

Irrigated Ag Working Group (IAWG)

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Dr. Troy Peters (GWAC-WSU); Bob Stevens (interested party) Bud Rogers (GWAC-Citizen), Chelsea Durfey (GWAC), Dan McCarty (interested party), Dave Cowan (interested party), Dave Fraser (Interested Party - Simplot Agronomist), Donald Jameson (interested party), Doug Simpson (GWAC-Farmer), Frank Lyall (GWAC-Farm Bureau), Ginny Prest (GWAC-Dept. of Ag), Jean Mendoza (GWAC-Friends of Toppenish Creek), Jim Newhouse (GWAC), Kevin Lindsey (interested party), Kirk Cook (GWAC-WSDA), Laurie Crowe (GWAC-South Yakima Conservation District), Melanie Redding (Ecology), Mike Shuttleworth (interested party), Ralph Fisher (EPA), Ron Cowin (GWAC-SVID), Scott Stephen (interested party), Stuart Turner (GWAC-Turner & Co.), Tom Tebb (GWAC-Department of Ecology), Rosario Brambila (interested party), Vern Redifer, Jim Davenport.

Meetings/Calls Dates

Meeting: Sunnyside Valley Irrigation District Office, 120 S. Eleventh Street, Sunnyside

When: April 19, 2016, from 1:30 pm to 3:30 pm.

Call: (509) 574-2353 – Pin # 2353

Participants

Troy Peters (Chair), Kathleen Rogers, Doug Simpson, Frank Lyall, Jean Mendoza, Larry Fendell, Jim Dyjak, Laurie Crowe*, Ralph Fisher*, Scott Stephen*, Stu Turner, Ron Cowin, Dan McCarty, Steve George, David Bowen, Ginny Prest, Anthony Dorsett, Perry Beale, Bobbie Brady (Yakima County support staff)

*via telephone

Key Discussion Points

Chair Troy Peters opened the meeting at 1:35 PM. He asked everyone to introduce themselves and acknowledged the persons on the phone.

Update on the N Prioritization Project/Nitrogen Loading Assessment – Perry Beale

Troy asked Perry Beale to provide the group with an update on the N prioritization project/nitrogen loading assessment. A member voiced a concern about Perry presenting the draft of his project to the group as it had been explained to other working groups that the assessments would not be disbursed to the groups until the peer review had been completed on all three components. A discussion ensued around the following points:

1. Some members were concerned that the peer reviewers were acting as a sensor for the groups. They felt that the purpose of the peer review was to assure accurate methods for the collection of data and not what it means.
2. Another member felt that the materials should be released immediately with a giant asterisk noting that the material contained raw data and was still awaiting peer review. Further, the caution should be included that the group shouldn't jump to conclusions about the material and that it was important to work with experts when reviewing the material for a better understanding of what had been learned as a result of the assessment.
3. Most felt, however, that the disclosure of the assessments prior to peer review would have gone a long way toward transparency among the various members of the groups. A member went on to say that while the process couldn't be altered now they felt that as the GWAC continued to move forward it would help if the groups were allowed to examine the data with a caution not to jump to conclusions.

The group concluded that they did not have a problem with Perry Beale releasing the data today and that they would accept the caution not to jump to conclusions until the assessment had gone through the peer review process.

With that Perry Beale passed out the N Prioritization Project/Nitrogen Loading Assessment. He also emailed a copy to those calling in by phone. (In addition, the assessment and draft report were emailed to Yakima County Support Staff for distribution to the working group). Perry asked everyone first to refer to the legend. He pointed out that the green columns represent N inputs, the yellow columns were informational – either crops/acre or lbs./acre. Orange represents N output and blue was the N totals – the darker blue is per acre and the light blue totals.

The group then had a chance for review and to ask questions as follows:

1. A member asked about several columns on the backside of the chart – AH and AI. They wanted to know what the number was at the bottom of these columns and noted that one was a negative (-) number and one was a positive (+) number. Perry explained that columns AG, AH and AI represent the low, medium and high ranges. A member asked a follow-up question to this as they wondered what the primary factor was for the variance in these numbers. Perry explained that it was due to the range in rates of fertilizer application and soil conversion. He added that if you multiplied the low number it was good for nitrates and the high number would not be. The main driver of the disparity is the rate of nitrogen in commercial manure, compost, fertilizers.
2. A member asked about loss to nitrogen loss to atmosphere 17 lbs./acre Perry indicated that he can fine tune this a bit. Another member had already provided him with some good information but the piece had already gone to peer review. He will update the number when the review is complete. Another member pointed out that there was a wide range of numbers out there and loss is influenced by temperatures and climate. Stu Turner felt that the number didn't seem right as well and could provide Perry with additional information and research.

