supporting implementation of the Plan. The first "State of the Basin" report will be ready for publication this winter. The development process will be part of a panel table discussion at the 2006 national conference of the American Water Resources Association taking place in Baltimore MD in November.
- **Award for Outstanding Environmental Achievement:** Last fall, the New Jersey chapter of the American Planning Association recognized the development of the Basin Plan with an award for Outstanding Environmental Achievement. This was the second award bestowed in recognition of the Plan.
- **\$1 M Multi-Jurisdictional Use & Management:** Through a collaborative planning effort with DRBC, the Army Corps of Engineers (Corps) Philadelphia District successfully competed for a \$1 million appropriation to tackle five water resource management issues in the basin through a Multi-Jurisdictional approach. Tasks included in the project management plan (PMP) recently submitted to Corps headquarters address sustainable supply, flood mitigation, estuary inflow evaluation relevant to flow management, re-evaluation of approach to user supply costs, and public access to information. The work plan includes \$175,000 for work to be done by DRBC staff.
- **Basin Plan as an Operating Tool:** The structure of the Basin Plan has become an operating and reporting structure for the Commission. The Water Resources Program presentation has been re-designed to catalog ongoing programs and special projects according to the Key Result Areas of the Basin Plan. The Annual Work Plan format was similarly re-designed, and for FY2007 our time and fiscal accounting format has been improved to reflect this structure. This realignment is expected to improve our ability to track staff resource expenditure as well as work plan progress as we work to achieve the objectives and goals of the Plan.

### Key Result Area 1 - Sustainable Use & Supply

#### Water Supply Planning & Management

- The **Water Supply and Demand Study** for the Basin prepared in 2006 by DRBC will be the foundation for the sustainable supply tasks in the Corps' Multi-Jurisdictional project;

- Through PA Act 220 process, a statewide **demand forecasting methodology** was developed and applied to complete a forecast for the Lehigh River Basin. Forecasts for additional PA watersheds will follow as USGS and DRBC collaborate on the Delaware River Basin portion of this state-wide initiative.
- The **groundwater availability** report for which USGS was contracted has been finalized and is in publication.
- The Water Management Advisory Committee (WMAC), working with AWWA, tested new water audit software intended to reduce water losses and improve **water supply system efficiency**. The WMAC has made recommendations to the Commissioners that could affect DRBC resolutions relating to leak detection, source metering and reporting requirements.
- Working directly with several Basin Plan objectives, the WMAC has assessed **interbasin and watershed transfer issues** and made recommendations to the Commissioners on a more effective way to review and evaluate such projects.
- Evaluation of **water supply user charges** was initiated and will be completed in 2007 by the Corps as part of their Multi-Jurisdictional project.

### **Ecological Needs & Flow Management**

- Through the Subcommittee on Ecological Flows (SEF), **seasonal flow and habitat relationships** for cold-water fishery needs were identified and studies undertaken on 11 stream segments to analyze seasonal flow needs below the NYC reservoirs.
- SEF worked with USGS to complete a **habitat model** for multiple species in Upper Delaware tailwaters that is being used to assess the ecological impacts of changes in flow management rules.
- DRBC is coordinating with Rutgers Haskins Shellfish Lab and the Army Corps of Engineers to investigate freshwater **inflow relationships in the estuary**. Hydrodynamic and oyster population models are being developed to investigate the relationship among oyster population, freshwater inflow and salinity.
- Working with fishery interest groups, NYSDEC developed a concept for a **long term release program** for the NYC Delaware Basin reservoirs. A proposal from NYSDEC is currently being evaluated by the Decree Parties. DRBC performed flow modeling in support of this effort.
- Coordinated with NYSDEC Fish, Wildlife and Marine Resources to have a **new flow gauge added to the system** at Lordsville, NY for additional fishery information.
- The Army Corps implemented a **multipurpose management plan for F. E. Walter Reservoir** incorporating releases for fishery needs.

### **Water Quality**

- The TMDL Implementation Advisory Committee (IAC) is finalizing recommendations for **implementing the Delaware Estuary PCB TMDL**.
- The Toxics Advisory Committee recommended **human health water quality criteria** for Zones 2 through 6 for Polychlorinated Biphenyls (PCBs).
- DRBC staff developed a draft report on **emerging contaminants** in the Delaware River Basin.
- The Exelon Restoration fund established through the Limerick Generating Station yielded \$158,000 for the support of **restoration projects** to improve water quality in the Schuylkill River basin. An additional \$300,000 generated from the Exelon settlement agreement are funding the remediation of acid mine drainage from the Bell Colliery and

Mary D mine sites. Both funds leverage private and public resources and the Mary D project will also yield a new recreational facility for the community.

- First of three years sampling at Interstate and Boundary Control Points in Middle Delaware segment; **Existing Water Quality (EWQ) targets** for Little Bushkill Creek and Brodhead Creek are being used in reviewing projects.
- DRBC approved the cleanup plan and modifications to PPL's Martin Creek Ash Basin No. 4 as a result of a 100 million gallon **fly-ash spill**, and participated in an advisory role with the Natural Resource Damage Assessment (NRDA) team, commenting on chemical and biological monitoring programs.
- **Spill response model**, initiated during the Athos oil spill, was used to determine real time hydrodynamic conditions for Early Warning System when untreated landfill leachate spilled in the Estuary.

