

## **Data Collection, Characterization, Monitoring Working Group**

### **Charge from Groundwater Management Area Advisory Committee**

#### **Working Group Members**

Kirk Cook - Chair (Dept of Ag), Andres Cervantes (Dept of Health), Dr. Kefy Desta (WSU), Jan Whitefoot (CCYR), Jim Trull (SVID), Kevin Lindsey (GSI - Consultant), Laurie Crowe (South Yakima Conservation District), Lonna Frans (USGS), Matt Bachmann (USGS), Lorraine Edmond (Citizen), Mark Nielson (Benton County Conservation District), Steve Swope (PGG - Consultant), Stuart Turner (Turner & Co.), Thomas Tebb (Dept of Ecology)

#### **Meetings/Calls Dates**

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Conference Call: 1:00 PM – 2:40 PM, Thursday, May 8, 2014

Call Number: 509.574.2353 PIN# 2353

#### **Participants**

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Kirk Cook, Steve Swope (PgG), Pony Ellingson (PgG), Mike Murray (HDR), Jean Mendoza, Bob Farrell, and Troy Ross-Havens (Yakima County staff support)

#### **Key Discussion Points**

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##### **Welcome & Meeting Overview:**

Kirk welcomed the group and provided an overview of the agenda, which was to allow the group to express comments on Pacific Groundwater Group's (PgG) draft groundwater monitoring plan as well as the draft scope of work for nitrate loading assessment composed by Kirk, and to discuss a pre-scope of work involving a groundwater well monitoring network.

##### **Proposed Presentation to GWAC:**

Kirk explained to the group that Yakima County requested Kirk's boss to have a few weeks of Kirk's time to allow him to put together a presentation that will link all of the proposed LYV GWMA (GWMA) products and projects and how they fit together with the big picture and goal of the GWMA. At this point Kirk is hoping to address all of the questions that have been submitted to the GWMA by members and interested parties alike. It is intended that this presentation will help show how all of the items relate to building a comprehensive approach to Nitrate in the GWMA, and help tie together all of the loose ends and uncertainties some members may be experiencing.

**PgG's Draft Groundwater Monitoring Plan:**

Kirk began by asking everyone if they had a chance to look through the document; which they agreed that they had. The document is intended to set the stage for a long term monitoring plan that will ultimately assist the GWAC in characterization of the GWMA, as it is one element of the characterization but focused more on long term monitoring.

A discussion on characterization was held. Ali Sedighi (Yakima County Senior Hydrogeologist) originally developed the draft characterization plan for the GWMA and was going to assist in the characterization report; however he has left the county as of last year. As of now, the topic of who will be leading the characterization report is under discussion between the County and others. The scope and level of detail the characterization report still needs to be decided. Pony suggested that existing analyses by other parties contain a lot of useful information, and that it might be beneficial to reference and extract a lot of this information in order to avoid recreating information that is already available.

Purpose built groundwater monitoring wells were discussed, and the group generally agreed that these wells will be of high importance to the GWMA project, as long as they are carefully thought out in regards to the purpose and benefit of them prior to installation.

One member suggested that the consultant develop the ideal plan that would benefit the GWMA if there were no funding constraints, and from there develop a few monitoring plans of lesser extent and identify what is lost or gained by adopting a plan of lesser extent. Perhaps one plan would cost significantly less than the ideal plan, but the advantages would not be significantly diminished. This would allow the GWAC to see the differences in approaches and how they might affect the outcome of the characterization report.

Data quality objectives associated with results precision, number of samples, and number of wells has yet to be finalized as domestic well volunteers are still being recruited. This parameter of the document would need to be tabled until a known number of domestic well volunteers is established, allowing the group to determine how many purpose built wells would need to be implemented, and how often to sample to achieve the data quality objectives. The group reached consensus on the importance of establishing a background concentration in the wells prior to the implementation of potential land use changes or BMPs. More sampling upfront would be beneficial in identifying seasonal changes as well as establishing a tighter background level. Basin wide sampling vs. BMP effectiveness monitoring was discussed.

One consultant mentioned that the document seems incomplete without establishing the network and which wells will be monitored. Marking the document as an interim final for now would be ideal pending finalization of the monitoring well network. This consultant

also suggested adding chloride to the analyzed list, as this will help identify the source of nitrate (manure vs. chemical).

Kirk asked the group to send him all of their comments via email within two weeks.

**ACTION:** Group members are to submit comments to Kirk via Email within two weeks. He will incorporate comments and send back to group for verification. Once finalized, this will be sent to the County.

### **Draft Scope of Work for Nutrient Loading Assessment:**

Kirk began the discussion by mentioning that criticism came out of RCIM's scope of work proposed by the consultant for a nutrient loading database due to the fact that RCIM has been shown to be a relatively minor source of nitrates to groundwater compared to Livestock/CAFO and Irrigated Cropland based on recent studies, and that this could lead to spending more funding on a source that has less potential to be contributing to nitrates in groundwater. Following this, the County asked Kirk to develop a proposal for a more comprehensive assessment for all nutrient sources. This proposal was discussed by the group, with the caveat that as it was distributed, was drafted prior to the RCIMs scope of work from PgG. Kirk solicited information from the group that could be passed on to the County to allow for a proposal or consultant search to get GWAC approval on such an assessment.

Most of the comments made were directed to the granularity or resolution of the assessment, and what data types or formats would be expected. The consultant mentioned that in the essence of time, it would be most beneficial to determine what resolution the GWAC desires, as well as to anticipate or sample what data types or forms the data inputs would be in, to allow consistency between the different sources and minimize the potential of abandoning progress due to database incompatibility.

Some discussion was held on the method anticipated for the nutrient loading assessment, such as a modeling or an accounting exercise. Kirk explained that the purpose of the nutrient loading assessment is to account for the nitrogen activities in the GWMA to determine if or what amount of nutrients are migrating passed the root zone (gain, loss, or equal). It was mentioned that the Deep Soil Sampling Program and shallow groundwater monitoring will help in verifying or rejecting some of the assumptions in the assessment, and will be useful in comparing and contrasting findings from the nutrient loading assessment.

It was mentioned that agronomic rates recommended by NRCS are expected to change in the near future, and it is important for the GWAC to stay up-to-date with potential changes such as these that may impact nutrient application.

Kirk Cook concluded this agenda item by requesting that the working group members send their comments to him via email within the next two weeks. Kirk will compile the comments; send back for working group review for consistency and completeness. Once the scope has been approved he will send to the County for GWAC approval.

**ACTION:** Group members are to submit comments to Kirk via Email within two weeks. He will incorporate comments and send back to group for verification. Once finalized, this will be sent to the County.

### **Dedicated Monitoring Wells**

Dedicated or purpose built monitoring wells were discussed at the end of the meeting. There was general consensus that the members need to start discussing the scope of the wells, such as number needed and locations to be selected. The group would like to get these discussions and plans started as early as possible, as establishing a background nitrate concentration is important for the determination of BMP effectiveness. Discussion should include what is the intended use for the wells, what criteria are they going to be based on and where are the BMPs going to be implemented. Some agreement needs to be reached on concept and what information needs to be collected.

### **Resources Requested**

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None at this time

### **Recommendations for GWAC**

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None at this time

### **Deliverables/Products Status**

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- Presentation to be finalized prior to June GWAC meeting
- Mark Groundwater Monitoring Plan as Interim Final pending on well survey results and participation levels

### **Proposed Next Steps**

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- Working Group members to provide comments on the documents discussed today to Kirk Cook, and expect to review and approve the updated documents prior to submitting to the County or GWAC
- Discuss monitoring well locations, purpose, and criteria