



Delaware River Basin Commission

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DRBC WATER MANAGEMENT ADVISORY COMMITTEE MEETING DECEMBER 7, 2004

COMMITTEE MEMBERS PRESENT:

William Gast	PA Department of Environmental Protection
Joseph Miri	NJ Dept. of Environmental Protection
Ronald Sloto	U.S. Geological Survey
John Mello	U.S. EPA Region 2
Bob Molzahn	Water Resources Association
George Kunkel*	Philadelphia Water Department (for Howard Neukrug)
Stewart Lovell	Del. Dept. Natural Resources
Edith Stevens	League of Women Voters
Bruno Mercuri	Mercuri and Associates, Inc.
Joseph Rutkowski	NYC DEP

*Denotes alternate or non-official member.

DRBC STAFF:

David Sayers, Planning & Implementation Branch
Kenneth Najjar, Planning & Implementation Branch Head

CALL TO ORDER:

The meeting was called to order at 9:45 am by Chairman Bob Molzahn. The meeting was held at the New Jersey Water Supply Authority office in West Trenton.

REVIEW OF MINUTES / REVIEW AND APPROVAL OF AGENDA

The minutes from the May 25, 2004 meeting were reviewed and approved without amendment. The election of vice chair was postponed until the next meeting. Due to the absence of Mary Ellen Noble there will be no update on activity of the Sub-committee for Ecological Flows (SEF) during today's meeting.

BASIN PLAN ACTIVITY

Dr. Ken Najjar gave an overview of the Basin Plan Signing Ceremony and Watershed Summit, which took place on September 13, 2004, in Wilmington, Delaware. There was good representation all around from the Governor's offices, the states, the WAC and a lot of other supporters throughout the basin. The signing ceremony was followed by the Watershed Summit, a 3-day event which focused on water resources issues and challenges in the basin. Now that the Basin Plan has been approved, the next step is to focus our attention on the process of implementation. DRBC is looking at potentially new committee and council set ups - something like the WAC but with a greater focus on action and implementation. Consideration has also been given to having a greater regional focus on the committees. One committee for each major region identified in the Basin Plan would make the most sense. We are also trying to launch some interactive mapping so that you can go to the DRBC website

to share information and find out about major issues. This falls under KRA #4 and #5 in the Basin Plan.

IMPLEMENTING THE BASIN PLAN/ IDENTIFYING KEY TASKS AND OBJECTIVES

Now that DRBC and its partners are moving towards implementation of the Basin Plan the WMAC needs to identify and prioritize objectives closest to its area of interest. The goals and objectives in the Basin Plan of greatest interest to the WMAC are found under KRA#1 (sustainable use and supply). Specifically, the Committee needs to identify key actions to support the objectives, identify which are most important and examine and consider milestones to assess progress. Led by Dr. Najjar, the Committee discussed a handout containing objectives under each of the four goals for sustainable use in KRA#1. These objectives are a sub-set of the full list of objectives under KRA#1: (Abbreviated objective descriptions have been used.)

Goal 1.1) Equitably balance the multiple demands on the limited water resources of the Basin, while preserving and enhancing conditions in watersheds to maintain or achieve ecological integrity.

1.1A) Integrated Resource management strategy: water budgets/availability and other tools

DRBC staff noted that five pilot water budgets and basin-wide ground water availability assessments are nearly complete; these can be considered assessment tools. Decisions have to be made as to how water budgets will be used and if they will be developed for additional watersheds.

1.1B) Assess Ecological Integrity of Watersheds

SEF activity has been ongoing but no update was available for the Committee. SEF has been working for about two years to develop a methodology to be adopted. Bill Gast reminded the committee that a matrix had been developed describing which methodologies are most applicable throughout the Basin. Once methodologies have been established policy decisions are still required to implement them in allocation strategies.

1.1C, D, E, & F) Existing and Future Inter-Basin and Inter-Watershed Transfers

The WMAC is interested in the development of criteria and guidelines. Some guidelines already exist in the DRBC Water Code. DRBC staff noted that project review staff may follow general (but not well documented) principles where transfers are involved in an allocation project. Mr. Gast noted that PADEP and SRBC have criteria in place which should also be considered. A small sub-committee may be useful to address this issue.

