



Public Services

128 North Second Street • Fourth Floor Courthouse • Yakima, Washington 98901
(509) 574-2300 • 1-800-572-7354 • FAX (509) 574-2301 • www.co.yakima.wa.us
VERN M. REDIFER, P.E., Director

October 22, 2015

Charles McKinney
Department of Ecology, Central Region Office
1250 West Alder Street
Union Gap, WA 98903

Re: **Lower Yakima Valley GWMA - 2015 Third-Quarter Report (IAA No. C 1200235)**

Dear Charlie:

Enclosed please find one (1) copy of Yakima County's third-quarter report as required under Attachment A, Statement of Work, Agreement No. C 1200235 between the State of Washington Department of Ecology and Yakima County.

This report addresses deliverables 1.1 and 2.2 as required under the agreement.

Deliverable 2.1, invoices, to be sent under separate cover.

If you have any questions, please let me know.

Thank you.

Lisa H. Freund, Administrative Manager
Yakima County Public Services

enclosure

Yakima County ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, national origin, or sex in the provision of benefits and services resulting from its federally assisted programs and activities. For questions regarding Yakima County's Title VI Program, you may contact the Title VI Coordinator at 509-574-2300.

If this letter pertains to a meeting and you need special accommodations, please call us at 509-574-2300 by 10:00 a.m. three days prior to the meeting. For TDD users, please use the State's toll free relay service 1-800-833-6388 and ask the operator to dial 509-574-2300.

**IAA No. C 1200235 – Third Quarter 2015 Report
Lower Yakima Valley GWMA
September 30, 2015**

**TASK 1 - ADMINISTRATIVE FUNCTIONS
DELIVERABLES**

1.1 Meeting Records

For each meeting of the GWAC, submit a copy of the agenda, minutes, attendance and public meeting notice at the end of each quarter.

Attachment (A) includes the final GWAC meeting summaries of April 16 and June 18, 2015; the draft meeting summary of August 20, 2015; the Education and Public Outreach (EPO) Working Group summaries of July 1 and September 9, 2015; the Irrigated Ag Working Group (IAWG) summaries of July 28 and September 17, 2015; the Residential, Commercial, Industrial, and Municipal (RCIM) Working Group summary of September 24, 2015; the Data Collection, Characterization and Monitoring Working Group summary of September 10, 2015; the joint Data and Livestock Working Group summary of July 9, 2015; and the Regulatory Framework Working Group summaries of August 12 and September 9, 2015. The Livestock/CAFO and Funding Working Groups did not hold separate meetings in the third quarter.

**TASK 2 - PROGRAM FUNCTIONS
DELIVERABLES**

2.2 Status Report

Submit written quarterly status reports summarizing GWAC plans, activities and work products, and describing any interlocal agreements or other contracts by the end of each quarter.

Work Plans and Products

Deep Soil Sampling. Two rounds have been completed with the third sampling round to start in late September. At the August 20 GWAC meeting, Jim Trull asked for GWAC authorization to develop a scope of work and estimated cost for Landau and Associates to analyze the first three Deep Soil Sampling data sets (fall 2014, spring 2015 and fall 2015). The GWAC approved the request. Next steps: the proposed scope of work will be brought back to the GWAC for its consideration. Subject to its approval, the County will enter into negotiations with the contractor and then seek the approval of the Board of County Commissioners.

Nitrogen Loading Assessment. Washington State Department of Agriculture (WSDA) is consolidating the nitrogen loading assessment. They anticipate it will be available mid-October for peer review, which will be conducted by Ginny Stern (DOH) and Melanie Redding (Ecology). After this review the comments will be addressed by WSDA and incorporated into the report. A draft report will be available for review and comment by the Data Working Group committee members. After these comments have been addressed by the WSDA, a draft will be made available to the GWAC for review and comment.

High Risk Well Assessment Surveying Phase II. On September 8 Yakima County entered into an agreement with the Yakima Health District in the amount of \$50,000 to conduct up to 200 high risk well assessment sampling surveys in the Lower Yakima Valley GWMA. Simultaneously, 900 direct-mail pieces were sent to residents in the GWMA inviting their participation in the surveying and sampling. A companion news release and letters to area newspaper editors from GWAC Chair Rand Elliott were also distributed.

As of September 30, 90 households had contacted the Health District to participate.

A copy of the outreach calendar, direct mail piece, letter to the editor, news release, PSA, outreach flyer and flyer distribution network are included as Attachment (B)

The contract is included as Attachment (C)

Working Group Activities:

Education and Public Outreach (Lisa Freund, Chair)

High Risk Well Assessment Surveying Phase II. The EPO met on July 1 to finalize the well assessment outreach calendar and to assign members to various outreach tasks. On September 9 the group updated the calendar and focused on flyer distribution throughout the Lower Yakima Valley GWMA. (See Attachment (B))

Data Collection and Livestock/CAFO Joint Meeting (Melanie Redding and Charlie McKinney, Chairs) *Note: at its July 9 meeting, Kirk Cook stepped down as the Data Collection Chair and Melanie Redding assumed that role.* The Data Collection and Livestock/Data working groups met on July 9 to discuss best methods of Nitrogen Loading calculations and variables. South Yakima Conservation District provided nitrogen concentration data from 35 different lagoons. Moving forward, lagoon leakage and nitrogen rates will be calculated. Two peer reviewers, Melanie Redding and Ginny Stern will review prior to the data being presented to the committee. Meanwhile, the Department of Agriculture has done an independent study on contribution from dairy pens and will supply that information.

The sources that are being evaluated include:

On-Site Sewage Systems
Lawn
UIC (underground injection control)
Municipal facilities
Industrial facilities
Compost/ Biosolids
Atmospheric deposition
Lagoons
Settling ponds
Pens and corrals
Fertilized agriculture
Manure land application
Legumes

Methodology for how to measure nitrogen load was presented by Kirk Cook. It had previously been decided that Darcy's Law would be the basis for calculating load. The rationale for input values would be discussed in the report and a sensitivity analysis would be included for all parameters.

Anyone with appropriate data or issues that they wished to be considered were invited to submit that information. These will be addressed in the draft report and the peer review.

Ambient Groundwater Monitoring Network. In April 2015, the GWAC approved the need for an ambient groundwater monitoring network. The Data Working Group consolidated and redistributed previously developed documents:

- Interim Final Groundwater Monitoring Plan
- Potential Groundwater Monitoring Stations
- Monitoring Well Installation Work Plan Scope
- GWAC-approved budget (10/16/14)
- Monitoring Well Installation Project Cost Estimate
- Cover letter for proposal for monitoring well installation and initial sampling

The process for establishing an ambient monitoring network was re-initiated. It was decided that:

- Pacific Groundwater Group (PGG) will draft a scope of work for installing monitor wells (Pony Ellingson and Steve Swope)
- This scope will be presented and discussed at the October Data Working Group meeting.
- PGG will contract with Yakima County.
- Contract will not exceed existing funds.
- Scope will initially only address installation of monitoring wells. Monitoring will be conducted as remaining funds allow.
- Monitoring wells will provide the baseline network
- Additional existing wells will be added as necessary for future monitoring efforts.

Irrigated Ag (IAWG) (Jim Trull, Chair)

The group met on July 28 and September 17. At the July 28 meeting Landau and Associates offered its observations on the results of the Postharvest Deep Soil Sampling (PHDSS) conducted in the fall of 2014. After discussion, it was determined that the GWAC be asked to authorize Landau and Associates to analyze results from the three data sets after the fall 2015 PHDSS is complete.

The group also addressed best management practices for Irrigated Agriculture, focusing on those that are specifically applicable to the Groundwater Management Area and goals to address nitrogen. Practices fall into two categories: Irrigation Water Management and Nutrient Management. The working group decided not to pursue practices related to storage and handling of agricultural and animal byproducts because the source is too small for investigations. The Livestock/CAFO group will address manure storage.

Irrigated Agriculture best management practices will eventually be attached to a report. Within best management practice there are three levels: 1) the 'Check Book' method, where a producer monitors and reports irrigation and precipitation weekly; 2) the check book method plus installing soil sensors; and 3) installing the soil and moisture sensors with data transmitters.

Also discussed was the development of a nutrient management plan for nitrogen that considers crop requirements for all potential sources of nutrients.

Finally, the group discussed data collection, education and public outreach with no decisions made.

At the September meeting it was announced that 60 participating locations have expressed interest in the next round of deep soil sampling, slated to begin October 5, 2015. This was an increase in participants from the spring (48 locations).

Residential, Commercial, Industrial, and Municipal (RCIM) (Robert Farrell, Chair)

The group met on September 24. Based upon comments received during the June GWAC meeting, the nitrogen loadings from hobby farms was reexamined. The working group has not yet determined whether the recommended loadings from these sources should be modified from the estimated loading presented to the GWAC in June.

A draft of modifications to the sampling protocol of the Deep Soil Sampling Plan for soil sampling at residential and hobby farm sites was considered by the RCIM. The working group has not decided whether or not to accept the proposed modifications to the sampling protocol.

In addition, RCIM requested the Departments of Health (DOH) and Ecology to provide the locations of large septic systems within the GWMA that fall under their respective regulations. DOH provided Yakima County with the locations of large septic systems under its authority; Ecology has none within the GWMA. Yakima County volunteered that it has a large septic system within the GWMA that is regulated by the Yakima Health District.

Regulatory Framework (Jean Mendoza, Chair)

The Regulatory Framework Group met on August 12 to learn more from Ginny Prest, the Director of the Washington State Department of Agriculture Dairy Nutrient Management Program. Ms. Prest provided a written and verbal response to standardized questions from the group. She also provided an update regarding the 2015 allocation of \$575,000 to the program for the next biennium, as well as a timeline that described implementation of the Dairy Nutrient Management Program from 1998 to the present.

On September 9, the group met to learn more about regulations regarding composting, Washington State Non-Point Source Pollution Policy, Underground Injection Wells and the National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) General Permit which is currently under revision. The Department of Ecology presented on all issues and the Yakima Health District contributed regarding its role in composting operations. The Non-Point Source Plan is important due to the potential for groundwater pollution from application of manures and fertilizers to cropland. The CAFO General Permit is a work in progress with significant impact for local CAFOs. In Washington

State the permit covers not only discharge to surface waters under the Clean Water Act but also to groundwaters under RCW 90.48, the Washington State Water Pollution Control Act.

In the fourth quarter the Regulatory Working Group will hear from Yakima County Public Services Planning staff regarding county policies, rules and regulations. The group will then make plans for analyzing the information gathered this year and creating a document to inform the GWAC and the public.

GWMA Website

The GWMA website migrated to a new program under Yakima County's site on September 15. The migration offers new features such as "Notify Me," which allows users to receive calendar and meeting notifications on their smart phones or email. Users are empowered to self-identify which GWMA calendars and working group agendas they wish to receive. In 2016 the County will transition GWMA meeting, agenda and summary communications to the new program.

Contracts and Interlocal Agreements:

On October 8, 2015, Yakima County entered into an agreement with the Yakima Health District in the amount of \$50,000 to conduct a high-risk assessment of up to 200 private and shared wells in the Lower Yakima Valley GWMA.

The agreement is included as Attachment (C)

Attachment A

- GWAC Attendance Roster Record for August 20, 2015.
- Final GWAC summaries of April 16 and June 18, 2015.
- Draft GWAC summary for August 20, 2015, Public Meeting Notice and Agenda.
- Education and Public Outreach (EPO) Working Group summaries of July 1 and September 9, 2015.
- Irrigated Ag Working Group (IAWG) summaries of July 28 and September 17, 2015.
- Residential, Commercial, Industrial and Municipal (RCIM) Working Group summary for September 24, 2015.
- Data Collections, Characterization, and Monitoring Working Group summary for September 10, 2015.
- Joint Data Collection, Characterization and Monitoring and Livestock/CAFO Working Group summary for July 9, 2015.
- Regulatory Framework (REG) Working Group summaries of August 12 and September 9, 2015.

Member	20-Aug-2015
Stuart Turner	Present
Chelsea Durfey	Absent
Bud Rogers	Present
Kathleen Rogers	Present
Patricia Newhouse	Absent
Sue Wedam	Present
Doug Simpson	Present
Jean Mendoza	Present
Eric Anderson	Absent
Jan Whitefoot	Absent
Jim Dyjak	Present
Steve George	Present
Frank Lyall	Present
Jason Sheehan	Present
Dan DeGroot	Present
Jim Trull	Present
Ron Cowin	Absent
Laurie Crowe	Present
Jim Newhouse	Absent
Robert Farrell	Present
John Van Wingerden	Absent
Rand Elliott	Present
Vern Redifer	Present
Ryan Ibach	Present
Dr. Troy Peters	Present
Bill Dunbar	Present*
Marie Jennings	Absent
Elizabeth Sanchey	Absent
Tom Ring	Absent
Kirk Cook	Absent
Virginia "Ginny" Prest	Present
Andy Cervantes	Present
Ginny Stern	Absent
Charlie McKinney	Present
Tom Tebb	Absent
Lino Guerra	Absent
Rick Perez	Absent
Jessica Black	Present

*Present by phone

Affidavit of Publication

STATE OF WASHINGTON
COUNTY OF YAKIMA SS

Timothy J. Graff, being first duly sworn on oath deposes and says that he is the Publisher of the DAILY SUN NEWS, a daily newspaper.

That said newspaper is a legal newspaper and it is now and has been for more than six months prior to the date of publications hereinafter referred to, published in the English language continually as a daily newspaper in the city of Sunnyside, YAKIMA County, Washington, and it is now and during all of said time printed in an office maintained at the afforesaid place of publication of said newspaper, and that the said Daily Sun News was on the 4th Day of April, 1969 approved as a legal newspaper by the Superior Court of said Yakima County.

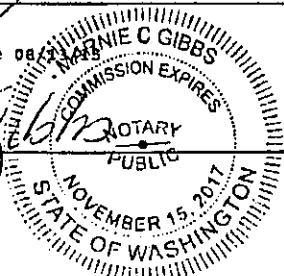
That the annexed is a true copy of a LEGAL PUBLICATION -

Yakima County Public Services
Groundwater Mtg 8-20-15

published in regular issues (and not in supplemental forms) of said newspaper once each week for a period of 1 consecutive issue(s) commencing 08/13/15 and ending on 08/13/15, both dates inclusive, and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is the sum of \$ 33.75, amount has been paid in full, at the rate of \$7.50 per column inch per insertion.

Tim Graff
Subscribed and sworn to before me on 08/13/15

Marnie C. Gibbs
Notary Public in and for
the State of Washington
030110-00000



Notice of Public Meeting
Lower Yakima Valley Groundwater
Advisory Committee

NOTICE IS HEREBY GIVEN that Yakima County is holding a public meeting of the Lower Yakima Valley Groundwater Advisory Committee on Thursday, August 20, 2015 at 5:00 PM at Radio KDNA Conference rooms 1 & 2, 121 Sunnyside Ave., Granger, WA 98932 pursuant to Chapter 173-100-080 WAC Ground Water Management Areas and Programs.

For Additional Information

To learn more about the Lower Yakima Valley Groundwater Management Area, the Groundwater Advisory Committee, and its goals and objectives, please see the Lower Yakima Valley Groundwater Management Area on the County webpage at: <http://www.yakima-county.us/gwma/>

For more information about the meeting, please contact Lisa Freund, Yakima County Public Services Administrative Manager at 574-2300.

