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4/8/03

WATER ALLOCATION PROGRAM DEVELOPMENT STREAMFLOW STANDARDS SUBCOMMITTEE MEETING

MINUTES OF MEETING

March 17, 2003

Present: Jan Reitsma, Alicia Good, Jim Marvel, Ralph Abele, Al Bettencourt, Rich Blodgett, Jim Campbell, Steve Donohue, Christine Lipsky, Eugenia Marks, George Palmisciano, Eugene Pepper, Harold Ward, Denys Cousens, Kathy Crawley, Connie McGreavy, Elizabeth Scott, Carlene Newman, Alisa Richardson

Handouts:

by DEM:

- draft minutes to Feb. 12, 2003 meeting for approval
- mission statement of the subcommittee
- draft work plan
- discussion of 4B3 flows
- draft presumptive interim Rhode Island instream flow standard

by EPA:

- Questions and Answers on the New England Flow Policy

Approval of Minutes:

Draft minutes from Jan. 14, 2003 meeting were accepted by the subcommittee. Draft minutes from the Feb. 12, 2003 meeting were distributed. Approval was postponed until the next meeting, since the members only received them a few days beforehand.

Clarification on Some Issues:

The RI ABF instream flow standard proposed by DEM's Office of Water Resources has been presented for review and discussion by the subcommittee and is not considered final. The standard is clearly open for discussion and refinement, which is why a technical review of the proposed approach will be conducted. The RI ABF is a straight forward presumptive approach. Any standard that includes this type of presumptive approach will also contain guidance for site-specific evaluations. This process that the subcommittee is undertaking is a scientific approach for developing a streamflow standard. Ultimately, the best way to address water usage is on a watershed basis, looking at all users. Management plans must assure sustainability of the resource by incorporating best management practices and conservation, with a goal of protecting the aquatic habitat while providing all users with the necessary amount of water they need. A watershed approach may be complicated and resource intensive. The process this subcommittee is undertaking will provide a means to address future withdrawals in addition to aiding the efforts to gather the data needed to develop watershed approaches.

Any adoption of a regulatory standard by DEM would follow a separate formal rulemaking process.

There are basic principles that should guide the actions of this subcommittee. One goal should be that no one be put out of business due to regulation of water usage. The subcommittee agreed to develop guiding principles.

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Review of RI ABF and respond to questions:

The white paper describing the RI ABF method is almost done and should be available for technical review by interested subcommittee members and the technical advisory committee in the next couple of weeks. A meeting will be set up to have discussions on the technical review.

A brief overview of the development of the RI ABF was given. A copy of that presentation is available as an attachment to these minutes. The presentation and accompanying discussion resulted in some interesting questions, which will be presented to the TAC for further consideration as part of their review. They are as follows:

1. The NE ABF is based on using the median of the monthly average flows. The RI ABF is based on the median of the monthly median flows. The reasoning for selection of different flow statistics relates to the effect of watershed size on stream hydrographs. The NE ABF uses gages from very large watersheds that have a better ability to “absorb” the effects of large summer storms because they have more tributaries and associated wetlands, etc than smaller watersheds. These large watersheds generally do not exist in Rhode Island. In the smaller watersheds that are more typical of Rhode Island's watersheds, large summer storms produce more runoff, which are seen as spikes in the hydrograph, which in turn affect the flow averages. The median of the monthly median flows is seen as a more representative low flow statistic for use in RI's smaller watersheds. *What biological effects do these two phenomenon, and the associated statistics used by USFWS and RI have in relation to habitat impact due to the amount of water available? What are the implications of the different flow statistics on the biological community?*

2. The RI ABF includes a minimum target instream flow equivalent to the 4B3 flow. The EPA recognizes the 4B3 flow as a biologically based flow that protects aquatic habitat from chronic toxicity in relation to instream pollutant concentrations by providing an adequate time period for recovery of the aquatic community before the next "incursion" occurs. *Can this flow also be used to protect against the stresses on the aquatic habitat as a result of low flows?*

3. A 4B3 flow is used for determining pollutant concentrations from a direct discharge into a river. Exceedance of those concentrations that would theoretically occur once every 3 years would be limited to a certain reach of the river downstream from the discharge, potentially causing mortality to organisms. The unaffected reaches of the river would hypothetically provide organisms that would repopulate the impacted reaches. *If this flow were used as a target minimum low flow, would the entire river be impacted such that repopulation would not successfully occur?*

If any one has any additional questions they want addressed by the TAC, they should provide them to DEM.

In addition to these questions, there were questions on the flow duration curves that were handed out in the January meeting. Gages such as Wood River at Acadia show very low percent exceedance of the 4B2 flow in relation to areas that are more impacted such as the Chipuxet and the Wood River At Wood River Junction. In addition, concerns were raised that according to the flow duration curves the 4B2 flows are not met on average 30% of the time. It is felt that this is too conservative particularly for farmers. Alisa will further evaluate the data and get back to the subcommittee with what she finds.

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Other Issues:

The discussion on the watershed approach and the need for management plans to include best management practices, conservation, and other measures to minimize streamflow depletion and encourage sustainable development –as precursors to regulation - led to two proposed actions. Ralph Abele will provide relevant information from the NEWWA white paper and CT's approach. In addition, this subcommittee will communicate to the other subcommittees that they should also keep the ultimate goal of the overall watershed approach in mind as they develop their recommendations.

The group decided that in addition to continuing with the technical review of the RI ABF, it would start the process of developing site-specific guidance for use in RI. It was decided that the subcommittee should solicit presentations of the various flow-setting methodologies from individuals who have applied them in the field. This educational process would provide the group with a good foundation for making decisions on what site-specific methodologies are appropriate for use in RI. The DEM will contact Dave Armstrong from the USGS to discuss his work on the Queen/Usquepaug and the Ipswich for the next meeting.

Next meeting

(Please refer to e-mail on rescheduling the meeting that had been scheduled for April 22, 2003)