YAKIMA VALLEY GROUNDWATER MANAGEMENT AREA ADVISORY COMMITTEE (GWAC)

MEETING SUMMARY

Thursday, September 7, 2017 – 5:00 p.m. – 7:00 p.m.

Yakima County Road Maintenance Conference Room
1216 South 18th Street, Yakima, WA 98901

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: This meeting was called to order at 5:03 PM by Vern Redifer, 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)	✓	
Ron Cowin	Roza-Sunnyside Joint Board of Control	✓	
	Roza-Sunnyside Joint Board of Control (alternate)		
Laurie Crowe	South Yakima Conservation District		✓

Rodney Heit	South Yakima Conservation District (alternate)		✓
John Van Wingerden III	Port of Sunnyside	✓	
Jay Decker	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		✓
Lucy Edmondson	U.S. Environmental Protection Agency	✓	
Nick Peak	U.S. Environmental Protection Agency (alternate)		✓
Elizabeth Sanchey	Yakama Nation		✓
Stuart Crane	Yakama Nation (alternate)	✓	
Virginia "Ginny" Prest	WA Department of Agriculture	✓	
Gary Bahr	WA Department of Agriculture (alternate)	✓	
Andy Cervantes	WA Department of Health	✓	
Sheryl Howe	WA Department of Health (alternate)		✓
David Bowen	WA Department of Ecology	✓	
Sage Park	WA Department of Ecology (alternate)		✓
Lino Guerra	Hispanic Community Representative		✓
Rick Perez	Hispanic Community Representative (alternate)		✓
Jessica Black	Heritage University		✓
Matt Bachmann	USGS	✓	

II. Welcome, Meeting Overview and Introductions: Vern asked everyone to introduce themselves and then pause for a moment of silence. Vern acknowledged Ginny Prest's retirement from WSDA and the group thanked her for her work on the GWAC. Vern reviewed the agenda and indicated it was his goal to complete the review of alternatives. There were no additions to the agenda.

III. Continued Review and Discussion of Results of Survey Monkey on Alternative Land and Water Use Management Strategies for Reaching Program Goals and Objectives per WAC 173-100-100(4):

The group agreed to keep these alternatives on the list for further review. (Green)

No. 172: Revise WAC 246-203-130 so that it defines "health hazard" and "nuisance" and includes specific and enforceable requirements designed to protect human health. *The group agreed to delete the words: "health hazard" and "nuisance."*

No. 27: Assess groundwater contamination potential, making use of the available information on soils, geology, and groundwater in order to identify those areas that are the most vulnerable to contamination. These areas may be closer to surface water, areas where recharge is faster or more frequent, or areas where shallow soils overlie soluble bedrock. Identify strategies upstream of sensitive areas to reduce contributions of nitrate sources.

No. 24: Overlay GIS density maps reflecting different sources of nitrogen in order to geographically indicate the total density from all sources.

No. 25: Map those areas that can tolerate more nitrogen application and areas that are more vulnerable to its application. *The group agreed to add at the end: "High risk vs. low risk (from immediate impact perspective).*

No. 107: USGS Particle Tracking Model Overview--potentially combined with MT3D MODFLOW application to the vadose Zone.

No. 90: Recommend that Western Fertilizer Handbook, Western Plant Health Association, Ninth Edition (2002) be updated.

No. 87: Design and implement pilot studies focusing on innovative farm techniques which reduce nitrogen loading to crops and monitor results for future expansion of findings. *The group agreed to add at the end: WSU.*

No. 83: Building from the WSDA's Nitrogen Availability Assessment, develop a Nitrogen Loading Assessment for all agricultural, residential and commercial properties, using newly collected data. Hire a technical consultant to conduct a literature review to determine the most relevant information and accurate factors for use in the Nitrogen Loading Assessment. Periodically repeat the grower survey used in the Nitrogen Availability Assessment to compare against the currently established data. Collect data on how many acres in the GWMA are fertilized in various crops with manure and how many with commercial fertilizer. Update and monitor the percentage of acreage in various crops, particularly silage corn and field corn. Study effect of contribution of nitrogen from cover crops used to form mulch. Determine acreage for triticale. Discover commercial fertilizer tonnage for Yakima County and/or for GWMA. Explore how much nitrogen leaches into groundwater from drains and wasteways. Study atmospheric deposition more comprehensively. Understand the difference between plant uptake and plant removal of nitrogen.

No. 89: Recommend that WSU Extension Service update Appendices A and B of the Washington Irrigation Guide.

No. 92: Develop Nitrogen Loading Assessment as provided in Research and Data Collection above.

No. 150: Explore public investment in waste to energy technology. *The group agreed to delete the word "public."*

No. 153: Use commodity group "check off" money for research and development.

