Delaware River Basin Commission

WATER MANAGEMENT ADVISORY COMMITTEE (WMAC) MEETING
DECEMBER 18, 2002

COMMITTEE MEMBERS PRESENT:

William Gast	Pennsylvania Department of Environmental Protection
Bruno Mercuri	Mercuri & Associates, Inc.
Joseph Miri	New Jersey Department of Environmental Protection
Bob Molzahn	Water Resources Association
Frank Schaefer	U.S. Army Corps of Engineers
Ronald Sloto	U.S. Geological Survey
John Mello	U.S. EPA Region 2
Mary Ellen Noble	Delaware Riverkeeper Network
Leroy Young	Pennsylvania Fish and Boat Commission

OTHER ATTENDEES

Sue Fanok	The Nature Conservancy

DRBC STAFF PRESENT

David Sayers	Planning and Implementation Branch
Jessica Sanchez	Basin Planner
Ken Najjar	Head - Planning & Implementation Branch
Richard Tortoriello	Operations Branch
Tom Brand	Project Review Branch
Hernan Quinodoz	Operations Branch

CALL TO ORDER

The meeting was called to order by Dr. Mercuri (standing in for Chairwoman Jan Bowers) at 9:45 a.m. Jan Bowers sent apologies for absence, as did Stewart Lovell and Dave Milan.

REVIEW OF MINUTES AND REVIEW AND APPROVAL OF AGENDA

Minutes from the September 25, 2002 meeting were reviewed. An error on page 3, which read Cornwell University, was amended to Cornell University. With that noted, Mr. Gast motioned to approve the minutes. Dr. Mercuri seconded the motion and the motion carried. The agenda for the meeting met with approval from the committee.

STAFF REPORT AND UPDATE ON BASIN PLAN ACTIVITY

Ms. Sanchez updated the group on general progress by the various committees regarding development of the Basin Plan. Some committees are struggling to develop management strategies and others have been drafted in some detail. In recent weeks staff has been putting together materials developed by the various committees in preparation for the forthcoming WAC meeting on January 14th. Ken Najjar presented a paper setting out the differences and relationship between the Basin Plan for Delaware River Basin (that which the committees have been working on) and the DRBC's Comprehensive Plan which will draw upon direction set in the Basin Plan. DRBC will not be adopting a Comprehensive Plan until the Basin Plan is completed.

Ms. Sanchez commented that the staff is using the framework document (containing the KRAs, Goals and Objectives) as a base for writing text and developing a document with a readable style and user-friendly layout. The document will contain guiding principles, will lay out each KRA and the reasons why the KRAs, its goals and objectives, are important. It will also lay out the necessary tasks and challenges involved in developing the Plan. KRA 1, 2, & 3 have been converted into this updated format but are very much in draft form. These will be presented to the Council on the 14th.

Coming out of the management strategies in the Basin Plan are two important issues for discussion in detail during the meeting. Those issues relate to the development of water budgets and the pilot study being undertaken by DRBC in conjunction with USGS and Instream Flow Needs Issues which are being addressed through both the WMAC initiative (headed up by Leroy Young) and the Flow Management Study from the FMTAC. It is important for this group to consider how these issues, particularly the two instream flow issues can be developed.

INSTREAM FLOW REPORT (Leroy Young)

Leroy Young summarized some of the initiatives currently underway throughout the Basin addressing instream flow issues.

New Jersey: Tom Belton is heading the effort from NJDEP. It was noted that Jim Henriksen (USGS) is helping NJ develop instream flow criteria by next year and in the process they have reviewed numerous methodologies. Others involved are Steve Nieswand (USGS) and Jeff Hoffman (NJ Geological Survey). NJ is studying at least 10 different instream flow methodologies and their applicability to NJ's waters. They have identified some weaknesses with the Q710 method, which they have been using until now. They want to review all aspects of instream flow to understand how withdrawal rates affect the natural flow regime? They want to look at different areas in NJ where they have data on invertebrates, fish, diatoms and water quality and how the departure from the natural flow regime through the RVA (Range of Variability) method relates to degradation of the systems.

