

Committee members present: Jerry Marguth, Gary Horning, George Pugh, Mike Kessler, Rich Margerum, Dennis Boeger, Lori Grant, Brittany May, Bill Emminger and Xan Augerot

Updates in the GWMA:

Wym Matthews (ODA) indicated that the Fertilizer grant request for proposals will be open through the last day of May. The grant is available to research that looks at fertilizer use, efficiency, place and/or timing; extra points are assigned to proposals for research in GWMA's or research that is transferrable to GWMA's.

Also, the fertilizer research/ grant review committee is currently looking for a public member; contact Wym Matthews if interested.

Bill Emminger from Benton County Health mentioned that Benton County was awarded a grant from OHA regarding their domestic well program. Benton County is going to provide free testing for arsenic, nitrate and coliforms to for approximately 40 individuals. They will be focusing their effort on vulnerable populations. Testing is not just for homeowners. Renters may get their water tested with prior homeowner approval. Interested parties should contact Benton County Health at 541-766-6841.

EPA Updates – Jana Compton:

PINE Project: Jana stated that the PINE project has wrapped up its sampling efforts. Four years of data have been collected. They are currently working on the water and associated nitrogen balance for each field, as well as assessing whether there is a relationship between soil sample data and lysimeter data. All of the farmers who participated in the project were also surveyed. They are currently analyzing all of the inputs and writing up their results.

OSU Vegetable Farm: Working with Oklahoma to look at cover crops overlaid with corn. 1st year is the control year; 2nd year interseeded crop, cover crop over winter

ODA Fertilizer Fund: co-contributor Jen Morse from Portland State University. Looking at slow release fertilizers. There are 52 lysimeters at 4 sites with a tall fescue crop. Control group is conventional fertilizer application.

- Conventional fertilizer application refers to what growers typically do.
- Slow release fertilizers are the same across all treatment sites.

Jerry Marguth – asked who chose corn as the crop at the vegetable farm study

Jana indicated that the goal of the vegetable farm project was to look at management practices with wide applicability.

Jerry indicated that corn was a “worst case scenario” because it is a poor utilizer of nitrogen.

Gary Horning asked whether the slow release fertilizer was released by rain or temperature?

Jana indicated she will inquire about the specific release trigger, but confirmed that the same slow release fertilizer was being used in all trials.

Wym Matthews indicated that the release profile of slow release fertilizer is often more rapid than advertised, but it wasn't clear whether it was rain or temperature that caused this.

Paul Measeles suggested it would be good to document the crop growth with photos.

Wym Matthews gave an update on the Lower Umatilla GWMA that is trying to determine the "maximum environmental yield" for farmers.

- People are familiar with the concept of "maximum economic yield"
- Trying to define the difference and the scale of the difference between the two concepts
- May target cost share to make up the difference between the Maximum economic yield and the maximum environmental yield.
- Determine how to manage variables

Jerry asked how many crop types they were looking at in the Umatilla.

Wym indicated that they are looking at developing this for each of the major crops.

GW Wells – Status & Trends Update – Seth Sadofsky (DEQ):

Seth Sadofsky was introduced as the DEQ hydrogeologist replacing Bill Mason (retired) in the SWV GWMA.

LIDAR is a good way to look at ancient stream channels and how these may impact the movement of groundwater.

Paul suggested isotope data can be analyzed to determine if wells are impacted by the Willamette River.

GW-20 well investigation and TA – Paul Measeles

- chronic nitrate problems
- Identified source area, 5-year time of travel, determined that source of contamination was southwest of well
- Identified 11 landowners, leasing to 1 farmer
- Paul provided TA to 2 additional farmers; discussed crop practices
- Largest landowner was growing pumpkin for seed and leaving the pumpkins in place (30 tons pumpkin/ acre). Soil testing in March showed 1000 mg organic N / kg soil, which is high.
- Question becomes – when is the Nitrogen for crops available?
- Paul resampled in May with a test kit; confirmed results with lab analysis (comparable for range of values)
- With soil sampling, can reduce fertilizer inputs.
- 2 of the 3 farmers were amenable to soil sampling

Jeff Choate (OSU Extension) – asked if Paul was able to quantify the cost savings for the grower with a decrease in fertilizer inputs?