Dated this Wed., August 12, 2015
PUBLISH: DAILY SUN NEWS
August 13, 2015

YAKIMA HERALD REPUBLIC

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-Ad Proof-

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Account #:	110536
Company Name:	YAKIMA COUNTY SURFACE WATER MANAGEMENT
Contact:	Tina Beck, AP
Address:	128 NORTH 2ND STREET ROOM 408 YAKIMA, WA 98901
Telephone:	(509) 574-2343

Ad ID:	570631
Start:	08/13/15
Stop:	08/13/15
Total Cost:	\$70.40
# of Inserts:	2
Lines:	41.0
Ad Class:	6021
Ad Class Name:	Legal Notices
Account Rep:	Simon Sizer
Phone #	(509) 577-7740
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Run Dates:	
Yakima Herald-Republic	08/13/15
YakimaHerald.com	08/13/15

Ad Proof

Yakima County

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www.yakimacounty.us/gwma/

For more information about the
meeting, please contact Lisa
Freund, Yakima County Public
Services Administrative Man-
ager at 574-2300.
Dated this Wednesday,
August 12, 2015

(570631) August 13, 2015

YAKIMA VALLEY GROUNDWATER MANAGEMENT AREA ADVISORY COMMITTEE (GWAC)

MEETING SUMMARY

Thursday, April 16, 2015 – 5:00 p.m. – 7:00 p.m.

KDNA Conference Room
121 S. Sunnyside, Granger, WA

Note: This document is only a summary of issues and actions of this meeting. It is not intended to be a transcription of the meeting, but an overview of points raised and responses from Yakima County and Groundwater Advisory Committee members. It may not fully represent the ideas discussed or opinions given. Examination of this document cannot equal or replace attendance.

I. Call to Order

Roll Call: This meeting was called to order at 5:05 p.m. by Jim Davenport, Facilitator.

Member	Seat	Present	Absent
Stuart Turner	Agronomist, Turner and Co.,		✓
Chelsea Durfey		✓	
Bud Rogers	Lower Valley Community Representative Position 1	✓	
Kathleen 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	✓	
Frank Lyall	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)		✓
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)	✓	
Ryan Ibach	Yakima Health District	✓	
Dr. Troy Peters	WSU Irrigated Agriculture Research and Extension Center	✓	
Bill Dunbar	U.S. Environmental Protection Agency	✓	
Marie Jennings	U.S. Environmental Protection Agency (alternate)	✓	
Elizabeth Sanchey	Yakama Nation		✓
Tom Ring	Yakama Nation (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)		✓

14

15 **II. Welcome & Meeting Overview**

16

17 Moment of Silence

18

19 Jim Davenport inquired from the members if they had any suggestions for the Agenda;
20 there were none.

21

22 Jim Davenport announced that to ensure that meeting minutes and notifications are
23 distributed accurately, it was time to confirm current Work Group Membership and contact
24 information. All members were asked to review the printed Work Group lists before they
25 left and confirm their information is correct.

26

27 This led to a discussion around who is able to vote at Work Group meetings; those in
28 attendance, GWAC Members only, or Formal Work Group Members. There was clarification
29 that Work Groups could have members who were not GWAC members as all decisions

made by the Work Groups are presented to the GWAC. The decision was then between allowing all in attendance at a Work Group meeting to vote or only Formal Work Group Members. Pros and Cons for each was discussed. Commissioner Elliott clarified that in April of 2013 the GWAC decided that only Formal Work Group members could vote – should a formal vote be called. The GWAC agreed by consensus to keep that decision in place.

III. New Members

Introduction of new members:

- Bill Dunbar, Region X Director of the United States Environmental Protection Agency will be serving as the replacement for Tom Eaton until another staff person is identified.
- Ryan Ibach, Environmental Health Director of the Yakima Health District is replacing Gordon Kelly who retired last month.
- Jessica Black, Assistant Professor of Environmental Science at Heritage University, new member.

IV. Working Group Reports:

Livestock/CAFO Working Group – Charlie McKinney

Charlie McKinney reported on the April 9, 2015 meeting. He first noted that the Dept. of Ag/Yakima County N Loading Assessment team is currently assessing dairies, both on ground and via aerial photography, for inclusion into the Nitrogen Loading Assessment. They will be identifying pens, manure storage areas, lagoons, and soil types to determine contributing sources to nitrates levels. It will be up to the CAFO/Livestock Work Group to come up with leakage and N contribution factors to assign to these livestock components. The Work Group would like to hire a consultant (through the County), familiar with the area, to provide an objective, unbiased assessment of the literature and data. While this is not expected to be accomplished until January 2016, they will not be delaying the Nitrogen Loading Assessment as they can move on to working on other potential sources and then come back and plug in the N factors obtained from the CAFO/Livestock Work Group. The meeting time for this group is set for the 1st Thursday of each month, with May 7th being the next meeting day. [Editorial note: the May 7 meeting was subsequently postponed]

Education and Public Outreach (EPO) Working Group – Andy Cervantes

The EPO Working Group completed their analysis of the High Risk Well Assessment Survey and have drafted a letter to inform those who participated in the survey with their results

for both Nitrates and Coliform. There are several versions of the letter depending on their results: nitrates ≤ 4.99 ; nitrates between 5.0 and 9.99 mg/L; nitrates ≥ 10 mg/L, as well as variations addressing satisfactory and unsatisfactory coliform results. The letter will provide information on the sampling results, areas of concern and a fact sheet developed by the Washington Department of Health about nitrates in the water. All resources and the letter will be in both English and Spanish and will identify who to contact for more information. After much discussion about the fact sheet developed by the Washington Department of Health, it was determined that current pricing for sample testing should be provided or a contact number for individuals to call to get pricing. Andy stated that he would provide the group with a Word document to be able to localize the flyer.

RCIM Working Group – Robert Farrell

Robert Farrell reported on the March 26, 2015 meeting. At this meeting, Avery Richardson discussed issues on abandoned wells, raising public awareness about Decommissioning Wells. They are looking to gather existing information to share with the public on how to appropriately decommission wells and the impact that abandoning wells has on the aquifers.

Data Working Group – Jim Davenport

Vern Redifer presented information that was discussed at the April 9, 2015 meeting. Data from both the Assessor's office and GIS office have been gathered to develop a geospatial map illustrating the location of septic tanks in conjunction with US Census data including number of tenants, average age, and more. These maps and the data contained within them will be a portion of the Nitrate Loading Assessment.

Regulatory Framework Working Group – Jean Mendoza

Jean Mendoza announced that the next study session will be on April 23, 2015; the session will include a presentation by the Natural Resource Conservation Service (NCRS). Topics include: NCRS Budget and Focus of Funding for Washington State and Yakima County, NCRS 590 Nutrient Management Standards and Policy, NCRS 521 Lagoon Management Standards and Policy, NCRS 359 Waste Treatment Lagoon Standards and Policy, NCRS Irrigation Management Guidelines, and NCRS Implementation of Environmental Justice Initiatives. An email with more information about the meeting will be sent out.

103

104 **Irrigated Ag Working Group – Jim Trull**

105

106 Jim Trull reported on the April 6, 2015 meeting stating that Round 2 of the Deep Soil
107 Sampling will include 50 new fields with no repeats from the first Round. They are hoping
108 that by fall they will have even more participants so they can obtain more data. The group
109 is also working on BMP's for Irrigated Ag and how to use them for education and incentives.
110 They are looking at the GWMA timeline and will give Vern a response soon regarding the
111 schedule of their current tasks.

112

113 **V. GWMA PLAN TIMELINE STATUS: Vern Redifer**

114

115 Vern presented an update on the GWMA Program timeline. He has been getting feedback
116 from the Working Groups and is waiting on more Nitrate Loading information from Kirk
117 Cook before finalizing it. The goal of the timeline is to track progress and show
118 accountability as well as provide information for the upcoming contracts between
119 Department of Ecology and Yakima County which will require a delivery date to deliver the
120 final program. Currently the timeline shows a 2017 deadline but it depends on Deep Soil
121 Sampling (DSS) linked with the Nitrogen Loading Assessment.

122

123 **VI. Status of groundwater Monitoring System Design**

124

125 Vern spoke about GWAC's decision to have an ambient groundwater monitoring system.
126 He met with the Pacific Groundwater to brainstorm the scope of work designed for the
127 GWMA area. Once information is compiled they will discuss with the Data Working Group
128 to make sure all points are covered.

129

130 **VII. Committee Business**

131

132 The February 19, 2014 meeting summary was approved as presented.

133

134 **VIII. GWAC Member Comments**

135

136 The Deptment of Ecology will be holding a meeting at 6 p.m., April 21 at the Zillah Civic
137 Center in Zillah to discuss water quality permit for concentrated animal feeding operations.

138

139 **IX. Public Comment:**

140

141 Jim Davenport introduced Tung Njuyen, a PhD candidate at Washinton State University. He
142 is currently working on a physical model of the Lower Yakima Valley Basin examining how
143 groundwater travels. While he is utilizing USGS model data, he needs nitrate source data
144 such as what will be collected from the Nitrate Loading Assessment. He will feed this source
145 data into a transport model to hypothesize nitrate movement and contribution to Yakima
146 River Surface water. He predicts completing the model by December of 2015 and entering
147 the nitrogen source data into that model by December of 2016.

148

149 **X. Next Steps:**

150

151 **Next Meeting:**

152

- 153 • June 18, 2015 5:00 PM

154 Location: Radio KDNA, 121 Sunnyside Ave, Granger, WA 98932

155

156 **2015 Meeting Calendar**

157

158 June 18, 2015

159 August 20, 2015

160 October 15, 2015

161 December 17, 2015 (tentative, if needed)

162

163 The meeting was adjourned at 6:50 p.m.

164

165 Meeting summary approved by the GWAC on August 20, 2015.

YAKIMA VALLEY GROUNDWATER MANAGEMENT AREA ADVISORY COMMITTEE (GWAC)

MEETING SUMMARY

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KDNA Conference Rooms 1 & 2
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Laurie Crowe	South Yakima Conservation District	✓	
Jim Newhouse	South Yakima Conservation District (alternate)		✓
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)	✓	
Ryan Ibach	Yakima Health District	✓	
Dr. Troy Peters	WSU Irrigated Agriculture Research and Extension Center	✓	
Bill Dunbar	U.S. Environmental Protection Agency	✓	
Marie Jennings	U.S. Environmental Protection Agency (alternate)		✓
Elizabeth Sanchey	Yakama Nation	✓	
Tom Ring	Yakama Nation (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)		✓
Jessica Black	Heritage University		✓

14 II. Welcome & Meeting Overview

15
16 Quorum was met as 16 members were present.

17
18 Introductions were done.

19
20 The agenda was reviewed. The question was raised regarding how items are set on Agenda.
21 Jim stated that it would be discussed after the presentation on the Lower Yakima Valley
22 Groundwater Management Program.

23
24 Moment of Silence

25 26 III. Working Group Reports:

27
28 **Data Working Group – Kirk Cook**
29

30 The Data Collection working group met twice since the last meeting. The group has been
31 working on the RCIM component of the nitrogen loading assessment assisted by Yakima
32 County GIS. GIS Director Mike Martian and staff member Cynthia Kozma presented maps
33 that identified septic systems in the Lower Yakima Valley. The ultimate goal is to identify
34 nitrogen loading from that source. Mike explained that the data they're using for the map
35 overlays is largely derived from the public domain (e.g., septic system numbers, fertilization
36 rates). They are using local census data for household numbers (3.8 persons per household).
37 In addition, they are assisting the RCIM identify lawn fertilization rates. Mike explained that
38 GIS is using Melanie Redding's published model to develop the component.

39
40 Kirk Cook provided the members with the handout of his presentation "Preliminary
41 Evaluation of Livestock Facility Contribution to Nitrate Levels in Groundwater – Yakima
42 GWMA." The Data Collection and Livestock/CAFO working groups are discussing the concept
43 and methodology for estimating nitrogen loading from lagoons/ponds and nitrogen
44 contributions from livestock corrals/pens. 230 lagoons and ponds and 120 corrals, pens and
45 compost facilities have been identified in the Lower Yakima Valley GWMA.

46
47 Kirk advised the group that he is seeking local, defensible data from local lagoons. The identity
48 of the lagoons is not important, just verification that the data is from within the GWMA. He
49 noted that all data will be verified.

50
51 There are three methodologies under consideration to estimate nitrogen loading from
52 lagoons and ponds: 1. UC Davis – generally the most rudimentary approach of the three
53 methodologies. Aside from surface area, all other data is derived from other sources. 2.
54 USGS/Ecology – Has more input parameters than the UC Davis approach, but still relies on
55 assumptions and other publications. 3. Darcy's equation – relies on much more local data to
56 derive loading estimates than the other two options. The Darcy analysis is a calculation based
57 on specific lagoon area, liner permeability, underlying soil permeability, local nitrate content
58 of lagoon/pond material and depth of the lagoon/pond.

59
60 In response to a question about David Erickson's methodology, Kirk replied that it is basically
61 the same as Darcy's equation. Erickson's methodology will be presented at the next joint

meeting. The Data Collection working group hopes to reach agreement on a methodology by mid-July with loading analysis targeted for late July.

Data Collection will hold its next joint meeting with the Livestock/CAFO working group on Thursday, June 25, 2015.

**Livestock/CAFO Working Group –
Charlie McKinney**

The Livestock/CAFO Working group has met twice. One of the meetings was the joint session with the Data Collection working group on June 11. Charlie agreed to develop a list of variables on estimating nitrate contribution from livestock corrals/pens for the upcoming meeting on June 25, 2015. The group needs to take a concentrated look at how to come up with numbers.

Irrigated Ag Working Group – Jim Trull

Jim Trull reported the group has been discussing four key points: 1. Round two of deep soil sampling – 48 fields have been sampled (33 fields were sampled in Round 1). The group is putting data together to measure nutrients. 2. Best Management Practices (BMPs) – the group identified those BMPs positively impacting the reduction of nitrates reaching the groundwater. The group concluded that each of these BMPs needs a brief summary to further define and clarify the practice. 3. Irrigation Water Management – the group discussed the need for data on the problem of over-irrigation and the resultant leaching of nitrates below the root zone. 4. Nutrient Management – the group will be brainstorming options on what needs to improve and possible incentives to get participation.

RCIM Working Group – Robert Farrell

Robert Farrell reported the group is working on nitrate loading from residential farms and hobby farms. The group is scheduled to meet next week.

Education and Public Outreach (EPO) Working Group – Lisa Freund

Lisa Freund reported the EPO Working Group is launching Phase II of the high risk well assessment surveys. In Phase I, 172 households participated. The group is hoping to get 300

Groundwater Management Area (GWMA):

The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards

participants in Phase II. The same methodology will be used for Phase II that was used for Phase 1. As such, areas of known high nitrates will be targeted as well as areas with little nitrate data. Properties immediately outside the recently expanded EPA consent boundaries will be included in the targeting. The mailing list for households will be increased from 600 in Phase 1 to 1,000 in Phase II. Outreach will start in August and will include direct mailing, radio, flyers, community events, newspaper, etc. Please encourage participation.

