

## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: THOMAS L. FREDERICK, EXECUTIVE DIRECTOR**

**SUBJECT: DISCUSSION OF THE NATURE CONSERVANCY'S RIVANNA  
CONSERVATION PROGRAM AND INTEGRATED RESOURCE  
PLANNING**

**DATE: AUGUST 23, 2004**

At the May 24, 2004 meeting, the RWSA Board of Directors received public comment asking if the Gannett Fleming Inc. model could be expanded to include modeling for in-stream flows and if the current efforts of The Nature Conservancy (TNC) could assist in the additional modeling. The Board asked the staff to look into these issues, and report back to the Board with estimates of cost and time associated with such effort.

Through meetings with The Nature Conservancy, the staff has learned the following:

- TNC is committed to developing in-stream flow prescriptions in the South Rivanna watershed as part of a larger TNC Rivanna Conservation Plan. The prescriptions will be developed using an "adaptive management" approach TNC has developed. This approach has been used on the Savannah River and in the Green River in Kentucky, but due to its limited application at this point, it may be appropriate to refer to this approach as "innovative" or "cutting-edge."
- TNC has secured some funding from private contributions and plans additional fund raising to secure funds to complete Phases 1 and 2. Phase 1 is expected to be completed in September 2004 with recommendations on preliminary flow prescriptions, within a probable margin of +/- 20% of the eventual conclusions from Phase 2. TNC is using Gannett Fleming model data provided by RWSA for base information in developing the flow prescriptions.
- Phase 2 will follow Phase 1 and is expected to be completed by late 2005 or early 2006. TNC will develop a collaboration of scientists to study the watershed and model data in more detail to adjust the Phase 1 flow prescriptions, and may define multiple prescriptions for different climatic conditions, such as drought year, average rainfall year, above average year.
- TNC has agreed to share Phase 1 results with RWSA in September. RWSA is prepared to review this information as soon as it is available and consider its potential for incorporation in water supply planning. TNC has subcontracted with a firm called Hydrologics to develop TNC's modeling, and has agreed to provide

RWSA a copy of the Hydrologics model for the cost of a license agreement (estimated not to exceed \$5,000). RWSA has also set aside as a contingency the possible review of this model by Gannett Fleming (estimated between \$10,000 and \$25,000, depending on a specific scope to be determined). We understand that the Hydrologics model will have the capability to simulate a number of "what-if" scenarios and define results as statistical probabilities, and we can explore the potential usefulness of this tool for various types of water use management decisions.

- Depending on variances between RWSA current policy and TNC's flow prescription recommendations, we would anticipate that at some point TNC or the public may ask RWSA to amend its current "in-stream" release policy. If the Board wants the staff to make recommendations on such a request, staff would need access to the Hydrologics model to consider the potential effects of such proposed changes on safe yield and the critical missions (i. e., adequate supply of drinking water) assigned to the RWSA.
- TNC proposes a Phase 3 that would be an implementation phase, adopted only with the approval of the Board of Directors. If such a phase were implemented, RWSA would control the operation of its facilities, and some responsibilities would be assigned on collecting and analyzing data, both on stream flows and the responsiveness of the stream environment. The details of such a phase and its cost are still general at this time, but this could be a long-term on-going event. We have already received some support from TNC, in the event Phase 3 moves forward, to assist in seeking grants or outside funding support that might help defray the cost of implementing an innovative program.

During some follow-up staff made with Albemarle County staff after the May 24, 2004 Board Meeting, Mr. Stephen Bowler also discussed the concept of Integrated Resource Planning (IRP). Attached to this memorandum is a copy of Mr. Bowler's report dated June 18, 2004 covering this concept as well as his understanding of the TNC program. Also attached is a copy of a memorandum on IRP from Mr. Bowler to the Albemarle County Board of Supervisors dated August 31, 2001.

In general terms, IRP represents a collaborative approach to water supply planning that can be a productive approach to coordinating the efforts of multiple agencies in the protection and use of water resources. Some of these on-going efforts in water protection by the County and other agencies include sediment and erosion control, maintenance of stream buffers, stormwater management, agriculture best management practices, and conservation easements. The IRP process is addressed in the approved Albemarle County Comprehensive Plan. RWSA staff met with Albemarle County Community Development staff on August 6, 2004 to discuss this concept and the County's expectations in more detail. In the meeting it was mentioned that IRP could be a resource RWSA could use to obtain feedback from other agencies in the coming months as RWSA develops a drought management policy.

With the consent of the Board, RWSA staff will continue to explore the potential use of a collaborative process described by IRP. To maintain its effectiveness and avoid some of

the pitfalls associated with “standing committees,” we can approach this from a business perspective as an opportunity to share information and avoid duplication of services. We would also suggest that the Albemarle County Service Authority and City of Charlottesville have the opportunity to participate (note that in addition to water retail services, the City also has water protection programs). At this point, we do not anticipate our involvement in this process to require more staff or resources than what the Board has already approved in the budget. If at some point other agencies request new services by RWSA, such requests would require information to be brought to the Board of Directors and require Board approval.