Update on Meeting with the WSU Faculty – Perry Beale

Perry informed the group that he had met about the Irrigated Ag piece of the Nitrogen Loading Assessment with WSU faculty Dr. James Harsh, Chair Crop & Soil Sciences, Professor/Scientist; Dr. William L. Pan, Professor, Scientist & Extension Specialist; Dr. Haiying Tao, Assistant Professor Nutrient Management Specialist; Dr. Dave Huggins, Soil Scientist, USDA – Agricultural Research Services and Joe Harrison, Animal Scientist & Extension Specialist WSU Puyallup was in by video conference. The group had had a chance to review the assessment and mass balance sheet prior to the meeting and Perry provided the group with additional background as they first met. He didn't spend as much time providing an in-depth overview of the mass balance sheet, but wanted to talk to them about the model and was willing to accept and be open to different inputs if it could be backed up with science. Perry reported that after reviewing the piece the WSU personnel were very excited about what the Irrigated Ag group is doing. They said the mass balance method is accurate and that no one had done this without book value. Off the record they said that there was a large hole in this kind of research and they would have grad students work up new projects.

Ginny Prest spoke up and said that they were working out a contract with DMNP to update a nutrient balancer tool from DOS days in the 90's. The funding for the update is from an education provisio through the Legislature to help farmers dial in on manure management. They have already been to Yakima Valley to meet with farmers and were looking at the data from the deep soil sampling. Troy asked how this tool would feed into what the working group was doing. Ginny responded that it would help where people were struggling with identifying/quantifying inputs. She went on to say that if someone was only looking at nitrates and ammonia not organic material they could overapply. This tool would allow them to factor in the organic material and its impact.

A member asked Perry if he taken samples before or after – Perry reminded them that he had mentioned last meeting that the survey results came from talking to people. He also noted that he had previously disclosed that people may have been conservative in their responses. Perry indicated that because people had thought something was missing he called back to check up again on their responses.

A member pointed out that volitization denitrification process goes on in soils and wanted to know if this was accounted for. Ginny responded and said that this is a bigger player in Western Washington where there is shallow groundwater but not as big of a player here in Yakima County. In Yakima County it would be more particular to a field due to poor drainage or irrigation season. She felt this would be a de-minimis number but that the group should still make sure we recognize it and have a scientific article agreeing with it. Ginny said she would look for an article.

Jim Davenport expressed concerns about the percentage data in yellow columns F, J and N. He noted that if you add the percentages you get more or less than 100 percent. If you did N commercial than the rationale is fairly developed. He went on to say that he was uncomfortable with the lack of information to determine those percentages in both in the deep soil sampling and personal interviews. He asked the group if they had any thoughts as to where they could get this information from. He went on to say that the Regulatory group had learned that fertilizer companies pay tonnage to the State but that there is no way to dial this information down to

Yakima County. Someone suggested that the group could ask fertilizer companies. Ginny said that she contacted the Department of Revenue, but the information is mixed up with seed and other things. Another member thought it might be possible to go to the fertilizer companies directly for the information, but they had no incentive to provide it. Jim's concern that this was only one side of the percentage split with fertilizer – it does not handle manure. His concern stems out of the fact that if you start changing the number in the spreadsheet the weighted average will change. He went on to issue a challenge to the group to find a way to determine the percentages of commercial fertilizers/manures in the GWMA. He felt this was important because the group is trying to strategize and this information would better direct the group where to focus their time. A farmer always has the choice to utilize nutrients from a source they choose. In a perfect world you could line out the variable to producers. Jim wants to know Perry's estimates are solid.

Ginny commended Perry for his work noting that he was professional at looking at the new information (integrity but with a human element). Chair Troy Peters asked if there were any more questions for Perry Beale

A member asked if at the meeting with WSDA faculty recommended any changes to methods. Perry said, no, they said these are good and noted that no one had used estimates from a survey in their work before. It had been his goal to get 30 percent but mostly got 50 to 60 percent. WSU was ok with that. He added that he had sent his survey methodology to WSU to look at as well and they felt good about it and didn't feel a need to change it.