Regulatory Framework Working Group – Patricia Newhouse

Patricia Newhouse reported that Jean Mendoza was voted Chair of the group at the April 2nd meeting. The group discussed ground rules on how it would function and who could participate, timeline for study sessions, goals and objectives, what the final product will look like and who they needed to hear from in order to evaluate the regulatory and non-regulatory programs. On April 23 the group had a presentation from Bonda Habets who provided a broad overview of the USDA Natural Resources Conservation Service (NRCS). At the third meeting on June 10, 2015, the group heard a presentation from Laurie Crowe with the South Yakima Conservation District who provided an overview of Conservation Districts' history, origins, governing board, duties, funding and responsibilities. Ginny Prest, Washington State Department of Agriculture (WSDA) also made a presentation to the group on Dairy Nutrient Management Plans (DNMP). The group will meet on August 12 to continue the question and answer session with Ginny.

IV. Lower Yakima Valley Groundwater Management Program: Jim Davenport

Jim Davenport presented the group with the draft Lower Yakima Valley Groundwater Management Program table of contents. Work on the first section, "Characterization of the Area," has begun. They are already beginning to develop the characterization plates, which contain the same information that Mike Martian provided earlier this evening. GIS already has some data in the form of elevation, zoning, geology, and USGS layers of groundwater. When put together, the plates illustrate what the group needs in order to put the GWMA plan together.

As sections of the plan are completed they will be brought to the GWAC for review and input. The plan is to have the first section completed by September.

Action: Jim requested feedback on the table of contents within a week to 10 days (June 28).
Lisa Freund will email the table of contents to members. [Editorial note: the table of contents
was emailed to the GWAC on 6/15/15]. Tabbed binders will be distributed at the August
meeting for the forthcoming sections of the plan.

V. GWAC Member Comments

A member asked how items get placed on the GWAC Agenda: who decides? Vern Redifer
replied that Yakima County as lead agency sets the Agenda. Outside presentations will be
evaluated in the future and if the presentation may be of sensitive nature, the group will be
contacted for input.

Reminder: All correspondence, including email are public domain. Please be courteous.

VI. Public Comment:

Frank Lyall addressed an earlier comment made regarding larger farms have better practices
[than small farms]. This is an untrue and unfair statement.

VII. Next Steps:

- Members will provide Jim Davenport with feedback on the draft GWMA Plan Table
of Contents by June 28.
- Members with access to local lagoon data are asked to provide it to Kirk Cook.

Next Meeting:

- August 20, 2015 5:00 PM
Location: Radio KDNA, 121 Sunnyside Ave, Granger, WA 98932

2015 Meeting Calendar

October 15, 2015
December 17, 2015 (tentative, if needed)

The meeting was adjourned at 7:06 p.m.

170 Meeting summary approved by the GWAC on August 20, 2015.

YAKIMA VALLEY GROUNDWATER MANAGEMENT AREA ADVISORY COMMITTEE (GWAC)

MEETING SUMMARY

Thursday, August 20, 2015 – 5:00 p.m. – 7:00 p.m.

KDNA Conference Rooms 1 & 2
121 S. Sunnyside Ave., Granger, WA

Note: This document is only a summary of issues and actions of this meeting. It is not intended to be a transcription of the meeting, but an overview of points raised and responses from Yakima County and Groundwater Advisory Committee members. It may not fully represent the ideas discussed or opinions given. Examination of this document cannot equal or replace attendance.

I. Call to Order

Roll Call: This meeting was called to order at 5:00 p.m. by Jim Davenport, Facilitator.

Member	Seat	Present	Absent
Stuart Turner	Agronomist, Turner and Co.,	✓	
Chelsea Durfey			✓
Bud Rogers	Lower Valley Community Representative Position 1	✓	
Kathleen 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	✓	
Frank Lyall	Yakima County Farm Bureau (alternate)	✓	
Jason Sheehan	Yakima Dairy Federation	✓	
Dan DeGroot	Yakima Dairy Federation (alternate)	✓	

Groundwater Management Area (GWMA):

The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards

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)		✓
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)	✓	
Ryan Ibach	Yakima Health District	✓	
Dr. Troy Peters	WSU Irrigated Agriculture Research and Extension Center	✓	
Bill Dunbar	U.S. Environmental Protection Agency	*✓	
Marie Jennings	U.S. Environmental Protection Agency (alternate)		✓
Elizabeth Sanchey	Yakama Nation		✓
Tom Ring	Yakama Nation (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)		✓
Jessica Black	Heritage University	✓	

*via phone

14 **II. Welcome & Meeting Overview**

15

16 Quorum was met.

17

18 Jim Davenport gave an overview of the agenda and informed the members that there

19 would be an opportunity for the group to give their view on the GWAC such as how we are

20 doing. He reminded the group to keep our success in mind while being courteous of each

21 other.

22 Moment of Silence.

23 Introductions were made.

24

25 **III. Working Group Reports:**

26

27 **Data Working Group –**

28

29 No report.

30

31 **Livestock/CAFO Working Group – Charlie McKinney**

32 The last several meetings the Data and Livestock/CAFO groups met jointly to concentrate on
33 the Nitrogen Loading Assessment. Melanie Redding agreed to act as the data work group
34 chair due to Kirk stepping down. At the June 25, 2015 meeting, Melanie gave a presentation
35 to compare and describe lagoon leakages. Jean gave a presentation on lagoons and ponds,
36 proposing a matrix on the three different methods. The group generally agreed to use
37 Darcy's Law. At the July 9th meeting Kirk stepped down. The focus turned to potential
38 nitrogen loading. Methods of calculations and variables were discussed. South Yakima
39 Conservation District provided nitrogen concentration data from 35 different lagoons.
40 Moving forward, lagoon leakage and nitrogen rates are in the process of being calculated.
41 Three peer reviewers, Melanie Redding, Ginny Stern, and Kevin Lindsey, will review prior to
42 the data being presented to the committee. Meanwhile, the Department of Agriculture has
43 done an independent study on contribution from dairy pens and will supply that
44 information.

45 Charlie observed that once the necessary information from the Department of Ecology is
46 obtained, this process can be completed within two to three months.

47 A concern was expressed that neither advisory group members nor working group members
48 could act as impartial peer reviewers. While some agreed, most observed that the
49 reviewers have the appropriate credentials. It was also pointed out that the purpose of the
50 peer review is to show the appropriate actions were taken in gathering the information, not
51 to re-write the study.

52 **Irrigated Ag Working Group – Jim Trull**

53 Jim Trull reported that the group is working on best management practices for Irrigated
54 Agriculture, pairing lists down to ones that are specifically applicable to the Groundwater

55 Management Area and goals to address nitrogen. Practices fall into two categories:
56 Irrigation Water Management and Nutrient Management. The working group decided not
57 to pursue practices related to storage and handling of agricultural and animal byproducts.
58 Jim stated that the discussion centers on manure storage before applying to fields or
59 spreading, that the source is too small for investigations but they will apply the information.
60 The Livestock/CAFO group will address manure storage.

61 Regarding Irrigated Agriculture, best management practices are identified as codes which
62 are found on the web, these will eventually be attached to a report. Irrigation Water
63 Management is the practice of managing uniform water application to satisfy crop
64 requirements with amounts of water consistent with intake characteristics of the soil and its
65 *moisture holding capacity*. Within best management practice there are three levels: 1) the
66 'Check Book' method, where a producer monitors and reports irrigation and precipitation
67 weekly; 2) the check book method plus installing soil sensors; and 3) installing the soil and
68 moisture sensors with data transmitters.

69 The focus is on sprinkler and micro irrigation systems that are more suited on crops and
70 soils in our area and developing a plan with recommendations for methodology. In addition
71 to the proper design for an irrigation management system, growers should check nozzles,
72 and use common-sense actions to maintain the systems. Additionally, Micro-irrigation
73 systems include subsurface drip irrigation, regular drip or trickle emitters, and spray or
74 spinners. This practice can be part of a management system to support efficient application
75 of irrigation water and maintain soil moisture. Operation and maintenance is necessary to
76 ensure proper functions, including reference to periodic inspections and prompt repairs. Jim
77 observed that new technology is more efficient.

78 Jim reviewed nutrient management considerations: managing the amount, source,
79 placement, and timing of plant nutrients and soil amendments to minimize excess nitrates
80 reaching the groundwater resources; and to properly utilize manure, municipal and
81 industrial bio solids, and other organic by-products as plant nutrient sources. He added that
82 a nutrient management plan should be developed for nitrogen that considers crop
83 requirements for all potential sources of nutrients.

84 **Deep Soil Sampling.** Two rounds have been completed with a third sampling round to start
85 in about 30 days. The working group hopes for more participation; it has been noted that
86 there are not a lot of data sets to balance statistically.

Education and Public outreach is a companion program to Deep Soil Sampling, and Irrigation and Nutrient BMPs. In summary, the working group hopes the GWAC will endorse a reduced scope of Best Management Practices that applies to our Groundwater area. Meanwhile, education and public outreach and post-harvest deep sampling needs to continue.

RCIM Working Group – Robert Farrell

Robert Farrell reported that the group has been looking at nitrogen loading from residential, commercial, and industrial sources while concentrating on residential lawns and hobby farms. The recommendation for residential lawns by professional applicators is approximately 9 pounds of fertilizer per acre per year. Given that not everyone uses services or even bothers with fertilizer they are recommending approximate loading one-tenth of that amount. Another sources suggests using two 20 pound bags of fertilizer which is two-thirds' pound per acre per year from the average homeowner. Most hobby farms don't use any or very little fertilizer.

Another member performed a survey in his neighborhood, from which he concluded his neighbors use about 16 pounds per year of fertilizer. He stated that the nitrogen stays in the clippings which his neighbors are removing.

Education and Public Outreach (EPO) Working Group – Lisa Freund

Lisa Freund presented that the Education and Public Outreach group would be doing the next round of High Risk Well Assessment surveys. A few minor changes have been made to news releases and letters to various people invited; however, they are using the same methodology and messages as in the previous survey. The group is looking to begin surveying in September, 2015. Everyone is urged to participate if they're located in the GWMA area and on a private or shared well. Those interested can contact Yakima County Public Services at (509) 574-2300.

Regulatory Framework Working Group – Jean Mendoza

Jean began her report by reading from WAC 173.100.100.

She summarized the group's 2015 work to date: In February the EPA and Department of Ecology presented the laws. In April the Natural Resources Conservation presented on Nitrates in the Water. In June Laurie Crowe with South Yakima Conservation District presented an overview of the Conservation Districts while Ginny Prest from the Department

of Agriculture presented the Dairy Nutrient Management Program. Moving forward, the Department of Ecology will present on CAFO, non-point, and underground injection wells. At this point the Regulatory Framework group is in the data gathering mode.

IV. Authorization for Deep Soil Sampling Data Analysis – Jim Trull

Jim Trull asked for GWAC authorization to develop a scope of work and estimated cost for Landau and Associates to analyze the first three Deep Soil Sampling data sets (fall 2014, spring 2015 and fall 2015). He explained that Landau Associates had analyzed the first set of Deep Soil Sampling results and had made a presentation to the Irrigated Agriculture group. The group came to consensus to wait for three data sets before conducting further analysis. Vern explained the contracting process, noting that developing the scope of work and identifying associated fees was the first step. If the GWAC agrees to the scope of work, then the County will enter into negotiations with the contractor. Subject to successful negotiations, the contract would go before the Board of County Commissioners for final approval.

Laurie asked if the contract could be an addendum to the existing Deep Soil Sampling Plan. Vern said it could, subject to discussion by this group. Jim Trull restated the proposal, asking for GWAC approval to develop the scope of work, to include a range of what they think the work should cost, and to deliver the scope of work to Vern, Laurie and the GWAC.

Jim Davenport asked if the group supported Jim's proposal (yes). He asked if there were any outliers (no).

Authorization to develop a scope of work for Deep Soil Sampling Data Analysis approved by consensus.

A member stated he has the right to know what's in the contract. He would appreciate it if, before releasing to commissioners, the group sees the document.

V. Committee Business

Notice of Procedures for Work Group Meetings – Lisa Freund

Working group meeting practices are to include anyone who wants to be included. Yakima County Administration makes sure the meeting groups are informed of new information and meeting dates. Admin works with the chair to identify meeting dates

and calendar the meetings. Anyone who has expressed interested in a working group or has attended a meeting, whether GWAC members or not, are included in the invitation. The meeting information is also posted on the website with dates, times, location, and the call in number. The group was asked if this procedure is acceptable, no one disagreed. The group was reminded to check the website for meeting schedules.

Approve the April 16 and June 18, 2015 meeting summaries

The April 16 and June 18, 2015 meeting summaries were approved as presented.

VI. GWAC Member Comments

The group was asked, "How are we doing?"

The majority of the group members felt that the working groups are in a good place for productivity, our charge is specific and we need to stay focused on the original goal. The groups are settling down, members are listening to each other with less arguing and simply trying to get things done. With such a large and diverse group the committee structure has improved, comments are useful and respected. The public outreach has increased significantly. A few members expressed this process to be like a train, we are heading down the tracks, but there are a lot of people who want to conduct, both speeding us up and slowing us down. Most also agreed that more participation is needed in Deep Soil Sampling. A few members stated they appreciate the work but fear we will not accomplish anything. Overall, it seems that the groups are making more progress now than they have in the last three years.

A member asked for a narrative or presentation ahead of time when a proposal needs authorization.

VII. Public Comment

An advocate for the Hispanic community questioned whether we had a representative for Hispanic Farmers. She was informed that we do have a Hispanic Community Representative. She stated that her dad is a farmer with high Nitrates in his well however it took her a lot of time to finally get our information.

Another member of the public suggested that our GWAC group will lack credibility with farmers unless they've actually been one. He believes the makeup of our groups are heavily leaning towards agriculture and until we find the truth of where nitrates are coming from we will never come up with an answer.

184

185 **VIII. Next Meeting:**

186

- 187 • October 15, 2015 5:00 PM

188 Location: Radio KDNA, 121 Sunnyside Ave, Granger, WA 98932

189

190 **IX. Next Steps**

191

192 IAWG will develop a scope of work and cost range for Deep Soil Sampling analysis.

193

194 **X. 2015 Meeting Calendar**

195

196 December 17, 2015 (tentative, if needed)

197

198 The meeting was adjourned at 7:04 p.m.

199

200 Meeting summary approved by the GWAC on _____.

201

Meeting Time and Location

Thursday, August 20, 5:00 p.m. – 7:00 p.m.