1.1G) Equitable Allocation During Droughts

In past droughts, a 15% depletive use reduction has been set as a target. Restrictions on non-essential uses are applied along with other provisions of drought contingency plans. In recent years, the States have taken the lead in declaring drought status and determining the appropriate actions. Mr. Gast noted that if management options fall within the drought management plan then WMAC can take the lead on this issue; otherwise it will fall to FMTAC.

Goal 1.2) Ensure an adequate supply of suitable quality water to restore, protect and enhance aquatic ecosystems and wildlife.

1.2A) Integrate In-stream Flow Requirements into Water Resource Regulations

It was noted that the work underway by NJDEP regarding in-stream flow requirements may provide a useful lead in this area. As in-stream flow requirements are still being determined for the rest of the Basin this objective is not a current priority.

Goal 1.3) Ensure an adequate and reliable supply of suitable water quality to satisfy public water supply and self-supplied domestic, commercial, industrial, agricultural and power generation water needs.

1.3A & B) Ensure Water Supplies for Off-stream Demands through 2030

The DRBC is assisting Pennsylvania in developing demand forecasting methods to project future water demands through 2030. It is anticipated that forecasting methodologies developed during this process will be useful in developing methodologies for the rest of the Basin. A pilot study is scheduled to be completed in the Lehigh Valley by the end of June 2005.

1.3C) Ensure Maximum Feasible Efficiency of Water Use across all Sectors

DRBC currently has a set of water conservation regulations, developed primarily during the 1990's, which are typically implemented on project by project basis. These are reviewed in light of changes in technology and best industry practice. Currently, new methods for addressing water accountability issues are being considered by the WMAC. Ms. Edie Stevens questioned what is done to promote conservation issues by DRBC. Staff noted that educational material is also available from DRBC via the website and to visitors.

1.3D) Increase in Beneficial Reuse

A provisional target of 250mgd by 2020 has been set – although this may change depending on identified needs. Mr. Stewart Lovell asked if DRBC had figures on current reuse projects in the Basin. Staff said that it had a listing of projects in New Jersey but was not aware of activity in other states. Bob Molzahn noted that many industrial facilities utilize reuse concepts but the process is internal and may not be easily tracked. Mr. Molzahn suggested finding out which sectors are doing this; case studies on examples which show a good cost/benefit ratio would be useful. Ms. Edie Stevens said she will send information from a conference on sustainable infrastructure held in the spring in Monroe County, PA. Dr. Miri noted that golf courses in NJ are required to consider doing reuse when applying for an increase in allocation.

1.3G) Protect Water Supplies by Controlling the Salt Line

Staff noted that policies to protect the salt line have been driving several key DRBC regulations for many years. Efforts in this area are ongoing and may be directed in the future by considerations of estuary inflow requirements.

1.3H) Flow and Transport Models / Early Warning System

Mr. Sayers reported that an early warning system (to alert public water suppliers in the event of a spill) has been developed by the Philadelphia Water Department. Other projects have been proposed by DRBC but are awaiting a funding source.

1.3I) Develop Water Supply Contingency Plans

Mr. Sayers noted contingency plans are required for public water suppliers. Dr. Bruno Mercuri noted that the Bio-terrorism Act of 2002 required water suppliers to do a vulnerability assessment to determine potential threats to their systems. Mr. Sayers noted that there may be a need for a regional perspective in the event of a severe water supply emergency. Individual contingency plans may not work during a regional water supply interruption. The committee agreed that DRBC should get water suppliers together to discuss this and determine what is being done and the need for additional work in this area.

Goal 1.4) Meeting recreational needs.

1.4A) Integrate Considerations of Recreational Flow into Allocation Decisions

Recreational flow needs still need to be determined. FMTAC would have responsibility for this on the mainstem; WMAC would be responsible for recreational flows in the tributaries. Mr. Gast noted that this issue would really only be applicable to stretches downstream of a major supply reservoir. Mr. Molzahn suggested that it would be useful to disseminate information about the suitability of flow conditions for recreational flows such as fishing or kayaking. Mr. Molzahn suggested that the DRBC website might be a good place to hold such information.

Outside of KRA#1 it was decided to add objective 3.2D (protecting the source water of drinking water supplies) to the list of objectives to be worked on by the WMAC. It was also suggested that thought be given to the educational aspects of each objective. Specific education objectives are included in KRA#5 of the Basin Plan, but these should be integrated throughout.