A member wanted a list of references behind Perry's work – Perry explained it was in the draft that would be sent out. She asked about his methodology for the survey work. Perry said he used a telephone. He then noted that his Quality Assurance was in the project plan as well so the member could review it. He did not ask for last names of the people he spoke with people on the phone on purpose but he contacted five primary commercial consultants in Yakima. Every single person he spoke with was an agronomist. He kept them protected out of the GWMA by not procuring names. He believed the information was accurate. The member noted that you have to be able to replicate methodology in order to have good science. Perry responded that the member could call the same companies and come up with the same results – Bleyhl, Simplot, Wilbur Ellis and GS Long. All sources were documented by type - many consultants, other growers, warehouses. Also, Stu Turner looked at the data too and provided Perry with local knowledge. Some people were precise in reporting to Perry and others, but people generally were afraid to share.

The member then asked Perry if he kept a written record when he called – Perry said chicken scratch on notes as he input information immediately in the mass balance sheet.

Another member mentioned that since the report draft is in peer review does it go back to peer review if there is no change to methodology. No, it would only go back but if there are changes to data.

Perry said that he double checked models/estimates with soil sampling data – DSS data is in part of it. He thought the DSS data was good data – really good data. He won't do additional soil sampling averages.

Status of Deep Soil Sampling Project

Laurie Crowe told the group that they had a goal to procure 45 samples in the last round of deep soil samples this spring. That would mean they have procured 186 total samples in all of the rounds which is slightly off from the GWAC goal of 200. She went on to say that if the spring sampling costs about the same they will have about \$45,000 remaining. Each six foot sample costs about \$1,300. This would provide enough money for another sampling to be done in the fall so the question is do we need another round of sampling. A member asked if any areas need to be resampled. Laurie said, yes, a few samples caused her to raise her eyebrows and wonder why. Resampling would allow her to determine if the original samples were abnormal. A member asked Laurie how many samples she thought she would like to retest. Laurie said 12 to 24 but that number will depend on this next sampling.

Someone noted that in a past meeting the group had discussed giving 1/3 of the \$45,000 to RCIM to test septic systems. Another suggestion was made to use the funds to help producers find out how good they are doing with nutrient management – to allow those guys to do sampling.

It was agreed that the group keep \$30,000 for retesting to further verify the integrity of the sampling process. Not only would this allow for a reverification of the greater body of data, but the group would also know if hot spot existed. \$30,000 would allow for resampling of about 23 sites she had questions about. It was suggested that she change the sampling plan to look at the hotspot and possibly do six cores randomly distributed and one at the original testing site. Troy will recommend to the GWAC (and the group was in agreement) that the remaining \$15,000 be given to RCIM for deep soil sampling of septic in drain fields. Laurie went on to say that there is also a MOU (Memorandum of Understanding) with the County that will require discussion. Jim Davenport said that the decision to reprioritize the funds will be done in Vern's office.

A member voiced concerned about Laurie's group doing the septic testing, but Laurie spoke up and informed the group that she had discussed this already with Bob Farrell (then chair of RCIM) in a meeting early on in 2016. She stated that septic testing would take on a whole different protocol and is much more complicated to do therefore it would be done by someone else. Ginny noted that septic issues were starting to be addressed on the west side of the State and it would cost homeowners a lot of money to make the necessary changes. Other members also expressed concerns that there is a variability of soils, size of septic system, and how much water pumped.

A member brought up biosolids and said two meetings ago Stu provided a per ton number he didn't feel was accurate. Stu said he would bring the analytic sheets from Natural Selection Farms and will get raw data to the group. Per acre application is what was important not this number. Stu will send to Bobbie. It was noted that a presentation was made on the subject of biosolids to RCIM and this was their business not Irrigated A.

A member went on to say that the dynamics of where organic material goes is changing. Previously it wasn't send out beyond Yakima County but now they do. A member indicated that there were three big players that produce 90 percent of the product – Ginny/Stu could provide with information. They are arranging transport and could tell us where it went. Jim Dyjak concerned about this item. Another member said that no inspection reports have been received but were asked for. Ecology is trying to do this – everything being composted and exported off

site. A member concerned about the term “export.” Apparently this means going off one farm to another – not exported overseas. Ecology cognizant of the term and is not using it – they have changed to the word “transfer.” Ginny said that WSDA is asking dairies on the newly added form where they are transferring manure. Perry did not at transferring and said that Column I could be on their property or someone else’s.

How Do We Solve the Problem of High Nitrates in the Groundwater – List and Prioritize Potential Solutions.