Radio KDNA
121 Sunnyside Ave.
Granger, WA 98932

Regular GWAC Meeting

Time	Topic	
5:00 – 5:10 p.m.	Welcome & Meeting Overview	
5:10 – 5:50 p.m.	Working Group Reports <ul style="list-style-type: none"> • Data Collection • Livestock/CAFO • IAWG • RCIM • Regulatory Framework • EPO 	Melanie Redding Charlie McKinney Jim Trull Bob Farrell Jean Mendoza Lisa Freund
5:50 – 6:15 p.m.	Authorization for Deep Soil Sampling Data Analysis	Jim Trull
		Notice Procedures for Work Group Meetings
6:15 – 6:30 p.m.	Committee Business	Approve April 16 meeting summary [tabled from 6/18/15 meeting] Approve June 18 meeting summary
6:30 – 6:50 p.m.	GWAC Member Comments	
6:50 – 6:55 p.m.	Public Comment	
7:00 p.m.	Adjourn	

Groundwater Management Area (GWMA):

The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards

Next Meeting: Thursday, October 15, 2015

Committee Members

Stuart Turner, agronomist, Chelsea Durfey (alternate)	Turner and Co.
Bud Rogers, Kathleen Rogers (alternate)	Lower Valley Community Representative Position 1
Patricia Newhouse, Sue Wedam (alternate)	Lower Valley Community Representative Position 2
Doug Simpson	Irrigated Crop Producer
Dr. Jessica Black	Heritage University
Jean Mendoza, Eric Anderson (alternate)	Friends of Toppenish Creek
Jan Whitefoot, Jim Dyjak (alternate)	Concerned Citizens of the Yakama Reservation
Steve George, Frank Lyall (alternate)	Yakima County Farm Bureau
Jason Sheehan, Dan DeGroot (alternate)	Yakima Dairy Federation
Jim Trull, Ron Cowin (alternate)	Sunnyside-Roza Joint Board of Control
Laurie Crowe, Jim Newhouse (alternate)	South Yakima Conservation District
Robert Farrell, John Van Wingerden (alternate)	Port of Sunnyside
Rand Elliott, Vern Redifer (alternate)	Yakima County Commission
Ryan Ibach	Yakima Health District
Dr. Troy Peters	WSU Irrigated Agriculture Research and Extension Center
Bill Dunbar, Marie Jennings (alternate)	U.S. Environmental Protection Agency
Elizabeth Sanchey, Tom Ring (alternate)	Yakama Nation
Kirk Cook, Virginia "Ginny" Prest (alternate)	Washington Department of Agriculture
Andy Cervantes, Ginny Stern (alternate)	Washington Department of Health
Charlie McKinney, Tom Tebb (alternate)	Washington Department of Ecology
Lino Guerra, Rick Perez (alternate)	Hispanic Community Representative

Committee Ground Rules:

- Come to committee meetings prepared



Groundwater Management Area (GWMA):

The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards

- Treat one another with civility
- Respect each other's perspectives
- Listen actively
- Participate actively
- Honor time frames
- Silence electronic devices during meetings
- Speak from interests, not positions.

2015 Meeting Dates:

February 19
April 16

June 18
August 20

October 15
December 17 (TBD)

Meeting Materials:

Name	Date Provided	From
2015_0416_GWAC_DraftMeetingSummary	5/1/2015 & 8/13/15	lisa.freund@co.yakima.wa.us
2015_0618_GWAC_vo_DraftMeetingSummary	6/29/15 & 8/13/15	lisa.freund@co.yakima.wa.us
Meeting Agenda	8/13/15	lisa.freund@co.yakima.wa.us
Joint Data Collection and Livestock CAFO Working Group Reports of June 11, June 25, and July 9, 2015	8/13/15	lisa.freund@co.yakima.wa.us
EPO Working Group Report July 1, 2015	8/13/15	lisa.freund@co.yakima.wa.us
IAWG Working Group Reports of June 8 and July 28, 2015	8/13/15	lisa.freund@co.yakima.wa.us
RCIM Working Group Report of June 25, 2015	8/13/15	lisa.freund@co.yakima.wa.us
Regulatory Framework Working Group Report of June 10, 2015	8/13/15	lisa.freund@co.yakima.wa.us

[Education and Public Outreach]

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Andres Cervantes (GWAC-DOH), Jean Mendoza (GWAC-Friends of Toppenish Creek), Tom Tebb (GWAC-Ecology), Elizabeth Torres (Citizen), Gretchen Stewart (EPA), Nieves Negrete (Citizen), Patricia Newhouse (GWAC-Citizen Rep Position #2), Dean Effler (Citizen), Joye Redfield-Wilder (Ecology), Stuart Turner (GWAC-Turner & Co), Ignacio Marquez (AGR); Lisa Freund (Yakima County-Chair)

Meetings/Calls Dates

Meeting: Wednesday, July 1, 2015 from 1:30 p.m. to 2:40 p.m.

Participants

Lisa Freund (Chair-Yakima County), Andres Cervantes (GWAC), Jim Davenport (Yakima County), Patricia Newhouse (GWAC), *Gretchen Stewart (EPA), Karri Espinoza (Yakima County)

*Via phone

Key Discussion Points

- **Meeting Ground Rules** – discussion was tabled until the next meeting
- **Phase II High Risk Well Assessment Survey**

The group reviewed the direct mail letters, flyer, and the paid public service announcement used in Phase I. Minor edits were made to the letters and flyer; no edits were made to the paid public service announcement.

The outreach calendar was reviewed and leads were assigned to the following areas:

Contact Radio Stations for prices and placement – Lead: Ignacio Marquez

- Andy [with Ignacio] will participate in the Spanish-language radio news shows
- Rand Elliott will be asked to participate in the English-language radio news shows

Identify and contact flyer “distribution network” – Co-Leads: Patricia, Dean, and Ignacio

- Patricia – Sunnyside, Grandview & Mabton
- Dean – Zillah & Granger

- Ignacio - Work Source

Develop Local Schools Outreach – Gretchen Stewart pointed out that successful school curriculums take 9-12 months to develop and implement. The group agreed that the program would be more appropriate in the GWMA program implementation phase. The item was tabled to the October Agenda.

Print Media Display Ads – No Lead was assigned. After discussion, the group agreed that local newspapers, especially the *Daily Sun News*, already provide considerable front-page coverage to GWAC campaigns. Print ads are therefore not a high priority. Members are welcome to investigate the cost of display ads and report back to the group.

ACTIONS: Lisa will make all the edits to the direct mail letters and fliers and e-mail to the EPO group for its review and approval.

Fronteras de Norte Outreach:

Jean will be asked to contact the lower valley school migrant education programs and P-NASH and provide EPO outreach materials, provided she presents herself as a representative of the GWAC and EPO and not a personal interest group.

Resources Requested

- None

Recommendations for GWAC

- None

Deliverables/Products Status

- Lisa will send all the edited materials to the EPO for review and approval.

Proposed Next Steps

- Next EPO meeting: Wednesday, September 2, 2015 from 1:30 p.m. – 3:30 p.m., Yakima County Courthouse Rm 419

[Education and Public Outreach]

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Andres Cervantes (GWAC-DOH), Jean Mendoza (GWAC-Friends of Toppenish Creek), Elizabeth Torres (Citizen), Gretchen Stewart (EPA), Nieves Negrete (Citizen), Patricia Newhouse (GWAC-Citizen Rep Position #2), Dean Effler (Citizen), Joye Redfield-Wilder (Ecology), Stuart Turner (GWAC-Turner & Co), Ignacio Marquez (AGR);) Jessica Black (GWAC); Lisa Freund (Yakima County-Chair)

Meetings/Calls Dates

Meeting: Wednesday, September 9, 2015 from 12:30 p.m. to 2:30 p.m.

Participants

Lisa Freund (Chair-Yakima County), Jean Mendoza (GWAC), Joye Redfield Wilder (Ecology), Ignacio Marquez (AGR), Patricia Newhouse (GWAC), Jessica Black (GWAC), *Gretchen Stewart (EPA), *Andres Cervantes (GWAC), Jim Davenport, Lee Murdock and Karri Espinoza (Yakima County)

*Via phone

Key Discussion Points

Introductions

Lisa introduced Jessica Black, the newest member to the Groundwater Advisory Committee (GWAC) and an assistant professor at Heritage University. Jessica has expressed interest in serving on the EPO. In 2013 she coordinated her environmental student volunteers to conduct the EPO's first GWMA door-to-door survey.

Phase 2 High Risk Well Assessment Survey

The Board of County Commissioners approved the \$50,000 contract with the Yakima Health District to conduct the Phase 2 High Risk Well Assessment Survey. The contract is in effect and runs through February 2016.

The survey targets areas that have previously been identified with high nitrate levels, and areas where little data has been collected. An open invitation will also be extended to any residential parcel in the GWMA which is served by a private or shared well.

Lisa reviewed the outreach calendar, noting that an invitation will be mailed to approximately 900 residences in the target area this week. Radio spots and news shows in both English and Spanish are slated to begin the week of September 14th.

Flier Distribution: this is the immediate task at hand. 1000 fliers (English/Spanish) have been printed and are ready for EPO distribution.

For tracking purposes, all members will e-mail Lisa with the participating organizations and number of fliers distributed.

These members agreed to investigate/attempt flyer distribution with the following organizations:

- | | |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ignacio - | KDNA -Mexican Independence Day, Yakima Valley Farmworkers Clinic (YVFWC) - Central Washington State Fair (CWSF) Booth, Northwest Harvest/Food Banks, YVFWC Energy Assistance and Weatherization Program |
| Patricia - | Sunnyside - Sunshine Days, INSPIRE Lower Valley Migrant Head Start, Lower Valley Work Source Offices, Lower Valley Banks and Gas Stations, Sunnyside Ministerial Association |
| Lisa - | ESD 105, Yakima County HOME Program, Yakima County Public Services Front Desk, Landlord Association, Yakima Health District |
| Lee - | Central Washington Home Builders Association, Catholic Charities, Children Village. |
| Jean - | Local Businesses & Community Groups |
| Joye - | Department of Ecology Well Drillers |
| Jessica - | Heritage University |

Radio Spots & News Shows: Ignacio has spoken to the following radio stations about possible coverage for the Well Assessment Campaign. KDNA is the only one who has confirmed and provided a quote.

KDNA, Town Square Media, KZTA, Spanish ESPN Sports Station

ACTIONS:

- Lisa will provide Patricia with Dean's email and provide the Health District with a spreadsheet of the names, addresses and parcel numbers of those who are receiving a direct mail invitation.
- Ignacio will provide Patricia contact information for INSPIRE. He will speak to YVFWC about putting fliers in the bags that are given out at the CWSF booth and he will follow up with Jim's lead on the Buena Radio station. Contact: Pedro Gutierrez.

- Lee will provide Lisa the e-mail information for the Landlord Association

Prevention Campaign 2015 - Gretchen Stewart

Through the Pediatric Environmental Health Specialty Unit (PEHSU) and Dr. Catherine Karr, 40 clinician trainings have been completed. Yakima Valley Memorial Hospital provided a professional video at no cost. There is an e-learning module on the PESHU website that nationally recognizes Yakima and anyone can use it for training. The Yakama Nation Clinics requested a trailer of the video before agreeing to conduct staff training. The Yakima Health District has agreed to announce the campaign in their newsletter. Lee provided a Communication Plan for Gretchen's ad hoc committee that is under development.

ACTIONS:

- Gretchen and Lisa are working on a Press Release for the Prevention Campaign.
- Gretchen will arrange a Live Q&A with Dr. Karr in the near future

Web Update:

Lee provided an update on the Yakima County's new website which goes live September 15th and includes a GWMA web page. She explained that the GWMA representative for the County will have more control over the content of the page than what is currently in place. The new website allows for better tracking of web traffic statistics, "notify me" and better calendar options.

The question was asked who decides what gets posted to the GWMA website. (Answer: the GWAC) A further question was asked regarding the GWAC's ability to share draft documents via the web. Lee explained there are options but nothing has been officially agreed to.

ACTIONS:

- Lee will investigate our ability to post GWAC outreach to the County's main page.
- Jean will follow up with Jim Davenport regarding GWAC authorization to post to the web

Resources Requested

- None

Recommendations for GWAC

- None

Deliverables/Products Status

- High Risk Well Assessment Survey Phase II has been launched. Outreach has been initiated. Contract signed September 8, 2015 with the Yakima Health District to conduct the survey.

Proposed Next Steps

The group discussed the meeting starting time (starting at 12:30 PM versus 1:30 PM to allow Jessica to attend). The group agreed to alternate the meeting starting time each month.

- Next EPO meeting: Wednesday, October 7, 2015 from 1:30 p.m. – 3:30 p.m., Yakima County Courthouse Rm 419

Proposed Agenda

1. Civic Plus website: Present structure and ask for feedback on content organization (how it looks)-Lee
2. Well Assessment Outreach feedback & next steps (review response rate to direct mail)
3. Communications Plan

Irrigated Ag Working Group (IAWG)

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Jim Trull (GWAC-Roza-Sunnyside Joint Board of Control), 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), Rosalio Brambila (interested party), Dr. Troy Peters (GWAC-WSU); Vern Redifer, Jim Davenport.

Meetings/Calls Dates

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

When: June 28, 2015 from 1:30 pm to 3:00 pm.

Call: (509) 574-2353 – Pin # 2353

Participants

Jim Trull (Chair), Ginny Prest*, Laurie Crowe, Stuart Turner, Doug Simpson, Dr. Troy Peters, Frank Lyall, Ben Lee, Eric Weber, Dan McCarty, Landon Schilperoort, Kathleen Rogers, Perry Beale, Kelly McLain, Kirk Cook and Greta Smith (Yakima County)

*via telephone

Key Discussion Points

1. Review of 1st Round of PHDSS Results and Observations by Landau and Associates of PHDSS Results

Laurie Crowe introduced Eric Weber and Ben Lee from Landau Associates, who have the contract for the Deep Soil Sampling and Analysis. They presented observations of the results of the Post-Harvest Deep Soil Sampling (PHDSS) conducted in the fall of 2014. Please see the attached PowerPoint presentation. All results were given to Laurie with barcode to reference. Growers obtain the barcode from Laurie and then call in for the results, which they have been doing.

After the presentation, Jim T. asked the group what information from the analysis should be shared at the next GWAC meeting. It was stated that current results show (1) Fall and (1) Spring sampling results, but the end of the year it will be (2) Fall and (1) Spring. It was suggested that GWAC be asked to authorize Landau and Associates to analyze results from the three data sets after the fall 2015 PHDSS is complete. Further analysis after the spring 2016 sampling is complete can be possibly added as an addendum.

2. Handling, Storage, and Management of Agricultural and Animal Byproducts

This section is intended to be unrelated to lagoons or other storage within an AFO/CAFO. The group was reminded that the focus needs to stick to nutrient and water management on irrigated land. The consensus was not to address Handling, Storage, and Management of Agricultural and Animal Byproducts.

3. Nutrient Management

Code 590 was designed for agriculture in the Midwest and so it has been reworked for this area which better takes on the diversity of the agriculture in Washington State.

Laurie Crowe suggested the following guidelines:

- Use the Western Fertilizer Handbook (WFH) for most crops. Use WSU fertilizer guidelines for hops and mint because the WFH does not list those crops.
- Use the Natural Resources Conservation Services (NRCS) crop nutrient tool (web-based) for Triticale and other crops that may not be in the WFH or if the WSU guidelines are too old. Also, if a grower is planting a new variety of seed, manufacturer recommendations can be used.
- The bottom line is to know actual average yields for the last three years, the soil test results, the nutrient content of the fertilizer source, and budget accordingly.

Western Fertilizer Handbook

<http://www.amazon.com/Western-Fertilizer-Handbook-Health-Association/dp/1577666798>

4. Data Collection, Education, and Public Outreach

- **Post Implementation PHDSS:** Yes, this is something that will be needed
- **Mobile Lab or other Methods to Evaluate Irrigation Management Efficiency:** *Funding for this is in the works. Laurie stated that six real time monitoring packages have been purchased which will be available for loan. They are a single probe with five sensors and have a cell phone application for monitoring.*
- **Public Outreach to Promote Irrigation and Nutrient Management Efficiency:** Not ready at this time and DSS is still happening.

5. Other Business

Kirk C. mentioned that in Sept/Oct. grower surveys by Perry Beale and Kelly McLain of the Washington Department of Agriculture, should be wrapped up. Ten major crops were selected, they were able to talk with growers and 30% of the area for the crop was covered. This process should be a good starting point to relationship building.

