



Delaware River Basin Commission

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DRBC WATER MANAGEMENT ADVISORY COMMITTEE MEETING OCTOBER 25, 2005

COMMITTEE MEMBERS PRESENT:

Bob Molzahn	Water Resources Association, Chair
William Gast	PA Department of Environmental Protection
Joseph Miri	NJ Dept. of Environmental Protection
Bruno Mercuri	Mercuri and Associates, Inc.
Eddie Stevens	League of Women Voters
John Mello	U.S. EPA Region 2
Ronald Sloto	U.S. Geological Survey

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 a.m. by Chairman Mr. Bob Molzahn. The location of the meeting was the New Jersey Water Supply Authority Canal Office, in West Trenton, N.J.

REVIEW OF MINUTES / REVIEW AND APPROVAL OF AGENDA:

The minutes from the July 8, 2005 meeting were reviewed and approved by those members in attendance, which did not constitute a quorum. Today's agenda was also approved. It was noted that a quorum is not required unless a vote is taken on a matter requiring action by the DRBC Commissioners. Apologies for absence were received by the following members: Stewart Lovell, Jan Bowers, Mary Ellen Noble, and John Showler.

BASIN PLAN:

Discussion of this issue was postponed and later canceled.

WATER MANAGEMENT UPDATES:

- Update / Status of Administrative Agreements with States

David Sayers updated the committee on the status of the efforts of Bill Muszynski and the Project Review Staff with revising the Administrative Agreements with the States. The Project Review Branch has been reviewing the agreements currently in place between DRBC and the State agencies. These current agreements are outdated and require updating. Bill Muszynski and staff

spoke to the WMAC in July, as well as to other committees. At the July meeting it was recommended that DRBC complete its discussions with the states and then when information is received from the states, the results be reviewed with the WMAC. The progress so far has been that Bill Muszynski and Anthony Bonasera have met with and received comments from Delaware, but are still in the process of gathering information from the other states. A matrix was developed to evaluate DRBC review criteria against the states' existing review criteria. The matrix was distributed to the Committee for discussion; however, the state response columns were left blank at this time. The matrix was developed using the DRBC Rules of Practice and Procedure and the Protected Area Regulations for Southeastern Pennsylvania. The matrix identifies which areas come under DRBC review. DRBC is currently reaching out to the states to find out if they participate in the same type of review. Hopefully this can be completed early in 2006. Dr. Bruno Mercuri questioned what the threshold is for the Southeastern PA Ground Water Protected Area.(GWPA). Dr. Mercuri believes that the threshold is actually greater than 10,000 gallons per day (GPD) over any 30 day period, not "greater than or equal to." David Sayers responded that this will be checked by staff.

- Inter/Intra Basin Transfers

Mr. Bob Molzahn summarized the discussion of the recent subcommittee meetings held on 9/27/2005 and 10/24/2005. The subcommittee reviewed documents prepared by DRBC staff and noted the following points regarding interbasin transfers:

- The three largest of these transfers are 800 MGD for NY City (export), 100 MGD for Delaware and Raritan Canal (export), and 30 MGD input to Chester Water Authority (import).
- There are approximately 20 other smaller known interbasin transfers which result in a net export of approximately 3 MGD. Many of these projects are municipal water supply systems which constitute an interbasin transfer by virtue of their service area straddling the Basin boundary. Mr. Molzahn questioned how much of a need there is to further examine the issue or change DRBC procedures given the small scale of the issue. Mr. Joe Miri generally agreed with this point, noting that the two largest transfer projects are not covered by a docket.
- Mr. David Sayers stated that his impression was that the subcommittee is heading towards a more general review of withdrawal evaluations rather than something specific for transfers per se.
- Mr. Bill Gast stated that we should think about applying the review criteria on the discharge side as well as on the withdrawal side. When we review discharges, we should be evaluating not only the impact of the discharge on the stream, but also where the water is coming from. Warm water streams, by nature, tend to be larger streams to begin with, so the withdrawals from those streams generally tend to be smaller as a percentage of streamflow and generally less harmful to instream needs. Whereas, withdrawals from the naturally producing trout streams, which are very small streams, may more easily have an adverse impact.

Bob Molzahn noted that the discussions will continue at the next meeting of the Water Transfers Sub-Committee (January 19, 2006).

-Water Accountability

David Sayers distributed and reviewed a three-page handout summarizing efforts related to water accountability and the work of the Water Management subcommittee. The water accountability issue relates to DRBC's resolution on leakage and leak detection/repair programs. The subcommittee was developed to review the new AWWA and International Water Association

(IWA) water loss accounting methods. DRBC already has a resolution on its books, but it is 16 years old and therefore does not reflect the latest methods and advances in this area. The subcommittee determined that there was merit in the new methods and recommended further exploration on a step by step basis.

The AWWA has developed software which would help the water purveyors conduct a water loss audit. The software was developed and tested (with input from David Sayers of DRBC) using about 30 water purveyors across the U.S. Six of those were from the Delaware River Basin. Once that software had been evaluated, we received some preliminary results, which George Kunkel presented at the July meeting. On a whole, the response was positive from the users with the software being viewed as user friendly. Their recommendations have helped refine and improve the software.

David Sayers has been in contact with George Kunkel of Philadelphia Water Department. We are at the point now where we are targeting December 1st for this software to be freely available for download from the AWWA website. A revised manual is also being developed, but will not be available for a few more months.