Delaware: The situation in Delaware is somewhat different from the rest of the Basin. Delaware did a flow study in 1995/1996; they have a unique situation, in that all their intakes are just above the head of tide. Mr. Young reported that despite several efforts it has not been easy to find others working on these issues in Delaware.

Pennsylvania: There was not much new work underway specific to Pennsylvania to report. Mr. Young noted the development of the PA/MD Instream Flow Study and computer model applicable to trout streams less that 100 sq mi. This model is frequently applied to review permit applications in PA. The model is based upon the IFIM approach. Mr. Gast noted that in PA (and in the DRB) the default approach is the 7Q10 -- but in some areas the more sophisticated approach is used.

New York: New York has developed a draft policy that they put together. Mr. Young reported that he is not sure how far it has gotten or where it stands. They recommend the aquatic baseflow method for the typical permit review and site specific IFIM studies.

With four differing approaches in the four states it is not easy to develop a unified approach. Mr. Young has convened two meetings to discuss these different approaches with the state representatives. At the first meeting in September, there were ten people present. At yesterday's meeting (12/17/2002) there were only five people, partly due to a timing clash with the Flow Management meeting. Representatives of the States of Delaware and New York have not attended either meeting. Mr. Young invited comments from the committee on how to proceed with the collaborative effort on Instream flow issues and expressed concern on putting a lot of effort into developing an approach that was not supported by all. Mr. Gast commented that although we haven't reached a unified approach that the work done by Mr. Young and the group was valuable because it brought out the different issues. The unified approach for the Basin is unlikely to be one size fits all, as each state may have different methods for its own streams. Dr. Tortoriello noted that it may not matter if there are different methods as long as an overall approach and how the findings will be used is agreed.

Mr. Young also reported on work done by Marci Meixler, a modeler for Cornell University, who has been assessing the RVA methodology used in the Great Lakes Regions and looking at the following issues:

a. Land use, vegetative cover, and gradient GIS layers to categorize watersheds as severely altered, moderately altered, or intact.
b. She looked at habitat fragmentation, to evaluate how difficult it is for fish to migrate up tributaries to the Great Lakes.
c. Stream flow alteration model - based on assumption that the more altered a system is, the poorer the water quality. She is now evaluating how runoff curve numbers, cover coefficient and precipitation affect rise rate, fall rate and one day maximum flow for each basin and also whether these hydrological statistics are correlated to water quality.
d. Community based models - to determine how likely people in a community would be to take steps to help improve water quality in their basin. What factors in a human community are likely to be most highly correlated to the success of restoration efforts in those watersheds.

The Instream Flow committee also discussed the following ways to develop a scope of work for this study. Collaboration among the parties would be the most efficient means to conduct a study.

a. Stratification of study streams - instream flow requirements will vary among stream types. Stratification should be first by Physiographic Region, then by size of the drainage area, large rivers and small rivers. Estuaries would be evaluated in a category by themselves.
b. Components to be addressed include hydrology, coldwater streams, warmwater streams, anadromous fish, macroinvertibrates, water quality, maintenance of riparian wetlands, whitewater and other forms of boating, fishing.
c. Study methodology - different study methods are likely to be best suited to different stream types and components.

New Jersey will be holding a meeting in January to do further work on their instream flow criteria development. The group recommends that the WMAC take steps to seek the commitment of the states to collaborate on this instream flow study effort.

The WMAC commented that this is significant progress but realized there is much to be done. Issues that need to be resolved are:

- What constitutes the "natural flow regime," how do we define "natural" and closely linked to that is the issue of what do we choose as baseline conditions to measure against.

- Where do we go from here? Who is best placed to follow through on this?

Leroy Young was in favor of Jim Henrickson of NJ, someone from NY, Cornell University, DRBC, and others to form a team to work on coordination and develop a scope of work for discussion at the next WMAC meeting. It is hoped that discussion and development of this can be tied in with New Jersey's next meeting on this topic, in mid-January 2003.

USGS PROPOSAL FOR WATER BUDGETS AND WATER AVAILABILITY ASSESSMENTS

The agenda was switched to allow Ron Slotto to discuss the proposal for USGS water budgets and water availability assessments before lunch due to a previous engagement.

These projects represent two separate studies funded by DRBC and the PA and NJ District of USGS.