A member suggested that the group start thinking of what potential incentives would be effective to get growers to do best management practices. Anything that is chosen needs to be perceived as being equitable and fair. Once the group has agreed on something, it needs to be sent to those formulating the plans so that information can be included. He feels that something which increases profitability is the biggest incentive. There is not enough subsidies for every farmer so incentives need to be other than monetary. A member suggested that the data itself could be an incentive. Incentives will help get both long term farmers and new farmers to engage and participate without having to pressure them to do so. Ginny P. stated that if a list of ideas is created she would be willing to take it to the Regulatory Committee. Consensus appears to be that impacting the farmers positively is the goal and regulating the farmer is not the direction they want to go.

Meeting was adjourned at 3:02 pm.

Resources Requested

- N/A

Recommendations for GWAC

- N/A

Deliverables/Products Status

Proposed Next Steps

Irrigated Ag Working Group (IAWG)

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Jim Trull (GWAC-Roza-Sunnyside Joint Board of Control), 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), Rosalio Brambila (interested party), Dr. Troy Peters (GWAC-WSU); Vern Redifer, Jim Davenport.

Meetings/Calls Dates

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

When: September 17, 2015 from 1:00 pm to 3:00 pm.

Call: (509) 574-2353 – Pin # 2353

Participants

Jim Trull (Chair), Laurie Crowe, Doug Simpson, Frank Lyall, Landon Schilperoort, Scott Stevens, James Rivard, Jean Mendoza, Jim Davenport and Greta Smith (Yakima County)

Key Discussion Points

1. Deep Soil Sampling (DSS) Fall 2015

Laurie and Landon reported on the upcoming DSS. They have 60 participating locations and will start on October 5, 2015. This is an increase in participants from spring in which there were only 48 locations.

A member stated that they felt that a few fields in past testing were not useful and questioned the screening process. Laurie stated that locations are screened following the same agreed-upon process that has been used from the start. Samples can only be gained from those farmers willing to participate. This sampling process is providing a baseline of numbers to start with. After it is all completed the process can be evaluated. If there is information from the DSS that is missing, please contact Laurie so she can be informed of what is missing and provide it to the group.

2. Review of Authorization from GWAC to prepare a Scope of Work for Review of Data Sets

Jim T. stated that GWAC has authorized IAWG to prepare scope of work for an entity or individual to analyze and comment on the PHDSS Data. That task will be discussed at a future meeting.

3. Review of Nitrogen Use

Jim T. reviewed the spreadsheet on Estimate of Nitrogen Usage. It is an estimate and in discussing the information with members who actively work with these crops it was determined that the numbers on the spreadsheet will need some revisions. Jim took the numbers that Yakima County gave him acreages of crops grown in the GWMA. He used crop production estimates provided by SYCD. The amounts of nitrogen removed in the harvested portion was taken from the Western Fertilizer Handbook and other references as noted on the spreadsheet. At this point they can all be regarded as placeholders. If numbers don't look right please contact him. The goal is to have information that represents our GWMA area.

In looking at Silage Corn and Field Corn, it was hard to determine through GIS aerial information the acreage of each crop as they each look similar in aerial photography. Jean provided information from the USDA Data results which shows an average of 42% for grain corn and 58% for silage corn for Yakima County using four years of data. Those percentages were then applied to the total acres of corn to arrive at acreages of grain corn and silage corn respectively.

There was no acreage for triticale due to the fact that it is double cropped with silage corn and wouldn't be observed or accounted for when the cropping survey is performed in the irrigation season Laurie and Jim estimated 9,760 acres of triticale is produced. That number is a placeholder until a more reliable figure can be obtained.

There was a question about the difference in using the words "removed" versus "uptake." It was clarified that removed is what is removed from the field at the time of harvest and uptake is the amount of nitrogen the plant utilizes. It was determined that removed is the most accurate measure to describe what is being looked at. It was asked what the goal is with the numbers indicating removal? It will indicate an estimate of how much nitrogen is applied and then how much is removed with the crop. It was suggested that an additional be column be added to show update.

It was also suggested that in the 4th column, the word "Average" be replaced with "typical."

5. Other Business

Meeting was adjourned at 2:30 pm.

Resources Requested

- N/A

Recommendations for GWAC

- N/A

Deliverables/Products Status

Proposed Next Steps

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

Charge from Groundwater Management Area Advisory Committee

Working Group Members

Robert Farrell, Chair (Port of Sunnyside), Elizabeth Sanchey (Yakama Nation), Ryan Ibach (Yakima Health District), 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: September 24, 2015 10:00 am – 12:00 pm
Radio KDNA, 121 Sunnyside Ave., Granger, WA 98932
Call in: 509-574-2353 (pin 2353#)

Participants

Present: Robert Farrell (Chair), Ryan Ibach, Kathleen Rogers, Dan DeGroot and Erica Naasz (Yakima County Support)

Key Discussion Points

Revisit Nitrogen Loading at Hobby Farms

The group discussed a previous recommendation from a GWAC member to use 60 to 70 pounds per acre per year when evaluating nitrogen and hobby farms. This member also suggested that most small hobby farms do not grow alfalfa but rather grow pasture grass. The group concluded that due to the variance of hobby farms including size, animals, and how the land is cared for in terms of fertilizing and/or removing waste, the best estimate of maximum nitrogen loading would be 55 to 60 pounds per acre per year. There was discussion of the appropriateness of using the sliding scale of average nitrogen loading from hobby farms based on the hobby farm acreage: 0 – 2.5 acres = 20% of maximum nitrogen loading; 2.5 – 5 acre = 30% of maximum; 5 – 10 acres = 40%. It was decided to determine if Yakima County could provide the work group with an estimate of the number of residential parcels in the GWMA with an area of between 2 and 10 acres that may be hobby farms.

Large Septic Systems under the Regulation of Washington Department of Health and Washington Department of Ecology

A septic system over 3,500 gallons is considered to be a large septic system. The Yakima Health District regulates up to 3,500 gallons. The State Department of Health regulates at 3,500 gallons and above. Washington State Department of Ecology regulates Wastewater Treatment Plants.

There are two large Septic Systems in Yakima County which are regulated by the Department of Health, both are located in the Groundwater Management Area.

Draft Protocol for Deep Soil Sampling at Residential Properties and Hobby Farms

Bob distributed a draft for Modifications to Deep Soil Sampling Protocol. The work group had previously decided that this soil sampling should be done in the vicinity of the septic drain fields of rural residential properties at one foot below the known depth of the drain field; and a single soil sample recovered from the four foot depth from each use area such as lawns, pastures, and orchards. So the proposed modifications to the Deep Soil Sampling Plan are the following:

- Septic System Drain Fields: Single soil sample recovered from the depth of one to two feet below the known depth of the drain field.
- Each use area: Single soil sample recovered from the depth increment of 3.5 feet to 4.5 feet below ground surface. The individual soil samples recovered from each use area will not be composited into a single sample for the property. The integrity of each individual sample recovered from each use area will be maintained and the soil samples will be identified as to the use area from which each sample is taken.
- All samples will be analyzed for nitrate concentration only.

The RCIM group agreed and concluded that they would like to take the information received from the Well Water Testing and revisit each location with high nitrates as allowed. If a land owner agrees to additional soil sampling they would then look at different areas of the property and/or neighboring properties such as lawns, pastures, and drain fields on hobby farms and residential lands.

Resources Requested

- *The RCIM Group is requesting that Yakima County produce a number of hobby farms in the GWMA area with two to ten acres.*
- *It was suggested that the group speak to Laurie Crowe in regards to a Soil Scientist for assistance in putting together a protocol for additional soil sampling.*

Recommendations for GWAC

-

Deliverables/Products Status

-

Proposed Next Steps

Data Collection, Characterization, Monitoring

Charge from Groundwater Management Area Advisory Committee

A discussion of timelines and details regarding the Nitrate Loading Assessment

Working Group Members

Melanie Redding (Chair); Andres Cervantes; Bill Dunbar; Bob Stevens; Charles Ellingson; Charlie McKinney; Chelsea Durfey; Dave Cowan; Donald Brown; Doug Simpson; Elizabeth Sanchey; Eric Winiecki; Frank Lyall; Ginny Stern; Jaclyn Hancock; Jan Whitefoot; Jean Mendoza, Jennifer MacDonald; Jim Trull; John Van Wingerden, Kevin Lindsey; Laurie Crowe; Lino Guerra; Kirk Cook; Mike Shuttleworth; Ralph Fisher; René Fuentes; Robert Farrell; Ron Cowin, Scott Stephen; Sheila Fleming; Steve Swope; Stuart Turner; Thomas Tebb; Dr. Troy Peters

Meetings/Calls Dates

Meeting: Thursday, September 10, 2015 10:00am to 12:00pm

Call Number: 509-574-2353 pin: 2353#

Participants

Present: Melanie Redding (Chair)*, Andy Cervantes*, Laurie Crowe*, Kirk Cook*, Ginny Stern*, Steve George, Jim Trull, Stu Turner, Jim Davenport, Jean Mendoza, Charlie McKinney, Vern Redifer, Lee Murdock, and Erica Naasz (Yakima County Support Staff)

*via phone

Key Discussion Points

DATA Committee Goal, Objectives, and Process

The Data Committee's goal is to reduce nitrate concentrations in groundwater below the state drinking water standards.

The Committee's objectives are to collect data and monitor, identify problems, conclude measures to reduce groundwater contamination, and educate.

The GWMA process is to lay out where the group is going and the steps that need to be taken to reduce nitrates in the aquifer.

Ambient Groundwater Monitoring – PGG sent a proposal to design a system. The hydrogeologists are going to peer review it and then send the scope of work to the Data Committee for review.

Nitrogen Loading Assessment – Melanie gave a brief overview as to the goal of the Nitrogen Loading Assessment and stated that in the interest of providing a comprehensive review, the group will hold off on an intensive analysis of the individual sectors until the initial work in each

sector has been completed. Viewing the sectors independent of each other would not provide reviewers with all of the information they need. Process, models and parameters of the Assessment.

At that point the group can review not only the parameters and processes used in the analysis, but also have the ability to view a sensitivity analysis – This analysis can be used to determine which parameters are most likely to change the output. The low level parameters would be less concern that those that change the outcome greatly.

Timeline

It is envisioned that the Data Committee should have the information back from the peer reviewers for their own review by November. The information would then be handed to the GWAC who are the policy makers in charge of developing the plan.

Concerns

If anyone in the group has any concerns or data to share, Melanie encourages them to send it to her and Kirk. The group was reminded to be patient, all information sent it will be reviewed and included.

Resources Requested

-

Recommendations for GWAC

-

Deliverables/Products Status

-

Proposed Next Steps

- Next Meeting: October 8, 2015 10:00am-12:00pm at the Yakima County Courthouse

Joint Data Collection and Livestock/CAFO Meeting

Charge from Groundwater Management Area Advisory Committee

Working Group Members

See working group memberships for Data Collection and Livestock/CAFO

Meetings/Calls Dates

Meeting: Department of Ecology, 1250 West Alder Street, Union Gap

When: July 9, 2015 from 5:00pm to 7:00pm

Call: (360) 407-3780 PIN: 387313#

Participants

Kirk Cook (Chair, Data Collection), Charlie McKinney (Chair, Livestock/CAFO), Dan McCarty* (AGR), Jason Sheehan (GWAC), Jean Mendoza (GWAC), Larry Fendell (interested party), Melanie Redding* (Ecology), Steve George (GWAC), Sue Wedam (GWAC), Jim Dyjak (GWAC), Scott Stephen, Kathleen Rogers (GWAC), Bud Rogers (GWAC), Vern Redifer, Jim Davenport*, Lee Murdock, and Erica Naasz (Yakima County)

*via telephone

Key Discussion Points

- Nitrogen loading assessment: the big picture for all sources
- Confirm calculation method for lagoon contributions
- Focus on relevant variables and data sources for those variables

Nitrogen loading assessment: the big picture for all sources: Kirk announced that this meeting will be his last as the chairman for the Data Collections Working Group. Moving forward he will be acting as a consultant to the Washington State Department of Agriculture (WSDA) in the production of the Nitrogen Loading Assessment. He stated concerns about the appearance of a conflict of interest to be the chair of the committee tasked with oversight of that project. It has not been determined if this change will allow for him to continue as a member of the GWAC as a representative of the WSDA or if the organization will assign a replacement. Charlie announced that he had approached Melanie Redding from the Department of Ecology (DOE) to see if she was interested and available to be the chair of the Data Committee. Melanie Redding stated she was willing and the group agreed via consensus.

Kirk then stated that due to conversations at the last several meetings regarding groundwater loading, he has gone back and reviewed the original scope of work for the Nitrogen Loading

Assessment confirming that the assessment was never intended to estimate the concentration of nitrogen in the groundwater but rather to assess the annual loading of nitrates. Moving forward that will be the focus of the Assessment. Kirk also spoke about the process moving forward which will include a new peer review process which will include multiple hydrologists: Melanie Redding (Ecology), Ginny Stern (DOH), and Kevin Lindsay (Rep. Wa. Dairy Fed.). He also stated that he hopes to have a draft prepared and peer review ready by the next GWAC meeting – if he is provided with an agreed range of factors and values.

Confirm calculation method for lagoon contributions: Charlie and Kirk presented the calculations and variables used. - (See attachments) A member questioned whether the calculations have been compared to Whatcom County. Kirk agreed to look at what that County used, but provided the caveat that there are significant differences between the counties. Another member questioned the equation and leakage regarding Flexible Membrane Liners. Kirk responded that they will perform a risk analysis in terms of how to capture the leakage and assumption of breakdown, then transfer it to centimeters per second. You could then modify the Coefficient of Permeability (k) for flexible membrane 10 to -8 or -9. It was questioned how Kirk could justify his assumption. The group was reminded that they would have peer reviewers observe and comment on the assumptions. When covering the head issue the average head is 10ft per year. A member asked if there is any data to modify the 10ft. Kirk informed the group that they surveyed lagoons, noted elevation at the time and ultimate elevation, and then used average looking at the size and depth of the lagoon. The group questioned overestimations and again were reminded that all assumptions will be explained in the written chapter. The purpose of the chapter is to provide a planning document to the GWAC to look at various land uses and relative contributions for later uses. This is not to identify who is loading the most nitrogen into the groundwater.

Focus on relevant variables and data sources for those variables: The South Conservation District provided a random sample of 35 CAFOs within the GWMA so the individual analysis for total nitrogen ammonia can be used in calculations. Within these samples, there was a range from 350 to 1,100, the average was 787 mg/L of Nitrogen concentration which coincides with national studies.

There were questions regarding the methodologies of those samples and a request for the South Conservation District to provide their methodology. Kirk has asked the group to provide him any additional data within the next couple weeks. He reiterated that he is only interested in data sources and not anecdotal data or other types of information. If he does not receive any alternatives to consider he will be using the equation and variables presented at tonight's meeting. Any assumptions made in those calculations will be fully documented, peer reviewed, and then presented to the group to make sure everyone has a clear understanding.

To summarize, the variables used are Liner permeability (in cm/sec) example: 1×10^{-6} or -7 cm/sec, Liner thickness (1 ft.), Lagoon depth (10 ft.), Nitrogen concentration of lagoon contents (in mg/liter = part/million), and Total area in lagoons in GWMA (in acres).

