



*Groundwater Management Area (GWMA):  
The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards*

**LOWER YAKIMA VALLEY GROUNDWATER MANAGEMENT AREA ADVISORY COMMITTEE (GWAC)**

**MEETING SUMMARY**

**Thursday, April 17, 2014**

*Radio KDNA  
121 Sunnyside Ave, Granger, WA 98932*

**I. Call to Order**

**Roll Call:** The meeting was called to order at 5:09 pm by Penny Mabie, Facilitator.

Member	Seat	Present	Absent
Stuart Turner	Agronomist, Turner and Co.	✓	
Chelsey Durfey	Agronomist, Turner and Co. (alternate)		✓
Helen Reddout	Community Association for Restoration of the Environment		✓
Wendell Hannigan	Community Association for Restoration of the Environment (alternate)		✓
Kathleen Rogers	Lower Valley Community Representative Position 1		✓
Bud Rogers	Lower Valley Community Representative Position 1 (alternate)		✓
Patricia Newhouse	Lower Valley Community Representative Position 2	✓	
Sue Wedam	Lower Valley Community Representative Position 2 (alternate)		✓
Doug Simpson	Irrigated Crop Producer	✓	
Jean Mendoza	Friends of Toppenish Creek	✓	
Eric Anderson	Friends of Toppenish Creek (alternate)		✓
Jan Whitefoot	Concerned Citizens of the Yakama Reservation		✓
Jim Dyjak	Concerned Citizens of the Yakama Reservation (alternate)	✓	
Steve George	Yakima County Farm Bureau	✓	
Justin Waddington	Yakima County Farm Bureau (alternate)		✓
Jason Sheehan	Yakima Dairy Federation		✓
Dan DeGroot	Yakima Dairy Federation (alternate)	✓	
Jim Trull	Roza-Sunnyside Joint Board of Control		✓
Ron Cowin	Roza-Sunnyside Joint Board of Control (alternate)		✓
Laurie Crowe	South Yakima Conservation District	✓	
Jim Newhouse	South Yakima Conservation District (alternate)		✓



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Robert Farrell	Port of Sunnyside	✓	
John Van Wingerden	Port of Sunnyside (alternate)	✓	
Rand Elliott	Yakima County Board of Commissioners		✓
Vern Redifer	Yakima County Board of Commissioners (alternate)	✓	
Gordon Kelly	Yakima County Health District		✓
Dr. Kefy Desta	WSU Irrigated Agriculture Research and Extension Center		✓
Dr. Troy Peters	WSU Irrigated Agriculture Research and Extension Center (alternate)	✓	
Tom Eaton	U.S. EPA		✓
Marie Jennings	U.S. EPA (alternate)		✓
Elizabeth Sanchey	Yakama Nation	✓	
Tom Ring	Yakama Nation (alternate)		✓
Lonna Frans	U.S. Geological Survey		✓
Matt Bachmann	U.S. Geologic Survey (alternate)		✓
Kirk Cook	WA Department of Agriculture	✓	
Virginia "Ginny" Prest	WA Department of Agriculture (alternate)		✓
Andy Cervantes	WA Department of Health	✓	
Ginny Stern	WA Department of Health (alternate)		✓
Charlie McKinney	WA Department of Ecology		✓
Tom Tebb	WA Department of Ecology (alternate)	✓	
Lino Guerra	Hispanic Community Representative		✓
Rick Perez	Hispanic Community Representative (alternate)		✓

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**II. Welcome & Meeting Overview**

Moment of silence.

Introductions.

**III. Committee Business: Penny Mabie**

The February 20, 2014 Meeting Summary was approved by the committee.

Penny noted that there is a new section on Page 3 of the Agenda which is titled "Meeting Materials." This is in response to a GWAC member's request to provide a list of meeting materials distributed prior to each meeting.

The Regulatory Framework Working Group's February Meeting Summary will be sent out shortly.