IWA-AWWA WATER AUDIT METHODOLOGY (George Kunkel and David Sayers)

Mr. Sayers presented a handout to the Committee summarizing the work and discussions of the Water Accountability Sub-Committee. The Sub-Committee met three times between August and November of 2004. It discussed problems with the current regulatory approach that DRBC and others have been using. The Sub-Committee reviewed the IWA-AWWA Water Audit Methodology and was fortunate to have the expertise of Mr. George Kunkel of Philadelphia Water Department to assist in the discussions. This methodology describes an overall water audit structure geared towards public water suppliers and provides a scientific method to evaluate real and apparent losses in the water treatment and distribution processes. Mr. Kunkel added that there are really two key problems with the current approach is the terminology hasn't been well defined and data collection has been inadequate, which has led to the inability to make correct and well-informed decisions. In these meetings, the sub-committee has determined that if we can improve our water audit structure, we can better identify where real water losses are occurring and focus on improving water supply/system efficiency. The methodology will encourage the use of more meaningful performance indicators to help DRBC and other agencies identify systems in most need of improvement. If we advance this methodology, it will directly help us meet one of the objectives in the Basin Plan (1.3C), to maximize water use efficiency.

In terms of the next steps, the committee identified three main areas of progression over the next year or two.

Phase 1 - DRBC assists and promotes the methodology through the use of our website and identifies potential water purveyors in the DRB to test audit software. AWWA is taking the lead in developing the audit software.

Phase 2 - Endorse the methodology and change the way data is collected.

Phase 3 - DRBC would actively apply these methods, change resolutions to reflect the new AWWA methodology. Phase in the requirement to submit audits in desired format.

Mr. Gast reminded the committee that the Commissioners need to be informed of the committees discussion on this topic. The committee agreed this was necessary, there is a need to inform the Commissioners and get their blessing that this is something they want this Committee to work on. Commissioners should recognize that some purveyors in the Basin would be involved in the software testing and that at some point in the future there may be a need to revise DRBC regulations to reflect the new methods. DRBC staff noted that there was not room on the January agenda, but they will ensure that we have a slot on the agenda for the Commission meeting in March.

DRBC is seeking names of potential water purveyors to test a beta version of the audit software. Any Committee members with suggestions for participants should contact David Sayers. Mr. Molzahn

suggested that a short article on this topic be put in the WRA newsletter. This could give a short briefing on the committee's research into the methodology and request that interested parties contact the DRBC. David Sayers agreed to write the article.

WATER BUDGETS (Ron Sloto)

Mr. Ron Sloto gave an update on the development of water budgets for the three Pennsylvania watersheds which are part of the joint USGS / DRBC water budget project. The three watersheds are all in fractured rock geology. The Wissahickon Creek is the urban watershed, the Pocono Creek is the rural watershed and the East Brandywine Creek is influenced by reservoir storage. Ron explained the equation used to develop the water budgets, its individual components and the different variables for each watershed. There are two assumptions built into this, these are annual water budgets, beginning and ending in the winter, therefore soil moisture was eliminated because data on this is not easy to deal with or collect. The other assumption is that ground water and surface water divides coincide. In this type of geology this is mostly a safe assumption. The precipitation data used for the budgets was taken from NOAA (National Oceanic and Atmospheric Administration) long-term precipitation stations, stream flow came from USGS long-term stream gauges, ground water storage was calculated using data from long-term observation wells and the water use came from state agencies via the DRBC's data collection efforts. Mr. Sloto discussed each of the three watersheds in detail, observing that the urban watershed was the most complex with numerous transfers across the watershed's boundaries. A GIS analysis was necessary to help understand the movement of water in this watershed. The Pocono watershed did not show extensive water withdrawals and had the smallest water use database. This watershed did not have a usable gauging station and therefore a relationship was developed with a gauge in an adjacent watershed. The East Branch Brandywine Creek watershed was also quite complex. An important observation was that the water use data was often lacking and to complete the datasets results often had to be estimated. Additional data gathering efforts were generally beyond the scope of this project but some additional information was obtained from water suppliers where significant gaps existed. It was noted that in some cases water withdrawal value obtained directly from water suppliers differed from what should have been identical values in the state and DRBC databases. Discharge volume was also severely lacking and in many cases only one year of discharge volumes was available. Good water budgets require good water resources data.