Resources Requested

- N/A

Recommendations for GWAC

- N/A

Deliverables/Products Status

- Nitrogen Loading Assessment – CAFO Chapter: A draft is expected to be ready by the next GWAC meeting.

Proposed Next Steps

Next meeting: TBD (Week before August 20, 2015 GWAC Meeting)

Regulatory Framework Working Group

Charge from Groundwater Management Area Advisory Committee

[Insert Charge]

Working Group Members

Jean Mendoza, Chair (Friends of Toppenish Creek), Andres Cervantes (Department of Health), Bill Dunbar (Environmental Protection Agency), Charlie McKinney (Department of Ecology), Chelsea Durfey (Turner and Co.), Dan DeGroot (Yakima Dairy Federation), David Newhouse (interested party), Ginny Prest (WSDA), Jason Sheehan (Yakima Dairy Federation), Jim Dyjak (Concerned Citizen of Yakama Reservation), Larry Fendell (interested party), Laurie Crowe (South Yakima Conservation District), Nick Peak (EPA), Patricia Newhouse (Lower Valley Community Representative), Steve George (Yakima County Farm Bureau), Stuart Crane (Yakama Nation), Sue Wedam (Lower Valley Community Representative), Vern Redifer (Yakima County Public Services), Jim Davenport (Yakima County Public Services)

Meetings/Calls Dates

Meeting: August 12, 2015 5:30 PM – 8:00 PM

Call Number: 509-574-2353 PIN #2353

Participants

Present: Jean Mendoza, Dan DeGroot, Ginny Prest, Charlie McKinney, Jim Davenport, Jim Dyjak, Larry Fendell, Sue Wedam, Stuart Crane, Vern Redifer; Lee Murdock, Mary Wurtz (Yakima County Support Staff)

*via phone

Key Discussion Points

Review Workgroup Goals and Objectives:

Jean presented a handout entitled “A Proposed Road Map for the GWMA Regulatory Work Group.” Jean asked for comments on the paper and the discussion was centered on the “Outputs” column.

- Ginny P. questioned the item “Legal Opinion from Jim Davenport” under Resources. Jim stated that his opinion is not controlling. Any lawyer may give his opinion.
- Vern agreed with the Mission Statement and commented that the logic model restates the goals and objectives.

An overview of regulatory action and how the law has evolved followed. The ultimate goal of looking at current regulations is to consider their historical development. Look at the ways

people have attempted to address a particular problem. A participant suggested a worldwide comparison to see what others are doing. Lee commented that she can see this getting big really fast. One option is to compare monitoring wells within the GWMA with monitoring wells throughout Washington State in order to see how regulations have evolved over there over time and if rules got more stringent over time. Vern stated the challenge from Yakima County is figuring out what the history of the problem and regulatory response has been. It was suggested that just because something has been tried before and failed does not mean it isn't good.

Concern was expressed that if we continue down the path of looking at all the information there will be a ton of opinions about it. Sue Wedam stated that it seemed as though some topics on this Work Group's agenda are being covered by other groups. Duplication should be avoided.

Jean sees the Regulatory Group's job is to ask questions and put in simple explanations. Jean was hoping to have more representation for non-ag people. Vern felt that this is not part of the Regulatory Work Group's purview. The recommendations of the GWAC should have a broad public impact.

Motion: Concentrate on study of existing regulations and then talk about next steps. This would help show where the gaps are.

Motion was seconded and passed. It was mentioned that the list that HDR had compiled regarding regulatory and non-regulatory policies and guidelines on water quality should be the guide.

Motion: To evaluate the current regulations and consider if things are not adequate.

Motion was seconded and passed.

A member suggested that we put this part on hold for a little while since once the committee is through studying the regulations there should be an obvious path. Another suggested that the activities in column two be completed before columns three, four and five are completed. Jim D stated that the document needed a timeline.

Dairy Nutrient Management Program discussion with Ginny Prest:

The following questions were covered:

Question #1: *What specific regulation are you addressing? Provide the citation where it may be found. Identify the responsible agency personnel.*

- Ginny outlined and listed the Washington State RCW's and WAC's that pertain the Washington State Department of Agriculture (WSDA) Dairy Nutrient Management Program (DNMP) including RCW 90.48 -Water Pollution Control Act, RCW 90.64 -Dairy Nutrient Management Act, RCW 43.05 - Technical Assistance, and WAC 16-611 - Nutrient Management Rules. Ginny said the regulations and rules target mostly surface water and not ground water. WAC 16-611 Nutrient Management spells out the requirements for the recordkeeping that dairy producers must complete and maintain. In addition, WAC 16-611 has a penalty matrix for discharges to waters of the state (surface) and recordkeeping

violations. DNMP gives the dairy an opportunity to fix their mistakes by providing technical assistance as required by RCW 43.05 (the program uses a notice of correction). If the dairy has a second discharge to surface waters, the dairy will receive a penalty of \$4000. Penalties increase for any subsequent infractions. Most water quality penalties are for fecal coliform. WSDA's DNMP has a good history of people correcting any issues when identified through inspections, technical assistance, warning letters and enforcement actions. WSDA DNMP does not have the regulatory authority to give someone a monetary fine for over applying nitrates.

Question #5: How much has education of the regulated community improved regulatory effectiveness? How is this measured?

In 2009, RCW 90.64 was amended to include the requirement for all dairies to maintain records for land applications of all nutrients (this includes all sources of nitrogen). In 2010, RCW 90.64 was amended to include a penalty for lack of recordkeeping. In October 2012, WAC 16-611 Nutrient Management rule was signed that included recordkeeping requirements and penalty matrix for both discharges to waters of the state and recordkeeping violations. This last January WSDA DNMP had two years of inspection data. Based on the data, elevated nitrate levels were noted in some fields. The program utilized warning letters and notices of correction to recommend to producers of additional steps that should be taken to reduce nitrate levels in the soil.

It was expressed that it was frustrating to be subject to regulations but not your neighbor.

Consistency is needed.

Question #29: Is the regulation current? Is it adequate to address the problem it was designed to solve? If not, do you have any ideas on how it could be changed to be more effective or to improve compliance, e.g. modification of standard, modification of penalty, etc.?

- The questions asked at the meeting regarded legislation for application of manure and nutrients by non-dairy agricultural producers. What would the legislation look like? Would it be a mirror copy of dairy requirements? Will application records be required? Will they have routine inspections?
- Vern asked what the testing requirement is for dairies. Ginny replied dairies are required to test the soil, one foot deep, for organic matter (%), ammonia-N, nitrate and phosphorus. Dairies are required to test manure for % solids, total nitrogen, total phosphorus and ammonia-N.

If a dairy is exporting manure to another person, the dairy is required to provide manure analysis and keep records on how much is exported. The dairy supplying the manure to another party or a broker does not have control over what the receiving party does with the manure. Jim questioned if non-dairymen should be required to keep the same records as dairymen. Vern added that commercial fertilizer has to be recorded by the dairies also.

The chart "Inspection/Compliance Yakima County", on Page 10, was reviewed. It broke down the past five years of WSDA DNMP inspection and compliance actions. Penalties for discharges to waters of the state start at \$4,000 and progress up to \$10,000.

Resources Requested

-

Recommendations for GWAC

-

Deliverables/Products Status

-

Proposed Next Steps

- Next meeting:

Regulatory Framework Working Group

Charge from Groundwater Management Area Advisory Committee

[Insert Charge]

Working Group Members

Jean Mendoza, Chair (Friends of Toppenish Creek), Andres Cervantes (Department of Health), Charlie McKinney (Department of Ecology), Chelsea Durfey (Turner and Co.), Dan DeGroot (Yakima Dairy Federation), David Newhouse (interested party), Ginny Prest (WSDA), Jason Sheehan (Yakima Dairy Federation), Jim Dyjak (Concerned Citizen of Yakama Reservation), Larry Fendell (interested party), Laurie Crowe (South Yakima Conservation District), Nick Peak (EPA), Patricia Newhouse (Lower Valley Community Representative), Steve George (Yakima County Farm Bureau), Stuart Crane (Yakama Nation), Sue Wedam (Lower Valley Community Representative), Vern Redifer (Yakima County Public Services), Jim Davenport (Yakima County Public Services)

Meetings/Calls Dates

Meeting: September 9, 2015 5:00 PM – 8:00 PM

Call Number: 509-574-2353 PIN #2353

Participants

Present: Jean Mendoza (Chair), Virginia "Ginny" Prest, Ryan Ibach, Ted Silvestri, Jim Dyjak, Dan DeGroot, Steve George, Peter Severtson, Jon Jennings, Bill Moore, Mary Shaleen-Hansen*, Stuart Crane, Patricia Newhouse, Jessica Newhouse, Larry Fendell, Sue Wedam, Vern Redifer, Jim Davenport, and Erica Naasz (Yakima County Staff)

*via phone

Key Discussion Points

Composting in Washington; the role of state and local rules and regulations - Peter Severtson, Department of Ecology, Waste to Resources Program, Central Region and Ryan Ibach, Environmental Health Director, Yakima Health District

Peter handed out a questionnaire that he had completed based on questions presented to him from the Regulatory Framework Group.

Waste Water Treatment Plants – There are 380 Waste Water Treatment plants in Washington State. A Waste Water Treatment plant removes solid materials and treats it before releasing it back into the environment. If domestic sewage falls under the purview the program is set up to land apply the solids for beneficial use; these go to agricultural lands. The Department of Ecology sets specific sampling rates, purposes for applying, and permitting of properties for which soils

these are land applied. They are then tested and shipped around the state. Roughly 100,000 to 120,000 dry tons are shipped to Yakima County.

Beneficial Use Facility – A Beneficial Use Facility is a receiving-only facility consisting of a site or sites where bio-solids from other treatment works treating domestic sewage are applied to the land for beneficial use, which has been permitted as a treatment works treating domestic sewage and has been designated through the permitting process. There are three in the Central Region in which a couple thousand permitted acres receive bio-solids. Natural Selection Farms is the largest acreage permit holder in the state.

Regarding question number 29 which states, *“Is the regulation current? Is it adequate to address the problem it was designed to solve? If not, do you have any ideas on how it could be changed to be more effective or to improve compliance, e.g. modification of standard, modification of penalty, etc.”* Peter stated the program works effectively, when growers and permit holder work cooperatively. However, there can sometimes be a disconnect with a permit holder and grower. The Department of Ecology is working with growers to better understand their objectives.

There is a program where bio-solids are tested for nutrient content and soil sample the fields in advance of land application to match nutrients that are being applied with crops to be grown at expected yields. Questions were raised regarding testing, heavy metals, and trash. There was a new screening regulation implemented in 2012 with a minimum of three eighths inch screen for filtering solids. Bio-solids cleaned up one percent by volume. Soils are tested at three to five feet deep.

Regarding question number 14 which states, *“Were existing practices or facilities “grandfathered” when the regulation was adopted? If so, do the grandfathered facilities or practices represent a significant potential source of nitrates?”* Discussion followed regarding the Seepage lagoons at the Cheyne Landfill that were not double lined. When they were redone they had to meet standards.

Composting – There are processes where facilities are exempt from a permit. There is one permitted facility in Yakima County which consists of engineered soil; it is unknown how many composting sites exist. Questions followed regarding runoff and facility monitoring. The group was informed that monitoring information is available in the National Resource Conservation Service (NRCS) manure waste handbook. Regarding waste, Yakima County generates twelve thousand tons of green yard waste a year. The County has a contract with Natural Farms to remove the waste after it is screened.

Underground Injection Control Program (UIC) – Mary Shaleen-Hansen, Hydrogeologist, Department of Ecology, Water Quality Program, Lacey (via phone)

The goal of Washington’s UIC Program is to protect ground water quality by regulating discharges from UIC Wells. In 1984 the Department of Ecology received authorization from EPA to regulate UIC Wells.

A UIC Well is a manmade structure used to discharge fluids into the subsurface. It has to be deeper than wide at the land surface or a structure that contains perforated pipe or an improved sinkhole. Exemptions include storm drain components designed and intended to move water to surface water, Infiltration ponds, and septic system drain fields receiving only sanitary waste and

serving less than twenty people per day. UIC Wells are used to manage storm water, dispose of waste, recharge aquifers, and dispose of commercial and industrial waste fluids. Prohibited discharges include vehicle maintenance, contaminated sites, and Storm water with high pollutant loads.

UIC Well owners must meet the rule requirements, including registering with Ecology or EPA and meeting the groundwater protection requirements, or have a permit to operate a well.

In summary, UIC Wells are shallow structures used to discharge fluid into the subsurface. The UIC Program registration reviews site characteristics to determine if treatment is needed or is prohibitive. There are seventy-five UIC Wells located in the Lower Yakima Valley, where low concentrations of nitrogen were associated with all land uses.

A member asked how often UIC Wells are tested. UIC Wells are not tested unless there is a problem. The UIC program does not require permitting unless there is a known problem or they want to do a well assessment for land use. Most all UIC Wells use the storm water manual to determine the treatment. When a UIC Well needs retrofitting there is no timeline for anything other than the assessment.

In Yakima County, the Roads Division is moving will away from UIC Wells by using or creating grassy settling areas or ponds.

Mary's Contact Information:

Email: Maha461@ecy.wa.gov Phone: 360-407-6143

UIC Website: www.ecy.wa.gov/programs/wq/grndwtr/uic/index.html

CAFO General Permit – Jon Jennings, Department of Ecology, Permit Development Section, Lacey and Bill Moore, Department of Ecology, Permit Development Section Manager, Lacey

The state is trying to find the best pathway to completing the National Pollutant Discharge Elimination System (NPDES) permit update. The Department of Ecology has approached farmers, agencies, and environmental groups to see what is happening with the lands. They presented a rough draft of the permit through a webinar and are looking for input.

Ideally, they would like to put expectations out which lay out a pollution prevention, nutrient management plan that can be put into a permit. Requirements and goals could be written into the permit.

A member questioned whether they could place required behaviors into the permit, or required behaviors that are unique to the soil or site conditions. Bill informed the group that behaviors are not in the preliminary draft; the draft focuses on goals. Because each farm is unique, standards would vary on a case-by-case basis. Jon added that the focus is on point source discharge. Federal rules are different than State rules. Under Federal rules, if you have seepage you are required to have a permit. It was mentioned that this method is reactive, not preventive. One area that will be

corrected is the inability of a CAFO to obtain a NPDES permit since 2011 when the old permit expired.

Jon encouraged the group to visit the CAFO permit website and email comments by September 18, 2015.

Ecology's Non-point Pollution Plan – Charlie McKinney, Department of Ecology, Water Quality Section Manager, Central Region

Charlie handed out portions of the Washington's Water Quality Management Plan to Control Nonpoint Sources of Pollution. This document outlines the Washington State's approach to addressing water quality impacts from nonpoint sources of pollution.

Nonpoint sources pollutant are introduced into water through runoff, direct deposition of pollutants into state waters, habitat alteration and hydro modification, and atmospheric deposition. Land Use is strongly correlated to nonpoint pollution. Therefore, the focus is on land use activities such as agriculture (livestock and crops), atmospheric deposition (emissions), forest practices (road construction), habitat alteration (filling of wetlands), recreation (marinas), and urban/suburban areas (storm water runoff).

Wrap up and Discussion

The group discussed meeting length and times. It was suggested to alternate between day and evening meetings for the next few months to determine which works best for the group.

