

## Data Collection, Characterization, Monitoring

### Charge from Groundwater Management Area Advisory Committee

A discussion of timelines and details regarding the Nitrate Loading Assessment

### Working Group Members

Melanie Redding (Chair); Andres Cervantes; Bill Dunbar; Bob Stevens; Charles Ellingson; Charlie McKinney; Chelsea Durfey; Dave Cowan; Donald Brown; Doug Simpson; Elizabeth Sanchez; Eric Winiecki; Frank Lyall; Ginny Stern; Jaclyn Hancock; Jan Whitefoot; Jean Mendoza, Jennifer MacDonald; Jim Trull; John Van Wingerden, Kevin Lindsey; Laurie Crowe; Lino Guerra; Kirk Cook; Mike Shuttleworth; Ralph Fisher; René Fuentes; Robert Farrell; Ron Cowin, Scott Stephen; Sheila Fleming; Steve Swope; Stuart Turner; Thomas Tebb; Dr. Troy Peters

### Meetings/Calls Dates

Meeting: Thursday, November 12, 2015 10:00am

Call Number: 509-574-2353 pin: 2353#

### Participants

Present: Melanie Redding (Chair)\*, Ginny Stern\*, Jim Davenport\*, Kevin Lindsey, Steve George, Perry Beale, Jean Mendoza, Vern Redifer, Lee Murdock, Bobbie Brady, Chris Saunders, and Erica Naasz (Yakima County Support Staff)

\*via phone

### Key Discussion Points

#### **Update on the Nitrogen Loading Assessment**

Melanie briefed the group on the progress of the draft report. Kirk Cook had taken on the job of consolidating all the information from the various groups. With Kirk's impending departure, three different groups have taken up different aspects of the report. WSDA is handling irrigated agriculture; Yakima County GIS is handling residential/commercial/industrial/municipal; and livestock has already been written up in draft form by Kirk, still to be peer-reviewed. The goal is to have the peer review complete by the end of November, and the final draft report available for review by the GWAC and its working groups by the first of the year.

The group began a discussion about the details going into the draft report. Melanie stressed that the loading surveys were not meant to be comprehensive, but as a guide for how farmers/landowners have been doing in the past year. How people are to use this information is still being considered in the preparation of the report.

A group member raised concerns that a survey which relied on anonymous nitrogen users for information, not conducted under public meetings laws, would not be trusted by many interested members of the community. Melanie stated that the purpose of the assessment is designed to give a look at the breakdown of nitrate levels by sector, not specific information for each site. Vern elaborated that the point of the survey is to find normalized typical use by geography in the Lower Valley.

A group member asked about the status of the hobby farm question. It is scheduled for discussion at the next RCIM meeting. They have compiled data from septic systems, and will be working on discharge from larger industries. The management of the survey is under Department of Health control. They are still trying to develop a typical size methodology for residential lawns. The Fall 2015 deep soil sampling surveys and lab results have been received by the County, which is in the process of entering the data.

### **Update on the Ambient Groundwater Monitoring Program**

At the February 19, 2015 GWAC meeting the group discussed and approved the Data Working Group to develop an Ambient Groundwater Monitoring Program. Steve Swope with PGG is working with Melanie and the County on the initial scope of work which includes the design and selecting phase. The County will be asking PGG to design the monitoring system and work with the County in prioritizing the well-drilling, because the GWMA will not have sufficient money to get everything up and running immediately. There may be resources available to augment funding on hand, but it will need to be sought out. Guidance is being sought on how many wells are needed to come up with a viable sample.

### **USGS Particle Tracking Model**

Ginny Stern offered the group a preliminary assessment of the recently-released USGS nitrate-tracking model. The USGS took existing EPA data, and used a time-step application to estimate nitrate travel times based on flow data from 1959 to September, 2001. The model also incorporated specific sites, and came up with a general hypothesis. Eighty-six percent of nitrates fall under the 42-year timeframe, according to the model. There were no big surprises in terms of the model's conclusions on flow direction. The median figures were 13,000 feet underground, with a median travel time of five years over three miles. More information about the USGS peer-review process should be available for discussion at the next meeting. Ginny indicated that the model raised no red flags, and doesn't appear to be in duplication of, or damaging to GWAC's work.

Members of the group expressed concerns about some of the assumptions in the USGS model. They hydrology assumptions for all areas were the same, and there may not be sufficient attention given to margin of error in assuming nitrate travel paths. Ginny stated that the tracking methods were different than typical uncertainty models, in following particles from point to point.

Another member of the group expressed concerns about the 2001 end date, and whether changes in farming and irrigation practices in the last 14 years had been taken into account. Ginny stated that the model is valuable in helping the group know where to track, so our work can be

compared with their model. She again stressed that nothing in the report suggested the GWAC should change what it's doing in terms of data collection.

Another member of the group asked whether the USGS has talked about refining its model. Ginny stated that 1,000 square feet is their base. While it would theoretically be possible to use a smaller base, it would mean either making an even larger number of assumptions, or else spending a large amount of time and money to gather specifics, with no guarantee it would lead to better answers. Nitrogen loading assessments are not necessarily better or worse than what the USGS has put forth, but the most important aspect for the GWAC is to be able to have a more informed discussion about nitrate contamination and solutions.

The intent at this point is to take into account concerns from members of the group, and present a summary, either oral or in writing, to all members of the GWAC. Jim Davenport and Vern Redifer agreed that the group should be briefed on the contents of the report, while trying to avoid a debate over it before all the nitrogen loading data is available. Jim informed the group that he would be in contact Matt Bachmann with the USGS as to the status of their report with the GWAC.

### **Resources Requested**

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### **Recommendations for GWAC**

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### **Deliverables/Products Status**

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### **Proposed Next Steps**

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