DRBC has come up with a three phase strategy as we consider the use of the new methods. The first phase has been to understand and explore the new methods, which we have done. David Sayers noted that Ken Najjar gave a presentation on the general outline of the new approach at a previous Commission meeting, which was well received by the commissioners. The presentation has been posted on the DRBC website. The DRBC has also encouraged water purveyors in the basin to participate in the software testing – 6 DRBC water purveyors participated in a national beta testing program (out of a total of approximately 30 participants). The second phase is to endorse the concept of the new techniques. The third step is for the DRBC to embrace these methods and revise its resolutions accordingly to make this the standard method for water audits and compliance. Bruno Mercuri noted that the Commission would have to wait until the software has been revised and approved by AWWA to begin the second phase. Joe Miri stated that WMAC wouldn't be able to proceed with phase 2 by the December Commission meeting, and that we are mostly likely looking at a target date of summer 2006 for a formal statement of endorsement.

- DRBC/USGS Water Budget / Groundwater Availability Studies

David Sayers presented an update of the two concurrent studies being performed by USGS. Mr. Sayers noted that the work was undertaken in order to meet the objectives of the Basin Plan. Water Budgets and Water Availability studies were considered a requirement for developing the integrated resource strategy that was called for in the plan. Members of this committee were heavily involved in the scoping of this work. The cost for the Water Budgets study in total was \$107,000, which was jointly funded by DRBC and USGS. One of the key objectives was to select five watersheds with varying characteristics in order to develop and test the budget methods. Three of the watersheds are in fractured rock and two are in the coastal plain. The different types are urban, rural, and reservoir storage.

From the study we learned there are actually a number of different ways to define a water budget. In the report, we developed two different types of budgets: 1) basin water budget; 2) water use budget. The first budget generally relates to the inputs and outputs of the basin in terms of precipitation and exports. Whereas the use budget has an anthropogenic focus and relates to ground water, surface water, and consumptive use. It was noted that instream flow requirements are not explicitly accounted for in either of these types of budget.

Some of the limitations which came out of this study were all 5 watersheds had streamflow gauging stations, which is not true for all 147 delineated watersheds of this scale in the basin. Another limitation was that the necessary estimation of watershed-wide change in groundwater storage from a single point, which is an observation well, which may or may not be in the watershed. Finally, ET is not something that is easily measured and used as a balancing term in the water budget equation. This study is now published and available from this the USGS website: <http://pubs.usgs.gov/sir/2005/5113/>.

The second study – Ground-Water Availability in the Delaware River Basin – has been completed and is undergoing review by USGS staff. DRBC has provided comments on the draft. The objective of this study was to come up with groundwater availability assessments on a basin-wide basis and then use the known water use data to determine the level of stress on the same 147 watersheds. The final statistic was withdrawals at the percentage of available ground water.

The availability analysis in the coastal plain required a different approach than the fractured rock area which adapted GWPA methods. Geology and land use were found to be controlling factors in determining baseflow. A number of different baseflows recurrence intervals were calculated, and the results were presented as water use versus those different availability thresholds. One issue that was highlighted by this study was how to treat quarry dewatering because, if included, it can have a very large effect on the water use numbers. If discharge data are not available or reliable, (i.e., no return flow records) the inclusion of quarry dewatering may indicate that a watershed is in a highly stressed state, which may not necessarily be the case.

- EPA ORD (Pocono II)

Ken Najjar gave an overview of progress on this project, which is also being called the Lab for Sustainability Project. Pocono II is a continuation of the pilot study, Pocono I. It also uses information from some of the water budget work already discussed. This is one of the projects funded as part of EPA's initiative for watershed sustainability nationwide. EPA provided funds to the group working on this project and provided their own resources in terms of staff. They are also developing a stormwater runoff model, as part of the project. This project actually has three models that are being used to answer the basin question of how much water should be left in streams in order to meet stream sustainability. Input is needed from the water withdrawal model, which Ron Slotto is currently working on, and the runoff model from the EPA. The third model, which defines instream flow needs, is also being developed. The modeling and technical aspects are expected to be completed within the next six months.

WATER DEMAND FORECASTING:

- PADEP Act 220

Ken Najjar gave a presentation on the Act 220 Water Demand Forecasting Study, which included background on the development of the forecasting methodologies, and a summary of the results of the implementation of the methodologies in the Lehigh Valley watershed (pilot watershed). The study has been funded with Act 220 money using CDM as consultants on the project. Following the presentation, Ms. Edie Stevens noted that projections for agriculture and the manufacturing sector indicated significant growth which seems unexpected for this region. Dr. Najjar emphasized that the results presented were preliminary as the methods are still being fine-tuned and calculations checked. Once the appropriate forecasting methodologies have been developed, the next step in the project will be to develop the demand projections statewide.

- Supply Demand Study

David Sayers handed out draft copies of the DRBC Supply / Demand Study which has been developed by DRBC staff. The report is an assessment of water use at the Basin-wide and sub-basin scale, which includes a description of basin characteristics, estimates of available supply, water demand, and projections of future water use. Mr. Sayers encouraged committee members to review the report and provide comments.

MEETING ADJOURNED:

The next meeting of the WMAC will be January 25th 2006 [That meeting was later canceled, next meeting: April 19th 2006]. The next water transfers sub-committee meeting will be January 19, 2006.