No. 241: Monitor changes occurring in agricultural operations because of efficiencies and economics. Evaluate whether those changes positively affect improvement in groundwater quality. *The group agreed to delete "because of efficiencies and economics" and add the word "and" before the word evaluate.*

No. 111: Publish and distribute homeowner guide on how to use septic systems. *The group agreed to change the word "use" to "maintain."*

No. 108: Study potential nitrate contamination attributable to improperly operated septic systems. Consider restoration/retrofit of older septic systems through incentives or county property tax breaks.

No. 129: Request that the Yakima Health District prepare a plan, as required and described by WAC 246-272A-0015, giving primary emphasis on educational programs for operation and maintenance of existing on-site septic systems (OSS), reserving a determination regarding the advisability of the establishment of regulatory or enforcement programs until data is available from the GWMA's monitoring well system.

No. 143: Make facility process improvements in waste treatment and food processing plants to reduce nitrogen and total discharge volume.

No. 144: Replace aging sewer system infrastructure and ensure proper system maintenance to reduce nitrate leaching.

No. 134: Request that the State Department of Health determine, prior to issuing or reissuing LOSS permits, that all employee counts are regularly reported, so that the LOSS will continue to operate as designed.

No. 135: Recommend that the State Department of Health consider not approving additional LOSS or otherwise require an effective nitrate removal system.

No. 42: Consider limitation of septic systems (therefore building permit) where soil filtration rate is high, where housing density is already big, where nitrate concentration is already great downstream of the septic plume.

No. 132: Request the Yakima Health District to consider the nitrate density element when approving proposed septic systems, including those technologies verified by the U.S. EPA's Environmental Technology Verification Program, for reducing the nutrient nitrogen in domestic wastewater discharged from OSS, including fixed film trickling filter biological

treatment, media filter biological treatment, and submerged attached-growth biological treatment.

No. 175: Provide underlying soils information to each livestock operation so that individual evaluations can be made. *The group agreed that this was part of the DNMP.*

No. 183: Anecdotal results of deep soil sampling carried out by SYCD with farmers with pre-existing relationship with SYCD were informative. Word-of-mouth reporting within farmer community greatly increased acres sampled. Establish a multi-year deep soil sampling program where farmers subscribe for a duration with pre-determined fiscal remuneration for completed sampling. Cost share with farmer. Farmer to provide checklist indicating performance with BMPs. Test throughout growing year, in order to observe effects of fertilization throughout year. Share data with public.

No. 184: Do deep soil sampling on fields within GWMA that apply biosolids.

No. 185: Make shallow (1, 2, 3 foot) soil testing reports prerequisites for funding, lending or building permits.

No. 99: Put request for $$$ for SYCD in State Conservation Commission budget.

No. 146: Identify and support opportunities, including educational research institutions, for private, public, and industry investment in technology specific to addressing nitrate contamination in groundwater.

No. 167: Incentivize technology and management of fertilizers and manures.

No. 168: Install separation systems--separate liquids from solids.

No. 188: Commission the creation of a data assembly software that could receive, translate, assemble and analyze the data produced by agricultural equipment technology manufactured by different agricultural equipment manufacturers, so as to permit integration of data per field, crop or enterprise.

No. **112:** Publish the Department of Ecology's lists of certified laboratories that can test private wells for nitrates and pathogens and Ecology's providing funding to low income, private well users, in order to conduct this testing.

No. 2: Pump-and-fertilize. Use existing (or new) agricultural water wells to remove nitrate-contaminated groundwater and treat the water by using it to irrigate crops which will take up the nitrogen concentration in the irrigation water (presumes the existence of a proper nutrient management plan for the irrigated acreage).

No. 244: Recommend against farming around a water well.

No. 247: Consider costs of health risks to families from nitrate exposures, costs incurred by growers and producers of various recommendations, costs of bottled water, costs to connect to public water or sewer systems, cost for WSDA to monitor DNMP, costs of soil sampling.

No. 22: Develop strategies for marketing the economic, fertilizer value, and soil enhancing properties of appropriate application of manure and other livestock wastes.

The group agreed to keep these on the list and consolidate them with similar alternatives. (Yellow)

No. 26: Use USGS particle tracking model to indicate where groundwater moves faster (permeability).

No. 104: Develop water absorption graph or chart. List volumes of water applied, soil types, absorption/compaction rates, depths to water, pre-season and post-season appropriate moisture levels. *The group agreed to add at the end: "Holding capacity, infiltration rate, evapotranspiration."*

No. 239: Monitor the timing of application of fertilizers to fields and how much water was then applied.

No. 149: Require nitrogen reducing technologies for onsite septic systems if and where appropriate.