Resources Requested

-

Recommendations for GWAC

-

Deliverables/Products Status

-

Proposed Next Steps

- Next meeting: TBD, Possibly at the Department of Ecology, Union Gap at 1:00pm

Adjourned: 8:05pm

Attachment B

High Risk Well Assessment Phase II Outreach Schedule and Materials

- 2015 Well Assessment Outreach Calendar
- Direct Mail Piece (English/Spanish)
- Letters to Local Newspaper Editors (English/Spanish)
- News Release (English/Spanish)
- Well Assessment Outreach Flyer (English/Spanish)
- Flyer Distribution Network

Phase II High Risk Well Assessment Survey Outreach Schedule & Assignments		2015 Sept 1-14 – Launch Public Outreach blitz Sept 14-30 – continue outreach; surveying begins Oct-Dec – continue outreach and surveying		2016 Q1 – [Placeholder] Complete surveying	
		SUMMER –FALL 2015 CALENDAR (last updated 10/01//15)			
September 1-14		September 14-30		October 2016	
Tasks		Tasks	Assigned to	Tasks	Assigned to
Launched Media Blitz Direct mail to interested household list Direct mail 1000 pieces to households (500 to Hotspot areas + outside ring of Consent Boundary; 500 to Low Data areas) inviting participation Flyer distribution launched.	Leads: Patricia, Ignacio [Jean]	Continued Media Blitz Schedule radio spots & news shows Letter to Newspaper Editors from GWAC Chair announcing the survey News release to all radio, TV and newspapers in the target area Upload Release to website Identify and contact flyer “distribution network” (Mid Valley Consortium, STEM leadership team, Farm worker’s Clinics, Lower Valley Medical Providers, Mid Wives consortium)	Lead: Ignacio	Continue Media Blitz Spanish and English-language radio ads launched. Schedule/participate on radio news shows Continue flyer distribution Develop Local Schools Outreach [Tabled to Oct] [Placeholder] Nov-Feb-evaluate outreach measures	Rand, Andy, Ignacio Unassigned
Zillah Old Fashioned 4 th of July-Stewart Park (7/4) Zillah Resurrection Parish Family Festival (7/19) Grandview Chamber Car Show –Events Center (8/8)		Granger Menudo Festival –Hisey Park (9/6) Zillah Not Just a Farmers Market (9/12-13) Mexican Independence Day (9/16) Central Washington State Fair (Last week of September)			

September 2015

Dear Resident:

The Lower Yakima Valley Groundwater Advisory Committee (GWAC) in partnership with the Yakima Health District is offering *free* nitrate and coliform samples for private and shared wells. This is part of an ongoing effort to help residents in the Lower Yakima Valley learn more about the water quality and impact to public health of the area's drinking water.

We are writing to encourage you to participate in our sampling program that should take about 30 minutes. This will be a quick look at conditions surrounding your well that may impact water quality and the health of your family. The samples will show if the water quality may also be a concern to your family's health. The short survey and samples will be completed by an environmental health specialist from the Yakima Health District.

The sampling will be paid for by state funds made available to Yakima County to address areas where there may be high levels of nitrate in drinking water. The survey will help us understand the conditions that exist around the wells and how to best help the residents. It is not our intention to collect personal data for any other use or purpose.

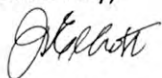
All information collected will be made available to you and will help you make informed decisions about your drinking water and your family's health.

To set up an appointment to participate, please call the Yakima Health District Help Desk at 509-249-6508. The sampling program will begin in September.

The Lower Yakima Valley GWAC is a multiagency and citizen-based group coordinating efforts to reduce nitrate contamination in drinking water in the Lower Yakima Valley. To learn more about the GWAC and this program, please visit: <http://www.yakimacounty.us/gwma/>.

We look forward to working with you.

Sincerely,



J. Rand Elliott, Yakima County Commissioner
Chairman

The Lower Yakima Valley Groundwater Management Area Advisory Committee

Septiembre 2015

Estimado residente:

El Comité Asesor del Área de Manejo de Agua Subterránea del Valle Bajo de Yakima (GWAC) en asociación con el Distrito de Salud de Yakima está ofreciendo muestras *gratis* de nitrato y bacterias coliformes para los pozos privados y compartidos. Como parte de un esfuerzo continuo para ayudar a los residentes en el Valle Bajo de Yakima a informarse más sobre la calidad y el impacto que tiene el agua para beber del área en la salud pública.

Le escribimos para animarle a que participe en nuestro programa de muestreo que sólo debe durar aproximadamente 30 minutos. La encuesta es un vistazo rápido a las condiciones que rodean su pozo y que pueden afectar la calidad del agua y la salud de su familia. Las muestras mostrarán si la calidad del agua pudiera ser también una preocupación para la salud de su familia. La encuesta corta y las muestras serán tomadas por un especialista en salud ambiental del Distrito de Salud de Yakima.

Las muestras serán pagadas con fondos estatales disponibles para atender áreas del Condado de Yakima donde pudiera haber niveles altos de nitratos en agua para beber. La encuesta nos ayudará a entender las condiciones que existen alrededor de los pozos y la manera de apoyar mejor a los residentes. No es nuestra intención recolectar datos personales para ningún otro uso o propósito.

Toda la información recolectada estará disponible para usted y le ayudará a tomar decisiones informadas acerca de su agua para beber y la salud de su familia.

Para hacer una cita para participar, por favor llame a la línea de ayuda del Distrito de Salud de Yakima al 509-249-6508. El programa de muestreo iniciará este mes. El comité GWAC del Valle Bajo de Yakima es un grupo formado por varias agencias y ciudadanos que coordinan los esfuerzos para reducir la contaminación por nitrato en el agua para beber en el Valle bajo de Yakima. Para más información acerca de GWAC y de este programa, visite: <http://www.yakimacounty.us/gwma/>.

Esperamos poder trabajar con usted.

Atentamente,



J. Rand Elliott, Presidente de Comisionados del Condado de Yakima
Comité Asesor del Área de Manejo de Agua Subterránea del Valle Bajo de Yakima



September 21, 2015

Richard Burger, Editor
Grandview Herald/Prosser Record Bulletin
107 Division Street
Grandview, WA 98930

To the Editor:

As the chairman of the Lower Yakima Valley Groundwater Advisory Committee (GWAC), I want to let your readers know that we are again offering citizens the opportunity to have their wells sampled for free as part of our effort to assist residents and learn more about the health of the drinking water in the *Lower Yakima Valley. We first offered this program in 2014 and would like to extend the offer to more residents of the Lower Yakima Valley.

The committee, which includes residents and interested groups from the Lower Yakima Valley, has been making progress to find solutions related to nitrate and bacterial contamination found in some of the drinking water wells in the Lower Yakima Valley.

Not all water supplies in the area have been impacted. Public water systems in the area maintain safe and reliable drinking water supplies. However many of the homes in the Lower Yakima Valley are served by private or shared wells, and there is enough data to suggest that many of these wells are at risk from surface contaminants.

I want to encourage all residents to participate in the sampling program. It will only take about 30 minutes. The information gathered in the Lower Yakima Valley for the committee will only be used to evaluate the typical water quality in the groundwater. The assessment survey will help us understand the conditions that exist around the wells and how to best help the residents. It is not our intention to collect personal data for any other use or purpose.

Residents who participate will receive copies of their sample results. This is so they can make an informed decision about their drinking water and their family's health.

Affected residents received a letter in the mail. To learn more about the program and to set up an appointment to participate, please call the Yakima Health District Help Desk at 509-249-6508. Appointments can be scheduled right now with results expected early next year.

To learn more about the GWAC, please visit: <http://www.yakimacounty.us/gwma/>.

**The offer is limited to Yakima County properties outside of the Yakama Nation boundaries. Those residents may contact Sean Blackshear at Indian Health Services - Environmental Health: 509-865-1776.*

Sincerely,

J. Rand Elliott, Yakima County Commissioner
Chairman

The Lower Yakima Valley Groundwater Management Area Advisory Committee



Groundwater Management Area (GWMA):

The purpose of the GWMA is to reduce nitrate contamination concentrations in groundwater below state drinking water standards

21 de September 2015

Al Editor:

Como presidente del Comité Asesor del Área de Manejo de Agua Subterránea del Valle Bajo de Yakima (GWAC), quisiera informar a sus lectores que estaremos ofreciendo de nuevo a los ciudadanos la oportunidad de que sus pozos sean evaluados gratis como parte de nuestros esfuerzos de apoyo a la ciudadanía y para saber más acerca de la condición del agua para beber en el Valle Bajo de Yakima. Nosotros ofrecimos este programa por primera vez en el 2014 y quisiéramos extender la oferta a más residentes en el *Valle Bajo.

El comité, el cual incluye residentes y grupos interesados del Valle Bajo de Yakima, ha estado progresando en encontrar soluciones relacionadas con la contaminación por bacteria y nitrato encontrada en algunos de los pozos de agua para beber en el Valle Bajo de Yakima.

No todos los suministros de agua en el área han sido afectados. Los sistemas de agua pública en el área mantienen suministros de agua para beber segura y confiable. Sin embargo, hay muchos datos que indican que los pozos privados o compartidos de hogares del Valle Bajo de Yakima están en riesgo de exponerse a contaminantes superficiales.

Quiero animar a todos los residentes para que participen en el programa de pruebas. Sólo tomará aproximadamente 30 minutos. La información que reúna el comité en el Valle Bajo de Yakima únicamente se usará para evaluar la calidad típica del agua subterránea. La encuesta nos ayudará a entender las condiciones que existen alrededor de los pozos y la manera de apoyar mejor a los residentes. No es nuestra intención recolectar datos personales para ningún otro uso o propósito.

Los residentes que participen recibirán copias de los resultados de sus muestras de agua. Esto es para que puedan tomar una decisión informada acerca del agua para beber y la salud de su familia.

Los residentes afectados recibirán una carta por correo. Para más información sobre el programa y para hacer una cita para participar, por favor llame a la línea de ayuda del Distrito de Salud de Yakima al 509-249-6508. Las citas se pueden programar desde ahora y esperamos ya tener los resultados para principios del año entrante.

Para más información acerca de GWAC, visite: <http://www.yakimacounty.us/gwma/>.

**La oferta es limitada a propiedades del Condado de Yakima que esté ubicadas fuera de los límites de la Nación Yakama. Los residentes de la Nación pueden comunicarse con Sean Blackshear en el Departamento de Servicios de Salud India - Salud Ambiental: 509-865-1776.*

Atentamente,

J. Rand Elliott, Presidente de Comisionados del Condado de Yakima
Comité Asesor del Área de Manejo de Agua Subterránea del Valle Bajo de Yakima

**Public Service Announcement
GWAC Lower Yakima Valley Well Sampling**

The Lower Yakima Valley Groundwater Advisory Committee (GWAC) is offering free well water sampling to Lower Yakima valley residents beginning in September.

Drinking water wells will be sampled for nitrate and bacteria. A Yakima Health District employee will be available to discuss any concerns or questions with the survey or sample results with survey participants or the general public. This sampling will help the Committee to better understand and help find solutions to possible contamination in drinking water wells.

For more information and to participate, contact the Yakima Health District Help Desk at: 509-249-6508

**Public Service Announcement
GWAC Lower Yakima Valley Well Sampling**

Muestreo GWAC de pozos del Valle Bajo de Yakima

Empezando en enero el Comité Asesor de Agua Subterránea del Valle Bajo de Yakima (GWAC) ofrecerá muestreos gratuitos de agua de pozos a residentes del Valle Bajo de Yakima.

Los pozos de agua potable serán evaluados por presencia de nitratos y bacteria. Un empleado del Distrito de Salud de Yakima estará disponible para responder cualquier pregunta referente a la encuesta o a los resultados de la prueba de los participantes o del público en general. Este muestreo ayudará al Comité a entender mejor y a encontrar soluciones a la posible contaminación de pozos de agua potable.

Para más información o para participar, comuníquese con el Distrito de Salude de Yakima al teléfono: 509-249-6508

Attention LOWER VALLEY Residents

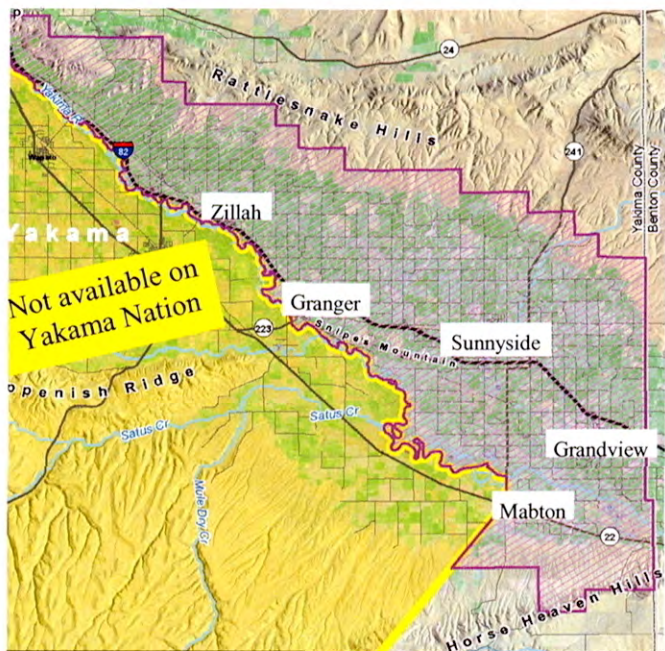


Does your drinking water come from a private well?

For a LIMITED TIME ONLY you may be eligible for
FREE WELL WATER TESTING
through the
Lower Yakima Valley Groundwater Advisory Committee (GWAC)

What's involved?

- Your drinking water well sampled for nitrates and bacteria for free
- A short survey by a Yakima Health District employee where you can share your concerns and learn about nitrates
- You receive sampling results to help you protect your drinking water and family



How can I be considered for free testing?

- You must live in the Lower Yakima Valley and
- Obtain your drinking water from a private or shared well

For more information or to participate, please call
The Yakima Health District Help Desk

509.249.6508

This sampling is made possible by the GWAC. Your participation will help the committee to better understand and help find some solutions to possible contamination in drinking water wells.

For more information, please visit: <http://www.yakimacounty.us/gwma/>

soluciones a la posible contaminación en los pozos de agua potable. Para más información, visite:
<http://www.yakimacounty.us/gwma/>

Comité Asesor del Área de Manejo de Agua Subterránea (GWMA):

El propósito de GWMA es reducir la concentración de contaminación por nitrato en el agua subterránea por debajo del estándar estatal para el agua potable.

Atención Residentes del VALLE BAJO



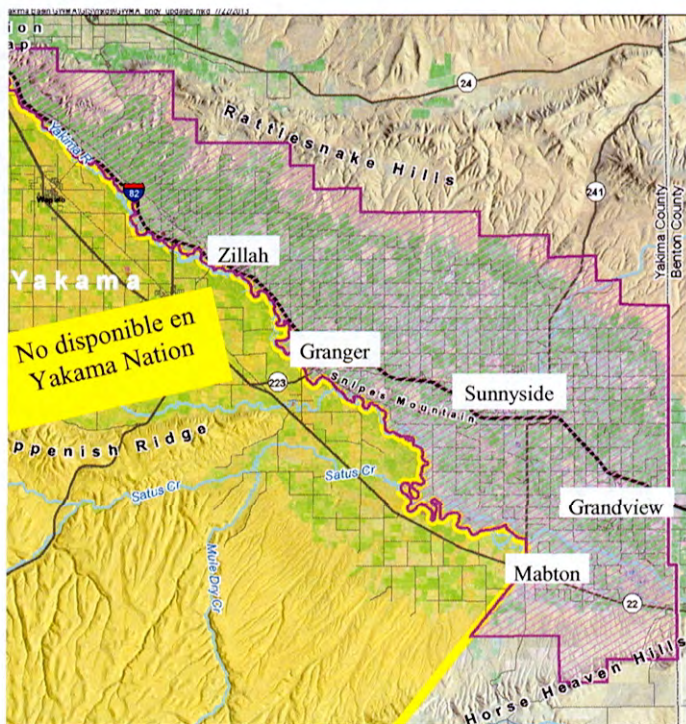
¿El agua que usted bebe viene de un pozo privado?