35 Penny opened a discussion on information the committee needs to complete its  
36 future work.

37  
38 Vern Redifer and Kirk Cook proposed getting all the working group chairs  
39 together to discuss how all the GWMA pieces fit together in context and as a  
40 whole. It seems that not everyone understands how each piece complements  
41 the other pieces. The committee needs to educate themselves internally. When  
42 the group started talking about a nitrate study, it seemed like everyone was  
43 dealing with little pieces without recognition on how they're all connected. A  
44 proposal was made to have a group get together, composed primarily of the  
45 working group chairs and interested GWAC members, to discuss the big picture  
46 and how all the work currently underway by the working groups and consultants  
47 fits together. Now is the right time as the committee is talking about the larger  
48 scale studies; the committee may find some things are not necessary. The group  
49 will develop the concept and present to the GWAC for a discussion/ question/  
50 answer session. Consensus was reached to move forward and the chairs will  
51 meet at the conclusion of the GWAC meeting to set a date.  
52

#### 53 **IV. Deep Soil Sampling: Jim Trull**

54  
55 Jim reviewed the proposed Deep Soil Sampling (DSS) Plan from the Irrigated  
56 Agricultural Working Group.  
57

58 Jim said the workplan is complete but has not been presented to the full  
59 committee for approval. Copies were distributed during the meeting. The  
60 questionnaire is also complete and also has not yet been shared with the  
61 GWAC. The working group has finished its work on the two documents. Next up  
62 will be the agreement between the South Yakima Conservation District (SYCD)  
63 and Yakima County. The GWAC will need to negotiate a contract with a lab to  
64 do tests. A newsletter will be going out in the next 30-45 days looking for  
65 volunteers to participate in soil sampling. The soil sampling effort should be set up  
66 to start in September. The group has been very busy the last couple of months.  
67 Penny will receive the documents electronically and distribute to the GWAC for  
68 review. The budget was brought up and Jim stated that he thought the funding  
69 was already settled. He was advised there was a slight adjustment but it was not  
70 worrisome. Laurie explained that the budget plan has changed a bit because of  
71 liability concerns and now it needs to be revised. Jim, Laurie Crowe and Vern will  
72 get together on this. Stu Turner added that there has been a lot of input during  
73 committee and working group meetings including lots of back and forth on the  
74 technical side. He thinks the DSS plan is ready to move forward. He is pleased  
75 with the latest editions of the two documents.  
76

#### 77 **V. Nitrate Standards: Fredianne Gray, EPA**

78  
79 Fredianne Gray with the US EPA Region 10 gave a presentation on Nitrate  
80 Maximum Contamination Level (MCL) standards and how EPA developed them.

81 Fredianne explained that the GWAC asked how the 10 mg/L (ppm) standard  
82 was set. There were two main questions asked of EPA:  
83

- 84 1. How was the 10 ppm decided to be the threshold for safe drinking water?  
85
- 86 2. What are the health risks of drinking water containing nitrate at  
87 concentrations greater than the MCL?  
88

89 Fredianne said that the levels that were proposed in 1985 were applicable at 10  
90 mg/L (ppm), and were again proposed in 1989. Regulations went into effect in  
91 1991. She went on to explain that the basis of the standard is epidemiological  
92 survey studies of infant methemoglobinemia in populations exposed to nitrate-  
93 contaminated drinking water. This data was derived from human studies, in  
94 particular infants as they are the most sensitive and most vulnerable population  
95 because their body is not fully developed. They drink more water per body  
96 weight, have different hemoglobin levels, and nitrate causes decreased oxygen-  
97 carrying capacity of hemoglobin which can result in blue baby syndrome or  
98 even lead to death. Studies have shown that under 10 percent of  
99 methemoglobin, none to minimal adverse effects are found. Symptoms greater  
100 than 10 percent methemoglobinemia were found in infants 0-3 months of ages.  
101 There were 214 documented cases of methemoglobinemia. Most cases of infant  
102 methemoglobinemia occur at 20 mg/L or higher.  
103

104 Discussion followed on the threshold for adults. EPA has not done a study on  
105 health-compromised adults. Studies are normally focused on the most vulnerable  
106 populations. Fredianne will get back to the group with additional information on  
107 that question.  
108

109 Fredianne suggested committee members visit EPA's Integrated Risk Information  
110 System (IRIS) database, where information is kept for all EPA studies including  
111 nitrate studies.  
112

### 113 **Committee Questions:** 114

115 Vern asked if nitrate is carried from mother's breast milk to infant. Fredianne said  
116 although it was likely not, that they cannot say absolutely not; so, it is still a  
117 concern. She said they will look at that when they re-do health assessments in  
118 future studies.  
119