Groundwater Availability: This study will develop GIS-based ground water availability assessments for the entire Delaware River Basin - similar to those in the Southeastern Pennsylvania Groundwater Protected Area, although these are being applied at a slightly different scale. The first task is to look at all watersheds in the Basin using HUC 10/11 watershed designations and modifying them to come up with about 250 watersheds of manageable size. The USGS and DRBC staff will work jointly to put this together. This study can be considered a key component and foundation on which to implement the Basin Plan. It will use named watersheds of comparable and manageable scale and apply the same methodology that was applied for the GWPA to compare against current water use (or the best available data) to identify areas of groundwater stress. A similar approach will be applied in the coastal plane of New Jersey; unconfined aquifers can be determined on a watershed basis as in the fractured rock watersheds. For confined aquifers, where impacts extend well beyond watershed boundaries, groundwater flow models will be utilized to determine dominant factors controlling baseflow (i.e., outcrop type).

Water Budgets: The USGS will also be developing water budgets for selected watersheds in the Delaware River Basin. This will be a pilot study looking at five watersheds of differing characteristics, and will test and refine the methodology and determine the potential for extending this approach throughout the Basin. The study will also identify issues related to availability of data and the limitations that this may impose on determining accurate and useful water budgets. The following are the chosen watersheds: Wissahickon Creek (65 sq. mi.), Pocono Creek , East branch of Brandywine Creek (including the Marsh Creek Reservior), Greenwood Branch in Rancocas Basin (78 sq. mi.), and Cooper River Watershed (51 sq. mi.).

David Sayers questioned whether the cost of the Groundwater Availability study could be reduced if the GWPA (approx 10% of the Basin) was not included in the analysis as this area has already been studied. The response was that this would only reduce the cost by a small amount maybe 1-2% and therefore would be worth including for comparative purposes.

The USGS is looking to have a reviewable product for both studies in about twelve months. The committee was pleased to note that this work was about to commence as it represents an important component within the Basin Plan process.

UPDATE ON FLOW MANAGEMENT STRATEGIES (Tortoriello)

This moved the discussion back to flow-related issues.

Dr. Tortoriello presented the committee with an update on the flow management strategies. David Sayers noted that the copy of the flow table and timeline that went out in the e-mail was updated yesterday; an updated copy was distributed for discussion. The table divided the issues into Upper and Lower Basin issues. The discussion focused on Upper Basin issues identified from the Flow Management Study. These are issues that the decree parties must resolve together. Joe Miri noted that it makes most sense to address Upper Basin issues before the Lower Basin issues. Dr. Tortoriello asked the committee to consider how all these issues

could best be addressed - through the WMAC, FMTAC or the Basin Plan process. The committee noted that coordination is absolutely essential on these issues. Sue Fanok of the Nature Conservancy suggested that money may be available from the Federal Government or other grants to fund a study. Jessica Sanchez questioned how we integrate the outputs from the technical studies with the objectives of the Basin Plan. Dr. Tortoriello pointed out that when Leroy Young talks about flow issues these are analyzed or evaluated using a particular scientific methodology or models to determine the needs. Another process goes further than using analytical type methods for instream flows - having meetings with a panel of academics, scientists and interested parties to see what they would suggest. The FMTAC and WMAC, within the Basin Plan process need to find a workable approach to resolve these issues.

LUNCH 12:15 p.m. to 1:15 p.m.

Several members of the Committee had to leave at lunch time leaving only a few members to discuss the remaining issues.

REVIEW AND APPROVAL OF COMPREHENSIVE PLAN MANAGEMENT STRATEGIES
The committee was asked to review the framework document as this is the last chance to see it before it goes to the WAC at the January meeting. The remaining members of the group did not have substantial edits to make to the wording of the goals and objectives.

The group went on to consider a listing of tasks and challenges that have been identified, either as being necessary in order to fulfill a management strategy (for example, water budgets), or tasks that are necessary to be completed in order to determine what management strategies might be necessary (for example, doing water demand projections in order to assess what strategies may be necessary in order to meet demand).

MEETING ADJOURNED:
The meeting concluded at 2:45 p.m. No date was set for the next meeting.

Questions?

David Sayers, DRBC Water Resources Analyst, (609) 883-9500 ext. 236

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