

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: March 24, 2016 10:00 am – 12:00 pm
Radio KDNA, 121 Sunnyside Ave., Granger, WA 98932
Call in: 509-574-2353 (pin 2353#)

Participants

Present: Ryan Ibach, (Chair), Jim Davenport, Dan DeGroot, Kathleen Rogers, Jim Dyjak, Ted Silvestri, and Chris Saunders (Yakima County Support Staff)

Key Discussion Points

The meeting was called to order at 10:00am.

Time and location changes of RCIM Meetings

After a brief discussion, the group decided that the second Monday of each month would be a more convenient time to hold meetings. The next meeting (to be held April 11th from 2pm to 4pm under the new schedule) will take place at the same location in the Radio KDNA conference room. The location of future meetings will be subject to review at that meeting. A member of the group stated that Sunnyside would be a preferable location, unless the cost of booking a conference room was significantly higher than at Radio KDNA.

Septic Systems

- **Charting**

The group discussed the septic system map of the GWMA produced for the last meeting by Yakima County GIS. A member stated that the map presented an incomplete picture of the septic systems on their property, listing only the system connected to their house, while leaving out the toilets and showers connected to the barns on their property, and their neighbor's processing facility. The member had obtained a permit from the Yakima Health District to set up the system. Ryan stated that YHD had given the county all the information on GWMA septic systems it had.

The member referenced an EPA study stating that groundwater contamination “exponentially” increases with the presence of a “high-density” septic system, defined as 40 or more systems per square mile, and stated that there is a lot of density within the GWMA. Jim Davenport noted previous remarks from a GWAC member at a different meeting that an increase in the farm labor workforce during the summer puts more pressure on septic systems and could contribute significantly to groundwater contamination. The information Jim received documented an increase from 25,000 to 35,000 workers during the summer, and that the data did not show a significant increase in the effect of septic systems on groundwater during that period. Questions arose about the concentration of workers in certain areas, as well as the definition of “exponentially,” as used by the EPA.

Ted Silvestri from YHD made a presentation and answered questions about the operation of septic systems. A septic tank is an anaerobic digester which separates household wastewater into solids and liquids. Solids heavier than water sink to the bottom, while substances lighter than water, such as cooking greases, float to the top. Bacteria naturally found in the wastewater works to break down the solids. Those solids that can’t be broken down naturally remain in the tank until it is pumped. The treated wastewater is then distributed into a drain field buried beneath three feet of dirt by a perforated tube. When septic systems fail due to insufficient pumping of the system, the tank backs up. The accumulation of improperly-disposed grease causes the soil in the drain field to seal up. The bacteria does not break down the solids as quickly due to lack of oxygen, and the wastewater flows to the lowest available drain. If the wastewater doesn’t surface immediately, it produces a black slimy mud under the soil, and flows laterally for a year or two until the system backs up. Whether it gets into the groundwater table depends on the distance between the system and the table. At a site like Cheyne Landfill, wastewater is not going to get there. Other Lower Valley facilities might. Restaurants are required to carry grease traps, but residential properties are not.

- **Proposed research project**

Ryan reminded the group that Stu Turner had proposed conducting a small-scale research project on representative fields concerning potential nitrate contamination attributable to improperly-operated septic systems. Jim Davenport supported the idea in order to fully inform GWAC members, subject to budgetary limits. Details on how the project would be conducted, what types of soils would be sampled, whether all the septic systems in the GWMA area are documented, are unknown at this point. Ryan pledged to contact Stu and flesh out the proposal some more.

Bio-solids

- **Possible presentation from Yakima Health District or Natural Selection Farms**

Stu Turner had also suggested that the group might want to hear a presentation from YHD and/or Natural Selection Farms, a large family-owned organic farm near Sunnyside, as to the application of bio-solids on farm fields. Ted Silvestri from YHD was present at the meeting to answer questions on this subject. It was also noted that Peter Severtson from the Department of Ecology

(DOE) had spoken to the Regulatory Framework group in September on this matter, and that notes from this meeting were available for review on the County's website.