120 A member asked whether the quality of bottled water is taken into consideration  
121 at all when parents are purchasing bottled water and infant formula. Fredianne  
122 answered that EPA does not regulate bottled water. There are no guarantees  
123 that bottled water complies with the nitrate standard since testing is not  
124 required. The decision depends on the level of nitrate in your tap water – EPA  
125 can't say bottled water would be recommended.  
126  
127  
128

129 A member asked how to eliminate nitrates in drinking water if the source has  
130 high levels. Fredianne explained that over the counter water filtration systems  
131 such as Brita® or Pur® don't work on nitrates. Vern noted that the Nitrate  
132 Treatment Program installed a lot of reverse osmosis filters. Fredianne said the  
133 reverse osmosis filters work and are a good method in a home.  
134

135 There was a discussion about whether there are any adverse health effects to  
136 anyone other than infants and what is the threshold? Concern was expressed  
137 about being able to have clear messaging for people so as not to scare people.  
138 Fredianne said that it will be a while for the EPA to get back to the group as that  
139 will not be an easy answer. She will talk to EPA HQ to see if there are other studies  
140 that can be shared that address adult effects. She suggested reviewing the  
141 federal registers to seek additional references. Typically standards are set to  
142 protect the most vulnerable population. Vern added that the Nitrate Treatment  
143 Program was geared towards infants less than 6 months old, pregnant women  
144 and nursing mothers. Fredianne commented that was very a good target or  
145 focus group. Andy Cervantes suggested the committee shouldn't try to  
146 distinguish who is vulnerable, rather just use 10 ppm as the bottom line. Stuart  
147 added that even health foods are high in nitrates, such as spinach and there are  
148 reported cases of infants being affected by this.  
149

150 **VI. Working Group Reports:** Penny reminded the committee that part of the reason  
151 why full committee meetings have been spaced out was so that working groups  
152 could get their work done.  
153

154 **Education and Public Outreach (EPO):** Andy reported that they met and went  
155 over the talking point slides but due to vacations and other issues, the slides  
156 didn't get finalized. They will be sent out to the committee soon. He explained  
157 that these were the slides that were presented previously to the GWAC and as  
158 the revised versions are reviewed, people will see how comments were  
159 addressed. With regard to the High Risk Assessment Survey, the survey has been  
160 extended to May 31. Andy, Ignacio Marquez, and Kathleen Rogers have been  
161 getting the message out to the public. Andy noted that he has flyers available if  
162 anyone wants to distribute them. Out of the 98 surveys done, about 20-25%  
163 tested for some level of nitrates. Andy will put a placeholder on the EPO's work  
164 plan to work with the Irrigated Agriculture work group to find out what kind of  
165 outreach they want to do in association with the Deep Soil Sampling. Andy  
166 wanted the work groups to know that the EPO group is available to assist with  
167 outreach and review work groups' work for outreach implications. The new mom  
168 brochure is being worked on. Gretchen with the EPA looked at it and sent  
169 it to a peer for review.  
170

171 Vern added that the Health District completed 98 onsite surveys, 17 tests came  
172 back higher than 10 ppm; on the bacteria results, 21 came back positive – 17%  
173 nitrate and 21% bacteria but no e-coli. Vern said he created a chart to compare  
174 and he plans to put it on the website.  
175

176 A member observed that anencephaly (children born without a skull) is a big  
177 topic in the Yakima Valley. Jean added that nitrates could be a part of the  
178 problem. Andy noted that he couldn't comment on the subject as his employer,  
179 the Washington Department of Health, is currently studying it.

180  
181 **Irrigated Agriculture:** Nothing to add from the earlier report of deep soil sampling  
182 and the survey. They have been busy the last couple of months.

183  
184 **Livestock/CAFO:** Charlie reported that there was a joint working group meeting  
185 on March 6. He anticipates another meeting in May. Their task is to come up with  
186 a plan on sampling various livestock facilities and how that would fit in with soil  
187 sampling.

188  
189 **Data Collection, Characterization, and Monitoring:** The working group hasn't  
190 met officially since November as there have been a lot of products under  
191 development that have not ripened. One of this group's duties is to evaluate  
192 those products and comment on them. They recently received the monitoring  
193 plan from Pacific Groundwater Group (PGG) and will distribute it to members of  
194 the working group and schedule a May meeting. They will also address some of  
195 the issues that Vern brought up. They've been discussing ideas around the nitrate  
196 loading study and had several presentations back in November, but now is the  
197 time to re-engage in the scope of work and draft something for the county to  
198 consider and present to the group. The group will be going at a faster pace by  
199 the first of May. Kirk noted that the Department of Agriculture has just hired a  
200 hydrogeologist who will be able to help the working group and the GWAC.

