

Residential, Commercial, Industrial, Municipal (RCIM) Work Group

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Ryan Ibach, Chair (Yakima Health District), Elizabeth Sanchez (Yakama Nation), Jan Whitefoot (Concerned Citizens of Yakama Reservation), John Van Wingerden (Port of Sunnyside), Stuart Turner (Turner & Co.), Tom Ring (Yakama Nation), Kathleen Rogers (Citizen Rep), Sanjay Barik (Ecology), Dan DeGroot (Yakima Dairy Federation)

Meetings/Calls Dates

Meeting: May 9, 2016, 2:00-4:00 PM
Sunnyside School District Administration Building, 1110 S. 6th Street, Conference Room 20,
Sunnyside, WA 98944
Call in: 509-574-2353 (pin 2353#)

Participants

Present: Ryan Ibach, (Chair), Jim Davenport, Dan DeGroot, Kathleen Rogers, Jim Dyjak, Vern Redifer, Sandy Braden, Mike Martian, Cynthia Kozma, and Bobbie Brady (Yakima County Support Staff)

Key Discussion Points

The meeting was called to order at 2:02 PM.

Status of RCIM component of the Nitrogen Loading Assessment (also included discussion of the number for applied fertilizers to schools, golf courses, etc.)

Chair Ryan Ibach opened the meeting and introduced Mike Martian and Cynthia Kozma from the Yakima County GIS Department. A chart they had prepared was distributed to the group. Mike explained that GIS recently met with Jim Davenport to talk about adapting the information already assembled for the RCIM component of the nitrogen loading assessment into the tabular format used by the Irrigated Ag working group in their component as this would allow people to more easily compare the reports in the future. Mike explained he and Cynthia were present at the meeting to outline their processes and the data they utilized as they prepared the chart, to confirm the group's approval of both and to solicit input and suggestions from the working group to refine and add to the information they had already obtained.

Mike then led a discussion of each source of nitrogen applicable to the RCIM and the numbers that had been inserted into each column following each source. Those sources were: domestic septic systems, large on-site septic systems, UIC wells, lawns, hobby farms, and permitted bio-

solid fields. He also had added atmospheric deposition as it had been requested that this topic be incorporated into the RCIM component of the nitrogen loading assessment.

Mike and Cynthia explained the data and how they had reached conclusions, estimates and/or assumptions for each piece of data. The group made the following comments:

- It was agreed that some of the columns utilized by the Irrigated Ag group in their piece did not apply and that when they did not apply to a source in the Irrigated Ag piece “-o-” was inserted into the column. The group adopted this same format.
- GIS incorporated the use of a range (low, medium, and high) as the Irrigated Ag piece presumed this as well. Jim Davenport felt this was important for comparison of the three studies in the future since no one knew what number would be used in the long-term when all the reports were consolidated.
- Vern informed the group about an article he had read (“Onsite Sewage Treatment and Disposal Systems: Nitrogen”) which had been prepared by the University of Florida. He had provided the article to GIS for their consideration as they were updating the RCIM piece. Vern would also distribute it to the working group. The article provides information on research and data collected by the University of Florida that would allow for the weight of nitrogen per person per day generated by onsite septic systems. Vern and Mike discussed converting the measures into the same units as the Irrigated Ag piece and spreading the calculations over the applicable acreage.
- A member raised a concern that if 120 lbs. of nitrate is pumped into a drain field from a septic system each year, year after year for say, 50 years in a row, this number becomes quite high especially as there is no system to take out the nitrates. He also pointed out that a septic system provides daily water, 365 days per year, with which to move the nitrogen. Of greater concern to the member was the potential proximity of acreages with septic systems which would create a larger concentration of nitrates.
- The member also expressed concern about commercial septic systems missing from the equation in the RCIM piece. He reminded the group that he had previously shared that there were businesses he was aware of in his neighborhood that were on septic systems, but he did not see them on the map GIS had previously provided. Unfortunately, he felt this presented an incomplete picture of the septic systems. The group brainstormed how commercial septic systems could be included and various ways to go about estimating both the number of systems present in the GWMA and the number of employees utilizing the systems especially with the variation in the farm labor workforce.
- Vern did not believe that UIC wells should be listed as he did not believe they were a source as they don't generate any nitrates but rather could be a conduit as a place of injection like drains. In addition, they are predominately found only in urban areas. He went on to say that most were being retrofitted with pretreatment devices.

- The group looked at the number for applied fertilizers to schools, golf courses, etc. It was the consensus of the group to keep the 2-3 lbs. per acre per year loading rate (although a member had suggested a higher number) since it was in line with the research Kathleen Rogers had done in the Sunnyside area and the experience of others in the group. Kathleen reminded everyone that she had specifically called schools, parks and golf courses in addition to residential homeowners and had learned on average they only applied fertilizer once per year if at all. Also, there was no accounting in its provision for its application to a source that would utilize the nitrogen (grass) before it reached the groundwater.
- Vern suggested that permitted bio-solid fields be taken out of the RCIM piece as they were already included in the Irrigated Ag component.
- Mike and Cynthia stated that atmospheric deposition was still blank as they had not yet completed their research. They were still working on finding data from the right type of region to compare atmospheric deposition in the GWMA to. Vern noted that over the long-term there would be very little the GWMA could do to effect atmospheric deposition.
- Vern reminded the group that the RCIM report and data have not been to peer review as of yet.

Discuss how a septic study in the GWMA would look and who could do it.

Chair Ryan Ibach noted that Stu Turner had suggested a small-scale research septic study be done on representative fields concerning potential nitrate contamination attributable to improperly-operated septic systems. Stu had volunteered to consult with experts in the private and public sector and return with details concerning cost and implementation of his proposed field sampling project. He had explained that he had prepared a list of questions that need to be answered and said he would get back to the group with this information. To date, Ryan had not heard from Stu. The group agreed to wait for Stu to respond and not to move forward with the project until that happened. A member expressed concern that this study does not need to be done as other studies, i.e., the Chesapeake Bay study (which included 20 years of testing) could be used. The member went on to suggest the group look at the numbers in this study to see if they are applicable to the situation in the GWMA. He also believed that should the group do its own septic study he felt the people allowing testing to be done on their septic systems should remain anonymous as the GWAC had done with the deep soil sampling.

What have we accomplished and what direction do we go.

The group is continuing to work on nitrogen loading rates for residential, commercial, industrial and municipal entities as they had done earlier in the meeting. When this task is done they will begin focusing on strategies to recommend to the GWAC to improve nitrogen loading rates. Jim Davenport pointed out that earlier a member had suggested an issue in the Health District's tracking of commercial septic systems as currently they are not differentiated from residential septic systems. A proposed strategy could include the implementation of technology that would allow this to happen.

Resources Requested

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Recommendations for GWAC

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Deliverables/Products Status

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Proposed Next Steps

- From Vern Redifer: Copies of the study done by the University of Florida.
- From Stu Turner: Details concerning cost and implementation of his proposed field sampling project regarding septic systems.
- Next meeting to be held on June 13, 2016, at Sunnyside School District Administration Building, Room 20, from 2:00 to 4:00 PM.