No. 141: Assist hobby farmers to locate ROSS drain fields on their property so as to avoid animal farming over the drain field. The group agreed to suggest this be a part of septic maintenance literature).

No. 169: Use anaerobic digestion in waste storage lagoons. *The group agreed to add at the end the word "bmp."*

No. 246: Refrain from tilling under herbaceous remnants of prior crops, reducing plant nitrogen contributions to soil column. *The group agreed to add the word "bmp."*

No. 177: Prevent contaminants from flowing into wells by ensuring that the external areas around well casings are properly sealed and that wastes are kept the recommended distance from wells.

The group agreed these alternatives should be removed from the list. (Red)

No. 234: Require a synthetic fertilizer or other nutrient applicators license (approach taken by pesticides, chemigation and fertigation) as condition to purchase nutrients.

No. 237: Place a small tax on sale of synthetic fertilizer in order to collect volume data.

No. 105: Use USGS Particle Tracking Model.

No. 106: Use USGS particulate tracking model to identify targets of education.

No. 65: Study report outreach: Show/Identify how much nitrogen is left after nutrient uptake in crops.

No. 84: Get fertilizer loading numbers per crop type. Get economic engine factors per crop type. Determine crop/fertilizer utility ratios. Consider economic benefit of various crop type categories. Consider agricultural usage categories (e.g., field crop, row crop, vineyard, orchard, dairy. Determine amount of land appropriate for each, and location best for each given soil, climate, effect upon groundwater, etc. Ensure adequate supply of each in order to permit opportunity of market choice.

No. 91: Fund professional adaptation of Utah Fertilizer Guide for Washington State http://extension.usu.edu/files/publications/publication/AG_431.pdf

No. 54: Employ/enlist college students to conduct surveys, consider outreach methodologies as part of classwork to assist with GWMA education.

No. 88: Explore whether nitrate leaching is greater with vetch amended soil or commercial fertilizer amended soil. The results of one study indicate that vetch nitrogen, in comparison to fertilizer nitrogen, leads to lower concentrations of soil inorganic nitrogen and greater immobilization of added nitrogen in soil organic matter. This would reduce the potential for nitrate leaching.

No. 151: Promote new products that are found through research.

No. 152: Promote markets for those products.

No. 233: Question sellers of synthetic fertilizers in order to learn their objectives, plans, strategies, seeking to discover win/win opportunities.

No. 243: Investigate use of bio-char in lieu of nitrogen fertilizers.

No. 110: Require builders to demonstrate that septic system design will not add to nitrogen loading problem as condition of construction.

No. 43: Property tax for properties with onsite septic systems, waived in the case of proper inspection and pumping.

No. 133: Recommend that soil testing be performed below at least two ROSS drain fields (one with a shallow water table, one with a deeper water table) in high density areas to analyze nitrogen loads as the septage approaches the water table.

No. 113: Encourage an increase in the number and availability of soil testing laboratories.

No. 186: Hire soil scientists to do publicly funded "spot auditing" soil checks for feedback to farmers and fertilizer sellers.

No. 103: Provide better funding and more staffing for Conservation District: hard money funding, increase property tax assessment, create exceptions to taxation for demonstrated testing and monitoring.

No. 147: AKART--industry can't keep up with technology, required if performance already meets performance standards?

No. 148: AKART--industry can't keep up with technology, required if performance already meets performance standards?

No. 3: Fill irrigation ditches with water and let it sit there to leak into groundwater. Use groundwater recharge as a means to dilute nitrate concentrations in the groundwater.

No. 9: Remediate local nitrate contamination hotspots only.

No. 245: Intermittent fallowing (leaving lands dormant) to reduce both natural plant nitrogen and fertilizer nitrogen additions to the soil.

No. 6: Blend better quality water with contaminated water to reduce nitrate concentrations.

The group agreed to revisit these alternatives at a later date. (Blue)

No. 162: Increase funding for the local Conservation District and Natural Resources Conservation Service (NRCS) so that assistance programs for nutrient management planning, engineering, cost share, and loan funds are more available.

No. 102: Recommend funding for Southern Yakima Conservation District review of Dairy Nutrient Management Plans.

No. 98: Fund post GWMA education and outreach through Conservation District.

No. 97: Ask SYCD for projected plan to expand fiscal and administrative capacity.

No. 100: Enhance engineering expertise (personnel) within Conservation District--none there or at NRCS.

No. 131 was deleted.

IV. Committee Business: No meeting summaries were approved.

V. Public Comment: There was none. The meeting adjourned at 7:37 PM.

VI. Next Meeting: September 21, 2017.

Next Steps: None.

VII. Meeting Summary approved by the GWAC on September 21, 2017.