Paul indicated there was approximately a 30% savings on fertilizer.

Wym indicated that on the CAFO side, it is more difficult to manage organic-N than inorganic-N. The release uptake does not match the application.

Paul suggested that slow release makes it difficult to know when N is released. It has to be oxidized to be available for plants.

For grass seed, the timing of fertilizer application for grass seed production; it is better to apply nitrate rather than urea.

Neighborhood Project:

- Need to get other folks involved in the project
- Could investigate the monitoring wells with nitrate spikes ~ 2012-2013 – What may have happened in the GWMA in the time-period 2012 – 2015?

Cody Piscitelli – OSU graduate student

- Will be doing a trend analysis on DEQ GW monitoring well nitrate concentrations
- Hope to understand and quantify what has happened on the landscape over time
 - What aspects of land management can they capture?
 - Incorporate isotope data

Rich Margerum – suggested the spikes tell a story – asked if they could use aerial imaging to identify crop types

Jana indicated they have aerial imaging starting in 2008 which may be able to identify crop type

Xan Augerot suggested they should also look at precipitation and temperature

Paul suggested more direct contact with landowners, and invited group to assist with this process

Jerry indicated that if the contributing area to individual wells can be determined, the committee can help identify the farmers to outreach to.

Paul would like to expand to other influences such as septic systems.

Wym indicated that ODA's Portland lab is ramping up its capacity to do source tracking for *E. coli* and fecal coliforms

Derek Godwin from OSU asked if there was any funding available

Paul said the monitoring money is currently allocated to the Klamath basin

Wym suggested someone partnering with the SWCD or Watershed Council could bring the request to OWEB

Jana suggested that Cody's work could include using Tetra Tech's contour model, and help set up where to focus next based on trends and land cover

Paul reminded the group that the Tetra Tech model did not contain consistent elevations for all dates. Need to look at the wells in groups of 3 to determine flow direction.

Water Investment – Lori Grant:

Lori posed questions to the group – what investments are most critical? What are the top 3 priorities for state water funding?

Paul has been hearing more about surface water storage (moderate size impoundments)

Gary took part in the Willamette 2100 planning process. With climate change, the valley will see more water as rain. Suggested that the push to remove the dams could have repercussions since flood control is the major use for the dams.

Rich Margerum suggested that there is more opportunity to fund outreach work. OWEB can't keep up with being a sole funding source.

Paul remarked that DEQ has lost staff over the years. It is difficult when state agencies lose staff. There is a big impact.

Lori mentioned that 20 years ago was the last time the state funded major water work.

Dennis Boeger commented that small communities do not have the capacity to upgrade their water systems.

Lori asked if you treat access to clean water as a right, how does that change things?

Washington and California have done a lot of work assessing their states' needs for water.

Xan suggested pursuing place-based planning funds to bring communities together to assess their water use/needs. Currently there is a patchwork of such efforts across Oregon.

Tom Pattee from OHA said that OHA has funding for large projects, but it is difficult for small community systems to access the money.

Dennis asked if there were obvious trends in nitrate around the City of Coburg since they replaced their community septic system with Wastewater treatment?

Paul asked where the City of Coburg discharges to?

Bill Emminger from Benton Co. Health said EPA has funding to help support large public water systems.

- Oregon – non-EPA funded public water systems (4 – 14 connections)
 - Fees, cost share with larger system
 - Identified some scary situations
- Domestic well safety
 - 10-15% of domestic wells exceed SDWA values for arsenic or nitrate
 - How many are aware of the real estate requirement
 - Need to get the word out and provide training
 - Who is responsible for doing the testing? It is the seller's responsibility
 - One major concern is "legacy" properties that have been handed down in the family