EPA CNS PROJECT (Previously ORD Laboratory for Sustainability)

Dr. Najjar provided the Committee with an update on progress with the EPA CNS project. This project is a framework for sustainable watershed management consisting of three phases. The Pocono Creek was selected because of its established organization of relevant partnerships, and technical work that has already been started. The study period is approximately two years, beginning August 2004 until July 31, 2006. The project funding is \$259,000, and will focus mainly on stream flow and the effects of ground water pumping. The 3 phases of this project are:

Phase 1:

- Technical – Determine effects of 1) withdrawals and recharge on baseflow; 2) land use change on recharge; 3) flow regimes on wild trout habitat
- Planning – Establish watershed community partnerships, identify existing/future water use, transitioning from technical to planning phase
- Outreach – Begin watershed community education and outreach efforts

The expected results are 1) watershed community driven program for water resource management, based on sound science; 2) transferable technology and planning processes for sustainable resource planning. Mr. Gast noted that DRBC should look to the regional PADEP office for regional input to this project.

DRBC RESOLUTION 88-2 Water Conservation Performance Standards for Plumbing Fixtures and Fittings

Mr. Sayers provided an update on how changes in Pennsylvania regulations will affect how DRBC has implemented Resolution 88-2 which sets water conservation performance standards for plumbing fixtures and fittings. Due to the lack of a state-wide plumbing code in Pennsylvania, the resolution directed DRBC to ensure that local codes were adopted by each municipality coming before the Commission for an expanded water supply allocation. As of April 9th 2004, by Act of the Pennsylvania Legislature, a Uniform Construction Code (UCC), went into effect in the Commonwealth. The UCC incorporates the International Plumbing Code, and ensures that water conserving plumbing fixtures and fittings will be required throughout Pennsylvania. Mr. Gast asked that DRBC staff check that the plumbing codes had been incorporated as part of the UCC.

STATE FEEDBACK ON WATER MANAGEMENT PROGRAMS

Updates on current water management programs and planning efforts were summarized by the state representatives. Mr. Gast commented on progress with Pennsylvania's Water Resources Legislation, Act 220. He noted that recent efforts have focused on developing criteria for the planning process to identify Critical Water Planning Areas (CWPA). CWPA status will be designated if current conditions suggest there is a problem or if anticipated conditions in the next 15 years suggest there will be a problem. Mr. Gast noted that the legislature gave money to the River Basin Commissions to develop the plan, but not to PADEP. The preliminary output of the water budget screening tool developed by USGS is due by the end of 2004, but now is not likely until the spring of 2005. Mr. Sayers noted that DRBC is giving assistance to PADEP by, among other things, developing demand forecasting methodologies. DRBC issued an RFP on December 3rd, 2004 and is due to receive responses by December 29th.

Dr. Miri noted that New Jersey is currently engaged in developing its 3rd state wide water supply plan. The first one was developed in 1982 and the second 1996. Essentially, they are still in the initial phases of doing the projected water supply demands and availability assessments. Plan development and the public meetings process has taken a backseat to other priorities, but Dr. Miri noted that more meetings would be held in the summer and fall of 2005. The initial focus is on the Passaic Basin which is a heavily urbanized area with supply pressures.

Mr. Lovell noted that in Delaware the 1999 drought focused attention on the water supply situation in northern New Castle County which had significant supply issues. The state water plan was 20 years old and a Water Supply Coordinating Council was set up to address the problem. The work of the Council resulted in a number of supply enhancement projects which would give the area up to an additional one billion gallons of supply. Due to the success of the work in the northern part of the council the Governor has expanded the role of the WSCC to the entire state. Currently, southern New Castle County is being evaluated from a supply versus demand perspective, in cooperation with DGS and USGS. Specific initiatives underway are an assessment of ground water availability in Kent County, legislation which passed to mandate utilities to use conservation plans which focus on pricing incentives (including a higher wastewater fee for impervious cover). Results of the regional aquifer study are due early next year.

MEETING ADJOURNED:

The meeting concluded at 3:15 p.m. The next meeting is scheduled for 9:30 am, February 16, 2005 at DRBC offices in West Trenton, NJ.