

Notes from the WRIA 12 Study Project Meeting

September 20, 2005

Attendees

Dan Wrye (Pierce County Water Programs), Roy Huberd (Pierce County Water Programs), Steve Kamieniecki (Pierce County Environmental Services), Jeff Johnson (Spanaway Water Company), Tom Sawyer (Firgrove Mutual), Susan Clark (Tacoma Water), Mark Savoca (USGS), Chris Konrad (USGS), Myrtle Jones (USGS), Dave Seabrook (Pierce Conservation District), Don Russell (American Lake resident), Bob Burkle (WDFW), Ray Hanowell (TPCHD), Brad Harp (TPCHD), Steve Butkus (Ecology), and Bob Duffy (Ecology).

Notes Taken By

Ray Hanowell

Actions Taken and Tasks Assigned

- There was agreement that it is premature to discuss development of a numerical groundwater model or any other model. We first need to identify the specific questions needing to be answered, identify the needed level of confidence, review the pertinent existing data, and then collect the additional necessary data.
- Ray Hanowell will write the meeting notes, including the possible questions to be answered. USGS staff will then identify a rough estimate of the cost to answer each of the questions.
- There was agreement to meet again to further refine the needs and identify how best to proceed.
- The USGS can contribute up to \$50,000 in matched funds for the study, the Pierce Conservation District may be able to provide \$25,000 cash for the study, and the Spanaway Water District may be able to provide a significant amount of cash for the study. In addition, some water purveyors may be able to collect samples and take field measurements.
- Dave Seabrook agreed to assume the manager role for the study.

Information Provided at the Meeting

- The paper “Key Data Gaps Not Addressed by the Technical Assessment, February 2005”
- Table 11.2: Summary of Prioritized Recommendations, from the Chambers-Clover Watershed Technical Assessment, April 10, 2003
- Appendix O, WRIA 12 Multipurpose Water Storage Study Scope of Work, from the Chambers-Clover Watershed Technical Assessment, April 10, 2003
- The Monitoring Request Form for the “*WRIA 12 Hydrogeologic Characterization (Phase 1) and Model Development (Phase 2)*”, the proposed Ecology Environmental Assessment Program study.

- The recommendations from the paper “*Intermittent Flow on Clover Creek: Causes and Possible Solutions*” by Ecology, 1986

Brief History and Overview of Watershed Planning Process and Presentation of Identified Key Data Gaps

Ray Hanowell summarized the Chambers-Clover Watershed Management Plan Project. This project was conducted in three phases: phase one forming the Planning Unit, phase two developing the Chambers-Clover Watershed Technical Assessment, and phase three developing the Chambers-Clover Watershed Management Plan. The project began in 1998 with meetings of the Initiating Governments: the Puyallup Tribe of Indians, Pierce County, the City of Tacoma, and the Lakewood Water District. The Planning Unit was convened in 1999 and met until the final meeting in September 2004. At the September 2004 meeting the governmental entities on the Planning Unit were unable to reach consensus on the draft Watershed Management Plan and the planning process halted. One of the reasons the plan wasn’t approved was the inability of the Technical Assessment to provide key data

The Initiating Governments continued to meet following the halting of the planning process to try and move forward with development of a locally driven water management plan. Discussions focused on identifying and addressing the key data gaps that were identified through the Technical Assessment and subsequent meetings of the Planning Unit. These meetings of the Initiating Governments resulted in the paper, *Key Data Gaps Not Addressed by the Technical Assessment, February 2005*. The key data gaps are:

1. The Technical Assessment failed to identify the availability of surface waters and groundwaters;
2. Tools are needed for prioritizing waterbodies and geographic areas in the WRIA;
3. There still isn’t a complete picture of the existing water rights;
4. The Technical Assessment failed to identify aquifers that recharge surface water and surface areas that recharge aquifers; and,
5. The Technical Assessment failed to estimate the surface water and groundwater available for future appropriation.

According to the consultant team who developed the Technical Assessment, the sustainability of groundwater withdrawals cannot be determined until a numerical groundwater/surface water model is developed for the watershed. This is one of the needs detailed in Table 11.2, Summary of Prioritized Recommendations, from the Technical Assessment.

Appendix O from the Chambers-Clover Watershed Management Plan is another helpful resource in identifying the technical information needs for WRIA 12. This appendix, *WRIA 12 Multipurpose Water Storage Study- Scope of Work*, was developed by the consultant team working on the Watershed Management Plan with the focus of addressing streamflow concerns and possible options for returning or augmenting streamflow.

Description of Ecology Environmental Assessment Program Project Request

Dave Seabrook summarized the Environmental Assessment Program (EAP) request that was developed and submitted to Ecology in early 2005. This proposal was inspired by Myrtle Jones’ work in the Puyallup Watershed. Due to an insufficient amount of time preparing the proposal, the proposal lacked detail and was not well received by Ecology. The intent of the proposal was to model WRIA

12, or parts thereof, to be able to make management decisions on our water resources. Bob Duffy noted that the EAP process comes up each year and that a revised or new proposal could be submitted this next round. Bob also said that from the feedback he received the proposal wasn't selected by Ecology in part because Ecology had insufficient staff or funds available to do this work.