201  
202 **Residential, Commercial, Industrial and Municipal (RCIM):** Bob reported that the  
203 group has had two meetings since February. They presented a proposed  
204 amendment #2 to the consultants. Supplemental Task X has been discussed. The  
205 status is that the consultants are still working on modifications and the fee.  
206 Gordon Kelly of the Yakima Health District (YHD) provided the work group with  
207 database queries for septic systems and found slightly fewer than 17,000 permits  
208 have been issued, but cautioned that more than one permit may be issued for a  
209 single septic system if additional work is needed on it. Sanjay of Ecology  
210 provided a list of National Pollutant Discharge Elimination System (NPDES) permits  
211 and a list of Underground Injection Control (UIC) wells in Yakima County. The  
212 information from YHD and Ecology covers all the information requested from  
213 members and they are now coordinating with EPO on how to communicate to  
214 the public how to reduce nitrate in groundwater in residential, commercial and  
215 industrial development. Lisa provided a document to focus on how to devise a  
216 strategy and this will be discussed next week. Bob anticipates a meeting in April  
217 with EPO.

218  
219 One member pointed out there could be additional sources that have not been  
220 considered. Bob responded that he has not been able to coordinate with  
221 Ecology yet regarding locating abandoned wells that may not have been  
222 identified as a source. There was a question about liquid fertilizer on farms and

223 containment for fertilizer as an additional source. Stuart noted that bulk stored  
 224 liquid fertilizer is generally the property of fertilizer companies and they would be  
 225 responsible.  
 226

227 There was a question about secondary containments and the recommendation  
 228 was to check with the Department of Agriculture for information.  
 229

230 Vern commented that now that the RCIM group got this far, it seems that the  
 231 supplemental Task X being discussed should be the data working group's job. He  
 232 expressed appreciation for what the RCIM group has done to date. Now the  
 233 committee needs to figure out how everyone is going to tag on to this. He noted  
 234 that this task is an example of needing to identify how the GWMA plan pieces fit  
 235 together.  
 236

237 **Regulatory Framework:** Tom Eaton reported that the working group met before  
 238 the GWAC meeting. Phyllis Barney with the State Attorney General's office gave  
 239 an overview of RCW 90.48, RCW 90.64 (Dairy Nutrient Management Act) and  
 240 also reviewed the regulations that are the basis for setting up groundwater  
 241 standards. It was a good presentation. Now the group's intention is to finalize the  
 242 set of questions that are being drafted and walk through them with the working  
 243 group to identify regulatory areas that might be improved so we can bring  
 244 material back to GWAC. There is still an outstanding request to add an attorney  
 245 to this group.  
 246

247 **Funding:** Vern reported that he's still waiting on recommendations from the  
 248 working groups and the GWAC on how to spend money.  
 249

250 **VII. Public Comments:**

251 A comment was made that it's ironic that everyone drinks bottled water, yet the  
 252 EPA won't certify that it is healthy. The GWAC may want to bring someone from  
 253 Department of Health to see if it's safe.  
 254

255 Vern: Reminder for the working group chairs to stick around after the GWAC  
 256 meeting to compare calendars for a meeting.  
 257

258 **VIII. Next Steps**

259 Action items:

- 260 • Provide copies of the deep soil sampling plan & questionnaire for  
 261 distribution to the GWAC
- 262 • Provide copies of the February Regulatory working group meeting  
 263 notes to the GWAC
- 264 • Email the EPA PowerPoint presentation so that it can be posted on the  
 265 GWMA website
- 266 • The working group chairs will review the different tasks being done by  
 267 the working groups and piece them together  
 268

269 **IX. 2014 Meeting Calendar:**

- 270 • June 19, 2014

- 271 • August 21, 2014
- 272 • October 16, 2014
- 273 • December 18, 2014 (as needed)
- 274

275 The meeting was adjourned at 6:45pm.

276

277 Meeting summary approved by the GWAC on June 19, 2014.