SÓLO POR TIEMPO LIMITADO usted puede ser elegible para una PRUEBA GRATIS DEL AGUA DE SU POZO

a través del

Comité Asesor de Agua Subterránea del Valle Bajo de Yakima (GWAC)

¿De qué se trata? Se evaluará por nitrato y bacteria a pozos de agua potable. Un empleado del Departamento de Salud de Yakima tomará la muestra de su pozo y se le invitará a participar en una encuesta corta. Usted puede consultar sobre cualquier preocupación que tenga del agua de su pozo y los resultados de las prueba estarán disponibles.



¿Qué puedo hacer para ser considerado para la prueba gratis?

Para ser considerado, usted debe vivir en el Valle Bajo de Yakima y obtener el agua que bebe de un pozo privado o de un pozo compartido.

Para más información o para participar, llame a la Línea de información del Departamento de Salud de Yakima

509.249.6508

Estas pruebas son posibles gracias a GWAC. Su participación ayudará al comité a entender mejor y a ayudar a encontrar soluciones a la posible contaminación en los pozos de agua potable. Para más información, visite: <http://www.yakimacounty.us/gwma/>

**Well Assessment Survey Phase II
Flyer Distribution**

Category	Specific	#	Assigned/Distributed by	Notes
Agencies	Alliance for Clean Energy and Jobs	?	Jean Mendoza	
	Buena Community Library		Jim Davenport	
	Catholic Charities/Housing	20	Lee	
	Ecology (well drillers)	30	Joye R-W/Avery Richardson	
	INSPIRE programs	50	Pat Newhouse	George Castillo, Exec. Dir.
	Latino Community Fund	?	Jean Mendoza	
	Area Food Banks		Ignacio	10/7 update-will distribute to area food banks
	Nuestra Casa, Sunnyside	50	Pat Newhouse	Staff to conduct 2 workshops
	Yakama Wellness Coalition	?	Jean Mendoza	
	Yakima County Courthouse – Main & 4 th Floors	30	Lisa	+ Posters on main floor
	Yakima County HOME Program	50	Lisa	
	Yak Co Solid Waste: Cheyne Landfill, LV Transfer Station	500	Lisa	
	Yakima Health District	30	Lisa Freund	+ English/Spanish posters
	US Post Office, Buena		Jim Davenport	Community bulletin board
	US Post Office, Sunnyside	4	Pat Newhouse	Community bulletin board and sorting facility
Municipalities	Yakima Valley Conference of Governments (Cities & Towns)			
	Mabton City Hall	10	Andy Cervantes	Delivering on 10/7
	Banks: Banner, US Bank and Yakima Federal	100	Pat Newhouse	Flyers Posted in the business
Businesses	Bell and Bridges, CPAs, Sunnyside	10	Pat Newhouse	Flyers Posted in the business
	Bleyhl's Farm Service, Sunnyside		Kathleen Rogers	
	Central Washington Home Builders Association		Lee	10/7 – not done.
	Goodwill Industries, Sunnyside	50	Pat Newhouse	
	Natural Selection Farms	21	Pat Newhouse	Posted in office & distributed to staff
	New Image Hair Salon, Sunnyside	2	Pat Newhouse	
	Radio KDNA	?	Jean Mendoza	
	Sunnyside Rite Aid Pharmacy	4	Pat Newhouse	employee breakroom & public restrooms
Community Events	1 Central Washington State Fair - Yakima County Booth	30	Yakima Co Surface Water	
	Mexican Independence Day Event/KDNA	Yes	Ignacio	September 16
	Toppenish Farmers Market	?	Jean Mendoza	

	Sunnyside Sunshine Days	4	Pat Newhouse	Distributed to public
Churches	Sunnyside Ministerial Association		Pat Newhouse	10/7 – needs more flyers (provided)
Educational Institutions	Heritage University	30	Jessica Black	Heritage University
	Other Higher Education (Pacific Northwest University, Yakima Valley Community College, Washington State University Cooperative Extension)		Unassigned	
	Parent, Teacher, Student Associations		Unassigned	
Health Care Providers	Swofford Halma Clinic, Sunnyside	10	Pat Newhouse	
	Farmworkers Clinic-weatherization program		Ignacio	10/7 –yes, will distribute
	Federally Qualified Healthcare Centers (Yakima Valley Farmworkers Clinic, Yakima Neighborhood Health Services, Community Health of Central Washington)		Unassigned	
	Hospitals (Yakima Valley Memorial Hospital, Sunnyside General Hospital, Toppenish Community Hospital, Prosser Memorial Hospital, Regional Hospital)		Unassigned	
Other	Jan Whitefoot	?	Jean Mendoza	

Attempted; declined or no response

Category	Specific	#	Attempted by	Notes
Agencies	Northwest Harvest/Food Banks		Ignacio Marquez	They are distribution center; we may distribute directly to food banks.
Municipalities				
Businesses	Yakima Valley Landlords Association		Lisa Freund	Attempted, no response
	Central Washington State Fair (Farmworkers Clinic)		Ignacio Marquez	Need to obtain fair approval prior.
Educational Institutions	ESD 105 - School Districts (16)		Lisa Freund	Declined. Told to contact individual schools.

Attachment C

- **Interlocal Agreement between Yakima Health District and Yakima County**

**INTERLOCAL AGREEMENT
BETWEEN
YAKIMA HEALTH DISTRICT
AND
THE YAKIMA COUNTY DEPARTMENT OF PUBLIC SERVICES**

This AGREEMENT is between the Yakima Health District and Yakima County through its Department of Public Services, whereby the Yakima Health District agrees to conduct a high-risk assessment of wells and water supplies at individual sites as directed by Yakima County throughout the Lower Yakima Valley Groundwater Management Area.

WITNESSETH:

In consideration of the terms and conditions contained, the parties agree as follows:

1. **Project.** The Yakima Health District, located at 1210 Ahtanum Ridge Drive, Union Gap, WA. 98903 has agreed to do all the work and furnish all the materials necessary for performing the risk assessment surveys, and testing and analysis of the quality potable water supplies for residents in a test area as determined by Yakima County and as set forth in the Scope of Services (Attachment "A").
2. **Payment.** The Yakima County Department of Public Services, located at 128 N. Second Street, Yakima, WA. 98901 agrees to pay to the Yakima Health District a fee for these services in a lump sum of \$250.00 per completed site survey, not to exceed a total contract amount of Fifty Thousand Dollars (\$50,000.00), in accordance with the provisions contained in Attachment A, paragraph 2, attached to this agreement.
3. **Amendments.** This agreement contains all terms and conditions agreed upon by the parties. No change or addition to this Agreement shall be valid or binding upon either party unless such change or addition is in writing and executed by both parties.
4. **Independent Contractor.** The parties agree that, for purposes of this agreement, the Yakima Health District and/or any employees or agents of the Yakima Health District act as independent contractors; and neither the Yakima Health District nor its employees and agents shall be considered employees of Yakima County and the Yakima County Department of Public Services or any of its divisions while performing their duties under this agreement and therefore are not entitled to any of the employment benefits that Yakima County provides its employees.
5. **Professional Standards.** The Yakima Health District shall perform the agreed services according to the standard of care ordinarily exercised under similar conditions by similarly qualified professionals who provide similar services.

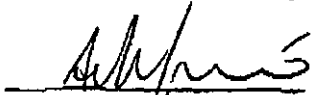
6. **Indemnification/Hold Harmless.** The Yakima Health District shall defend, indemnify and hold the County, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees arising out of or resulting from the acts, errors or omissions of the Yakima Health District in performance of its duties under this Agreement, except for injuries and damages caused by the sole negligence of the County or its employees. Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Yakima Health District and the County, its officers, officials, employees and volunteers, the Yakima Health District's liability, including the duty and cost to defend shall be only to the extent of the Yakima Health District's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Yakima Health District's waiver of immunity under the provisions of Washington State Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.
7. **Limitation of Liability.** All actions or proceedings are barred three years after County knew or should have known of any claim or damage, or five years after substantial completion of the Services, whichever occurs first.
8. **Attorney's Fees.** If any legal action or proceeding is commenced relating to this Agreement, the prevailing party is entitled to recover its reasonable attorneys' fees and costs.
9. **Termination.** This agreement may be terminated upon thirty (30) days written notice to the other party. In such event, County shall pay to the Yakima Health District compensation for agreement services performed to the date of termination and performed pursuant to the scope of work and for all related expenses incurred prior to the effective date of termination.
10. **Governing Law and Venue.** This agreement shall be governed by the laws of the state of Washington. Venue for any action or proceeding shall be in the Superior Court of Yakima County.
11. **Survival.** The provisions of this agreement shall survive its termination and completion of services.
12. **Complete Agreement.** This agreement constitutes the complete and final understanding between the parties and may be amended by the prior written consent of both parties.
13. **Nondiscrimination.** The Yakima Health District agrees that it shall not discriminate against any person on the grounds of race, creed, color, religion, national origin, sex, sexual orientation, age, marital status, political affiliation or belief, or the presence of any sensory, mental or physical handicap in violation of the Washington State Law Against Discrimination (RCW chapter 49.60) or the Americans with Disabilities Act (42 U.S.C. 12101 et seq.) or any other applicable state, federal or local law, rule or regulation.

14. **Assignment.** The Yakima Health District shall not assign or subcontract any portion of the contracted activities without obtaining prior written approval from the County.
15. **Term.** The term of this Agreement is for five (5) months, commencing upon entry of this agreement but shall not be in effect beyond February 28, 2016. Any subsequent amendments shall be in writing and made annually and take effect upon the first of each calendar year, not to exceed 5 years and following agreement as to any amendments to the scope of services.

(Agreement name & number)

DONE this 8th day of Sept 2015

YAKIMA HEALTH DISTRICT

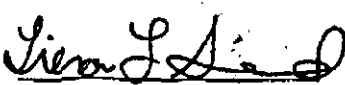

Andre Fresco/MSEPH
Administrator,
Yakima Health District

BOARD OF YAKIMA COUNTY COMMISSIONERS


J. Rand Elliott, Chairman

Excused


Michael D. Leita, Commissioner


Attest: Tiera L. Girard
Clerk of the Board


Kevin J. Bonchey, Commissioner
Constituting the Board of County Commissioners
for Yakima County, Washington

Approved as to form:


Deputy Prosecuting Attorney

ATTACHMENT A
Scope of Services

TASK 1 – Conduct Survey– Assessment of Health Risk and Water Supply Well (Attachment B)

1. The YAKIMA HEALTH DISTRICT shall provide resources sufficient to conduct up to 200 household sampling surveys using the form "High Risk Assessment Survey – Lower Yakima Valley GWMA" Questionnaire (Attachment B). Services will include the following:
 - a. Site visits to collect residential water samples using laboratory bottles
 - b. Deliver the sample bottles to the designated testing laboratory
 - c. Take pictures of the wellhead to document site visit and findings
 - d. Obtain GPS coordinates, depth of the wells for GIS database
 - e. Complete the questionnaire in Attachment B and provide the information to PUBLIC SERVICES.
2. As described in Paragraph 2 Payment, the Yakima Health District will submit monthly invoices for services rendered and the County will make prompt payments in response to the YAKIMA HEALTH DISTRICT's invoices. The Yakima Health District will be compensated a lump sum of \$250 per completed site survey. A completed survey means the completed survey form and lab test results. The \$250 fee covers all costs incurred by the Yakima Health District including staff labor costs, fringe benefits, travel, lab fees, phone calls, copies and postage. The Yakima Health District will use Cascade Analytical Laboratory Nitrate and Coliform tests for consistency with Phase I Surveys.
3. Deliverables:
 - a. Completed site survey forms (Attachment B)
 - b. Information described above
 - c. Any mutually agreed upon reports

BUDGET ESTIMATE

Task	Amount
Task 1. Conduct Survey 1 –Risk Assessment For Water Supply Wells including obtaining certified lab results	50,000.00
TOTAL (Not to Exceed Amount)	50,000.00

High Risk Well Assessment

Section 1 - General Information

Parcel #: Date:

Address:

Street

Apt. #

City

State

Zip

GPS: N W

0 1 2

0 1 2

Surveyor Name:

Resident Name:

Resident Type: ☐ Resident ☐ Owner ☐ Both

Primary Phone: ☐ Home ☐ Cell

Section 2 - Site Information

1. Is there an onsite septic system?

☐ No ☐ Yes - Specify Below

☐ Septic tank within 50 ft. of well ☐ Drain field within 100 ft. of well

2. Is there surface water within 100 ft. of the well?

☐ No ☐ Yes - Specify Below

☐ Ponds ☐ Lagoons ☐ Lined irrigation canal
☐ Unlined irrigation canal ☐ River ☐ Other

3. Are there animals/agriculture within 100 ft. of the well?

☐ No ☐ Yes - Specify Below

☐ Orchard/Field ☐ Structure/Animals Type/#

4. Are there large mounds of manure within 100 ft of the well?

☐ No ☐ Yes - Specify Below

☐ Owner ☐ Neighbor

5. Can you see the condition of the well and wellhead?

☐ No ☐ Yes - Specify Below

☐ Driven Well (sand point) ☐ Hand Dug ☐ Poorly Maintained
☐ Broken wellhead seal ☐ Holes in casing ☐ Other

Materials Requested

High Risk Well Assessment

Section 3 - Survey Questions

6. Do you drink your tap water

☐ No

☐ Yes

7. What is the main source of your drinking water?

☐ Tap water

☐ Bottled Water

☐ Other

☐ Specify Below

8. Do you have a system to remove nitrates from your water?

☐ No

☐ Yes - Specify below

Where is it located?

☐ Before the house

☐ At the sink

What type is it?

☐ R/O

☐ Ion

☐ Ultra-filtration

☐ Other

9. Just a few questions about your household:

☐ # of people

☐ Children < Year

☐ Vulnerable Health Condition (Script)

☐ W Child bearing age

☐ Pregnant

☐ Household Income < \$48,000

10. Has your well been tested within the past 3 years?

☐ No

☐ Yes - Specify below

☐ Coliform

☐ Fecal/E. coli

☐ Nitrate

mg/L

11. Are you familiar with your well?

☐ No

☐ Yes - Specify below

☐ Well log

Age of well

Depth of well

12. Is your well subject to flooding?

☐ No

☐ Yes

13. Has your on-site septic system been pumped in the last 5 years?

☐ No

☐ Yes

☐ N/A

14. Has there been manure or any chemicals applied within 50 ft. of the well?

☐ No

☐ Yes - Specify below

☐ Manure

Frequency

By who

☐ Chemicals

Frequency

Type

15. Have you ever participated in a Yakima County well survey?

☐ No

☐ Yes

☐ Return