## **Key Result Area 2 - Waterway Corridors**

### **Flood Management & Flood Warning**

- Completed an **evaluation of stream gauge and precipitation networks** for an update to the 2002 Flood Warning Recommendations of the Flood Advisory Committee.
- Developed a Scope of Work for **multi-jurisdictional flood mitigation planning** for 64 municipalities in the Basin portions of Mercer, Hunterdon, Warren, and Sussex Counties, NJ.
- Assisted the Corps of Engineers with task delineation for a **Multi-Jurisdictional flood vulnerability assessment** for the Basin from a regional project perspective.
- **Flood warning notification system** linked to the Advanced Hydrologic Prediction Service (AHPS) developed by DRBC staff. This automated system provides email notices on flood crests along the main stem Delaware River to registered users. The National Weather System is considering taking this nation-wide.

### **Aquatic Life and Habitat**

- Developed **field methods for large river sampling** with EPA-ORD and tested those methods with EPA Regions 2 and 3 to develop biocriteria for large river habitats.
- Completed **GIS delineation of four habitat types** in the main stem River between Hancock and Trenton.
- Towards the development of **nutrient criteria**, staff completed a pilot study of periphyton, a first year survey of benthic algae, chlorophyll and biomass, and is drafting a strategy document for the non-tidal portion of the River using algal community assessment, nutrient percentiles, and algal biostimulation studies.
- Initiated **watershed assessment and stream restoration design** for the Partnership for the Delaware Estuary and the Heritage Conservancy.
- Participated with the NJ-AWRA stream restoration subcommittee, developing **standard diagnostic watershed and stream reach assessment protocols** for New Jersey waters.
- **Oyster population revitalization** efforts included planting 280,000 bushels of shells.

## **Key Result Area 3 - Linking Land & Water Resources**

- **Christina River:** Year 3 of the EPA Watershed Initiative grant saw the completion of many tasks, including: 75 Smart Yards established, four nutrient management plans developed, three nutrient management control systems installed, a mile of stream bank

fenced, nearly a quarter mile of agricultural stream banks reforested, 5,750 feet of stream bank restored, retrofits of a stormwater basin and wetland, and biological and chemical monitoring conducted in support of TMDL efforts in PA & DE. This is a collaborative effort of DNREC, PADEP, Chester County Conservation District, Chester County Water Resources Authority, University of Delaware, Delaware Nature Society, EPA and DRBC.

- **Tri-State Area:** Developed a preliminary report on existing conditions and threats to water quality in the River's Tri-State Area as part of a collaborative effort with the National Park Service to maintain existing water quality in the Middle Delaware.
- **Pocono Creek:** Groundwater and watershed hydrology models were developed in cooperation with USGS and EPA-ORD for determining effects of land use changes and groundwater withdrawals on trout habitat. These models will be used to inform the development of a transferable framework for sustainable watershed management in collaboration with Monroe County, PADEP, PA Fish & Boat Commission, and Brodhead Watershed Association.
- **Lower Delaware:** Working with Municipal Land Use Center at the College of New Jersey to enhance riverfront municipalities' cooperation for resource protection and revitalize the Lower Delaware Management Committee;

#### **Key Result Area 4 - Coordination & Cooperation**

- **Water Monitoring & Assessment Strategy**, the ten year plan for coordinating monitoring and assessment efforts approved by EPA;
- Participated in the NJDOT **Scenic Byway** Management Plan Development process affecting communities in the Lower Delaware Scenic River corridor;
- Participated in a workshop for the **NJ Highlands** Council assessing water resource evaluation strategies and growth management priorities;
- Completed **water trail maps** for the non-tidal Delaware;
- Continued coordination with Partnership including **agreement on indicators** and the incorporation of the State of the Estuary report as part of the State of the Basin report to be published by the end of the year;
- **Updated MOUs** for EPA Regions 2 and 3 have been drafted and forwarded to EPA for review.
- Participated on in the NJ Governor's **Delaware River Flood Task Force** whose final report recommended flood mitigation steps for New Jersey.
- Maintained involvement with standing **regional and state committees and organizations**, such as the Upper Delaware Council, Partnership for the Delaware Estuary, Schuylkill Action Network, NJ Clean Water Council, Fish & Wildlife Cooperative, and ASIWPCA, ICWP, and AWRA.

#### **Key Result Area 5 - Education & Stewardship**

- **Early Warning System coordination** in cooperation with the Philadelphia Water Department.
- Provided National Weather Service **on-line flood crest forecasts** to the public during June flood of 2006.
- Continued **public outreach** activities at regional events, such as the Shad Festival in Lambertville NJ, Bay Day in Bivalve NJ, Coast Day in Lewes DE, and the Schuylkill River Congress in PA.

- Co-sponsored with PPL Generation **flood information session for municipal officials**, and participated in public flood briefings in Yardley PA, (June), and Easton PA (August) to address questions related to the April 2005 flood event.
- Participated in numerous Congressionally-led **public hearings** after the June 2006 flood event and gave testimony at a field hearing of the US House of Representatives - Commission on Financial Services.
- DRBC developed draft report **Key to Submerged Aquatic Plants of the Delaware River**.
- Presented information on water resource management to NJ and PA **educators**.
- Design plans completed and bid-ready for the DRBC headquarters **Stormwater Retrofit Demonstration Project**.
- Expanded the **DRBC flood web site** to include all presentations from the May 25 public information session on the April flooding, the 10 recommendations for future flood loss reduction, and the 1984 Corps of Engineers report evaluating flood risk and potential solutions along the main stem Delaware River.
- With assistance of DRBC staff, the Decree Parties developed a set of **on-line flow-related documents** about fishery program constraints, program history and flow modeling procedures.