Discussion and Agreement of Major Desired Accomplishments for a Study Project

The Initiating Governments and participants of the Chambers-Clover Watershed Management Plan Project first provided their comments and then this question was opened up to everyone. Jeff Johnson said that water purveyors had initial concerns about development of the Technical Assessment in that inadequate funding was provided. Spanaway Water Company has talked with Ecology about modeling and may be willing to assist with funding. Also, Spanaway Water Company has much available data, could assist in refining the water rights picture, and could help collect new field data. Jeff emphasized the need to have the Puyallup Tribe of Indians participate in the study.

Susan Clark said that Pierce County was supportive of assisting with refining the water rights picture.

There were a large number of comments generated under this topic with a repeating theme being the need to identify the questions needing to be answered before further sampling or any modeling is conducted. There was also uniform agreement that the study needs to be outcome based and lead to on the ground improvements. Dan Wrye recommended we work to mimic the natural system as much as possible. Steve Butkus suggested that specific scenarios and questions be listed out along with the necessary level of confidence. In other words, how defensible does the model need to be? Steve noted that there are inventory approaches, such as ArcInfo, that may be helpful. Steve also said that the framework has already been developed for the surface water-marine water interaction.

Mark Savoca said that no one model is available that will answer all of the questions raised. However, for specific questions, a model can help provide an understanding. Mark suggested doing a phased study and first answering some of the important questions. Only after this work is completed would there be consideration of developing a model. Chris Konrad supported this approach, saying we first need to understand the system and have an accurate conceptual model.

Bob Duffy summarized this topic into the following conclusions:

1. Need a better understanding of surface-groundwater interactions that is scientifically defensible;
2. Need further characterization, understanding;
3. The model(s) need to be tied to the management needs; and,
4. It makes sense to have a phased approach to this work.

Discussion on the Development of a Numerical Hydrogeologic Model of WRIA 12

Before much discussion can occur regarding modeling it was agreed we need to identify the specific management needs and the questions that need to be answered. This led to a discussion on the possible questions to be answered. The possible questions mentioned included:

- How can we get clean and cool water back into the surface water system?
- How defensible does the model (the conclusions) need to be? Our conclusions need to be scientifically defensible.

- What were the historical stream flows?
- What are the present day stream flows? What stream flows are we wanting to achieve?
- Is there sufficient water in WRIA 12 to meet growth demands? What are the population demands? Will we need to import more water?
- How are the waters connected (surface with the various aquifers)?
- What has caused the lowering of lake levels?
- Where is stormwater capturing base flows?
- What is the actual water rights picture? Some water rights are nowhere near being fully utilized. Want a quantification of inchoate water rights, including both Qi and Qa.
- Is it possible to both improve stream flows and provide more water for people?
- Is it possible to restore flows in Clover Creek below 138th Street?
- What would be the impacts to streams and lakes of further pumping and use of groundwater in the various aquifers?
- How do the urban growth requirements interact with the water?
- What is the impact of stormwater and Low Impact Development (LID) on flooding?
- What is the impact on recharge of sanitary sewers versus on-site sewage systems?
- How may climatic changes impact the system (water resources)?
- Can we utilize the aquifers at times that have maximum water quality benefit and minimal impact on stream flows?

Susan Clark suggested reviewing Appendix E of the report *Water Use Efficiency Subcommittee Report, April 2005* to identify additional questions that we may want to answer. The report can be viewed on the Washington State Department of Health's website at www.doh.wa.gov/ehp/dw/our_main_pages/water_use_efficiency.htm. Click on the link "report of their recommendations" and Appendix E is on pages 101 and 102 of the report.

Steve Butkus noted that we have identified a laundry list of questions and would need to reduce this down to a few key questions. Otherwise, it may require as many as five different models to answer the various questions.

Chris Konrad said we need to answer some of our questions before we can even consider developing a model. The first step is to pull together data and define a rough framework (conceptual model). We need to determine what level of resolution is needed. Instead of a 10,000-foot view, we may need a quarter section view scale.

Mark Savoca said the scale of the questions will dictate the scale of the model. We will probably need a model with small cells (boxes, or modeling cells) and this can be very costly. We may need to reach a compromise on the size of the cells and go with a 100 meter or 200 meter size cell. Also, is the model a steady state model or a transient model? We would need a monitoring plan that identifies all the salient features in the watershed. There are a series of things that have to happen but they all hinge on what are our questions. Once the questions have been selected the next steps are to 1) identify existing information, 2) determine the needed additional information, both temporal and spatial, and 3) determine the needed level of confidence. It may be best if the County, Cities, and others can collect the water levels and flow data. The sample collection process would be driven by a detailed sampling and quality assurance plan.

Implementation

Dave Seabrook suggested we figure out a cost list for our various questions. Jeff Johnson noted that different parties may have different interests and willingness to fund certain components.

Chris Konrad said he could identify prerequisites for a model and things that will be an outcome of a model.

Ray Hanowell agreed to write the meeting notes.

Bob Duffy asked about the level of interest and commitment in proceeding with a study. He asked if people could meet again and everyone said yes. Bob also said we need to determine if there is wide spread support for pursuing this work.

Mark Savoca suggested developing an idea paper identifying:

- 1) Why a study is needed
- 2) Possible ways to address the issues, and
- 3) Possible next steps (a work plan) including timing.

Mark said the USGS is interested in seeing this study be successful and that this coming year USGS could contribute matched funds up to \$50,000. Mark noted that a cash match is preferred but there is some flexibility.

Jeff Johnson said Spanaway Water Company may be able to provide some cash match to the study.

Dave Seabrook said the Pierce Conservation District may be able to provide \$25,000 to the study. Dave also volunteered to be the initial project manager and Mark Savoca said he will help.