Troy explained that as the new chair of the working group he wanted to take time to strategize what the group wants to accomplish and how the group will go about executing the strategy in order to make a list of priorities and agenda items for future meetings.

One member spoke up and said that they had learned from a report at the Regulatory meeting that the Irrigation District cannot dictate irrigation standards on property. Therefore, they see the need for:

1. Educating irrigation users on the consequences of irrigation usage. Get them engaged in the goals of GWMA because they know how and where they are putting the water. We need to broaden the pool of people we are speaking to.

Another member said that the groups had heard frequently the term “precision ag,” but it requires gathering accurate data. It was her suggestion that the group:

2. Create a giant data base. We don’t have the data base to see the impact on human health.

Another member spoke up and said that most often the group had procured preseason soil sampling and they would like to see the group work out of way of providing for the:

3. Cost of hiring sampling done, subsidies, measuring equipment, personnel or self-test kits.

Another member wanted to see if there was some way to:

4. Have people develop and create irrigation management plans (similar to nutrient management plans) and assist with the cost share of this program. They were not suggesting more regulations but felt there would be a benefit to expanded recordkeeping because it would provide the ability to tell a story with data.

This member also noted that they were surprised to see the changes already being made with manure application directed right were the crop is. Another member was concerned that dairies were required by law to have a nutrient management plan but no one was required to follow it. He wanted them to disclose the whole nutrient management plan.

Jim Davenport and Jean Mendoza advised the group that at the last Regulatory meeting it had been decided that the group would summarize the regulations pertaining to each nitrate source. They would then provide the information and refer it back to the groups so that they could explore how best to solve each issue and make recommendations to the GWAC.

Laurie spoke up and said that as a result of the deep soil sampling many grower participants came back once they received the results of the tests to find out what they could do better. She felt this had been a very good tool.

5. Assist with education/outreach group. Ginny said the group could make another request for provisions to help with this. This could focus on precision water delivery – what you need with surface area. A member pointed out that fertilizer application is the other half of water application and should be addressed too. Fertilizer is the nail and the hammer is water.

A member wondered if the ditch riders could help with the education. Ron Cowin added that the only time irrigation user's supply is cut back is if they are flooding out, but that a farmer has a minimum or maximum amount they can order. Another member thought it would be difficult for someone from the outside to tell a farmer how much water they should use as they don't know the whole story. They went on to say that farmers are just doing their best mixture of art and science.

6. It was suggested that dilution is the solution and that the group should find opportunities to do groundwater recharge. One potential avenue was to fill the irrigation canals with water and just let them sit. It was noted that this would be difficult for those managing the irrigation system. However, they do this in Idaho. They don't deliver the water to anyone – the water just sits in the canal. Ron Cowin responded and said the irrigation districts do maintenance in the winter. Another member asked could we increase the staff? Ron added that you would have to continually put water in the system and would have to increase the staff to do it. Another member asked how this strategy addresses nitrates and the response was that it would dilute them. Ralph spoke up and said that he could get names of the Idaho Department of Water Resources personnel as they actively do this and the group could learn more. Another member questioned how would it work politically, how would irrigation districts be compensated and how would it work with water rights. Ron voiced a concern about laterals because they don't completely seal up and water can get to the flow meters and they can freeze. Someone else said that the group would need to work with the Bureau of Reclamation and would need funding to make the changes in the infrastructure.

Another member asked if there had been a cost/benefit analysis of this?

What can the Irrigated Ag Working Group do about it – List and Prioritize Potential Working Group Priorities for the Coming Year?

Jim Davenport said that the group could come up with a list for the GWAC that would contain characterization and strategies for solutions. Then the list could be filtered down to the items the group felt by consensus that they could engage in. The larger list could be created in one or two meetings and then the group could whittle it down – tossing out those ideas they could not settle on. This would look similar to what the group just did, but look at coming up with more ideas. It was his hope that the group would come back with more plans so they would be able to say definitively – this is what we want to do. A member suggested that this not be just regulations, but voluntary actions as well as these could be more effective.

Troy felt education, outreach and cost share were both good ideas because of public benefit and public harm. He felt this could be done in the area of irrigation water management, nutrient management plans could be a win/win if we didn't hit with a hammer, as well as dilution.

A member felt that the group also needed to consider how the ideas are going to be administered and monitored.

Chair Troy Peters adjourned the meeting adjourned at 3:30 PM.

Recommendations for GWAC**Deliverables/Products Status****Proposed Next Steps**