(<http://www.yakimacounty.us/AgendaCenter/ViewFile/Minutes/09092015-391>)

Ted walked through the process for testing fields. Inspections are conducted on fields twice yearly, more than that if they receive complaints. They take place before the crops are planted, and afterwards to determine concentration levels. The top two to three feet of soil is tested. If a field contains different soil types, they are tested as different fields. The limiting factor on bio-solids is almost always nitrogen. The nature of bio-solids change based on the time of year in small towns due to the changing seasons, although not so much in Yakima County. Bio-solids are broken down into Class A, Class B, and Class C. State law requires bio-solids to be classified as A or B when it comes to vector attraction (meaning a stench that attracts insects which can carry disease). In practice, most bio-solids are Class B, and are safe if handled properly. Getting them to Class A costs a lot of money. (For further info on state laws governing bio-solids management, see <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-308>)

Jim Davenport inquired how many permits had been issued for bio-solids fields. Ted responded that the state has one general permit for bio-solids and Natural Selection Farms has a letter from DOE that allows them to apply bio-solids to fields. There are three active stockpile sites in Yakima County.

A member inquired as to who is responsible for approving the application of bio-solids. Ted answered that DOE was responsible. The member responded that YHD's website claims YHD is responsible, and commented that contradictory answers from regulatory officials has been a recurring problem in this whole discussion. Ted responded that any statement on YHD's website claiming responsibility for bio-solids approval was outdated, and that Peter Severtson at DOE was the responsible party.

The group decided that they would be interested in hearing further information from Natural Selection Farms as to their methods of bio-solids application. The farm has been in operation since 1987, and it was suggested they would have some interesting observations regarding trend-lines.

- **Overlay map**

Ryan informed the group that DOE is working on developing an overlay map on permitted sites in the GWMA that receive bio-solids, but was having trouble with their GIS software. Jim Davenport suggested sending their information to Yakima County GIS.

- **Deep Soil Sampling on bio-solid fields**

The group discussed the possibility of conducting deep soil sampling on GWMA fields that apply bio-solids, in addition to the testing already underway on fields that apply manure. Questions arose as to how to convince people to volunteer for this testing. A member of the group questioned the transparency of the deep soil sampling process that has taken place so far, and expressed concerns as to whether representatives from the dairy industry sitting on the GWAC

had been completely forthcoming to the group concerning the viability of certain testing methods.

In response to a question on farmers' opinions about bio-solids, Ted stated that farmers who apply bio-solids to their fields are happy doing so, since they bring the soil more alive, and are safer than what he had seen with the application of manure. Ted went on to say that bio-solids are treated at the plant, and only mostly-stable compounds make it through to the field, whereas manure can be handled safely, but it's not tested. A member of the group disputed Ted's statement that bio-solids are safer to apply to fields than manure. He also stated that manure is indeed tested before applied to the field, and catalogued as to what type of manure, what species of animal, whether it's processed or unprocessed.

Ryan requested that Ted write up an opinion on the feasibility of conducting deep soil sampling on the application of bio-solids on fields. Ted assented to doing so, and that this material would be presented to RCIM and any other working groups where there's an overlap on the issue.

- **Member Questions**

A member of the group had submitted some questions for YHD via e-mail on February 11th, which Ryan read off, and Ted answered.

What precautions are made to make sure human bio-solids are non-hazardous at Yakima County landfills, (notably in the GWMA)? Who is buying bio-solids from Cheyne Landfill?

The landfills take waste from outhouses and other sources and store them in a shallow lagoon. The state requires them to recycle everything for use on fields, which was a subject of dispute between the state and the county, given some of the solid material that winds up in there which no farmer would want on their fields.

Are the Yakima County landfill bio-solids lagoons monitored for A) Leakage, B) Proper intake and outtake procedures, and C) Do they keep records of where it comes from and where it goes?

Yes to all three questions. The lagoons are double-lined, they have a catch-basin, and there are monitoring wells stationed around the lagoon. The County Solid Waste Department keeps those records. As for where it comes from, the sources of septage are self-reported.

Ted also mentioned that the county is adding another drying lagoon for septic disposal, possibly because more people are pumping their septic tanks regularly. A member suggested this may be of interest to the EPO working group.

Resources Requested

- From County Admin: A list of potential RCIM meeting sites in Sunnyside, and how their booking rates compare to Radio KDNA

- From County GIS: Maps showing density of septic systems (residential as well as commercial/industrial/municipal) within the GWMA, compared with map of high-nitrate groundwater samples
- From Yakima Health District or County GIS: An overlay map of permitted areas within the GWMA that receive bio-solids
- From members: The EPA study on high-density septic systems referenced during the meeting
- From members: The Chesapeake Bay study referenced during the meeting
- From Stu Turner: Details concerning cost and implementation of his proposed field sampling project regarding septic systems
- From Natural Selection Farms: Whether a representative from the farm would be willing to address the working group at a future meeting as to bio-solids application

Recommendations for GWAC

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Deliverables/Products Status

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Proposed Next Steps

- Next meeting to be held on May 9th, 2016, at Radio KDNA from 2pm to 4pm