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LISA H. FREUND – Director

June 23, 2022

Mr. Kowalski:

This is in response to your letter dated May 11, 2022, in which you asked Yakima County (County) for additional information about its current and future plans to implement the Lower Yakima Valley Groundwater Management Area Program (LYV GWMA). I also encourage you to look at the 2011 Nitrate Treatment Pilot Program Final report here: https://www.yakimacounty.us/DocumentCenter/View/1983/Nitrate-Treatment-Pilot-Program-PDF and Appendix E, page 56 of the Lower Yakima Valley Groundwater Management Program (Program) to gain an understanding of the amount and type of outreach completed by Yakima County, partner agencies, and the Lower Yakima Valley Groundwater Advisory Committee (GWAC) since 2010.

GWMA Outreach Then and Now. Extensive and ongoing public outreach has been conducted by the County, partnering state agencies, the University of Washington, U.S. Environmental Protection Agency (EPA) and others for more than a decade. As a result, GWMA citizen awareness of nitrate contamination is much higher than it was 12 years ago. At that time, citizens were unconcerned (or unaware) of nitrate contamination and disinclined to participate in well sampling or focus groups (See Department of Ecology's response elsewhere). Today, thanks to persistent outreach built on long experience, we have a population more broadly aware of nitrate contamination and willing to engage in well sampling and strategies to protect their drinking water. The University of Washington and other agencies have further engaged residents in focus groups during GWMA implementation, building on past outreach to further expand awareness, education and information to well owners. The breadth and depth of today's outreach was inconceivable in 2010 when very few Lower Valley residents knew (or cared) about nitrates in groundwater.

Lower Yakima Valley Nitrate History, Efforts, and Accomplishments

EPA is already in receipt of extensive information regarding the 2002 Vire Study and the 2010 preliminary assessment, and GWMA Planning accomplishments from our partnering agencies.

Accordingly, this response will focus on the 2011 County-coordinated Nitrate Treatment Pilot Program, on outreach highlights conducted during the GWMA Planning, and on recent partnership outreach. This response will also review Yakima County's responsibilities under GWMA Implementation and identify the status of its implementation efforts.

Finally, EPA's decade-long participation and support of our partnership efforts, EPA's own citizen campaigns, it's participation and contributions to the LYV GWMA planning will also be reviewed.

2011 Nitrate Treatment Pilot Program

Project Statement: Yakima County was authorized with its agency partners to provide in-home water treatment systems and public education related to nitrate contamination to homes supplied by private wells in the lower Yakima basin (including the Yakama Nation).

Partner Agencies. EPA, Washington State Departments of Ecology, Health, and Agriculture; Yakima Health District, the County, the Yakama Nation and Culligan International.

Program Outreach

- 7641 households were notified *at a minimum* of one time in their primary language;
- Two additional mailings were conducted to non-responsive households;
- Three public meetings were held, a website developed (1,200 hits), hot line staffed (250 calls), and door-to-door outreach conducted by EPA and Culligan International, all of which was conducted in participants' primary language.

Accomplishments

- 1870 household nitrate test strips returned (21 percent response rate);
- 271 households received certified well testing, with 180 of these exceeding the drinking water standard;
- 177 free filtration systems were offered to eligible Lower Valley households, with 168 accepting the free reverse osmosis (R-O) treatment units.
- Early estimates based on existing data determined that approximately 12.9% of the homes exceed the drinking water standard (Pacific Groundwater Group, 2013g). All of this data is compiled by Yakima County in a GIS database that is accessible to the public.

EPA partnership efforts. EPA was instrumental in the program's success, conducting its own outreach mailing, conducting door-to-door bilingual assistance with agency partners, and offering free certified lab testing and technical assistance to households.

Lessons learned. Even at "free," the demand for filtration systems was lower than anticipated. This was attributed to a combination of factors: the percentage of homes with nitrates that exceed the drinking water standard was **lower** than originally estimated (12 percent vs. 21 percent); **lack of interest** - with no local reports of nitrate-related illness, the public's concern was low; and the multiple steps in the application process were challenging to some residents. This information would later inform future outreach efforts.

LYV GWMA Planning Accomplishments 2012-2018 (see also Implementation)

Bilingual Education and Outreach:

- GWMA website, hosted by Yakima County
- "What You Can Do" brochures
- Health Care Provider Questionnaire on Methemoglobinemia
- Public Opinion Survey
- Door-to-door survey to measure awareness of nitrates in groundwater, knowledge of the LYV GWMA, and understanding of private well testing and maintenance

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- Handouts on well maintenance, nitrates, coliform bacteria, septic systems, methemoglobinemia, babies and water, and testing laboratories.
  *Targeted outreach to health care providers and their patients
- Two High Risk Well Testing sampling surveys of more than 460 households.
- Direct mail, Public Service Announcements and Billboards, all English and Spanish.

  *** EPA's Educational Collaboration with the UW and the GWMA.** Thanks in part to EPA funding, the University of Washington (UW) Pediatric Environmental Health Specialty Unit (PEHSU) developed specialized outreach materials targeting health care providers, hospitals and New Moms through a series of publications entitled "How to Keep Your Baby Safe From Nitrates in Drinking Water." The Education and Outreach committee of the GWAC distributed these materials directly to providers, hospitals, and through its "New Mom" outreach between 2014-2017.

EPA GWMA membership: Multiple EPA representatives served on the LYV Groundwater Advisory Committee (GWAC) and on various working groups between 2012-2018: Tom Eaton, Bill Dunbar, Marie Jennings, Peter Contreras, Lucy Edmondson, and Nick Peak. In addition, EPA contract-employee Gretchen Stewart served on the Education and Outreach Committee and was instrumental in coordinating the UW PEHSU educational materials.

Current Outreach and Yakima County's GWMA Program Implementation Status

Outreach. The first outreach after GMWA Program adoption was the Well Water and Family Health Community Meeting sponsored by El Proyecto Bienestar and the University of Washington in January 2020. The meeting brought together 14 private well owners in the LYV GWMA (8 Spanish speaking) to help refine the bilingual fact sheets on well water testing and understanding water test results. Based on earlier outreach successes, Yakima County was asked to assist the University of Washington to develop materials and reach the target audiences.

Outreach Notes. It's important to note that two factors outside the control of the County and the Implementation Committee considerably delayed outreach nearly three years—from August 28, 2019, until March 2022:

1) Following Ecology's July 29, 2019, certification of the GWMA Program, the certification was appealed to the Pollution Control Hearings Board on August 28, 2019. The Pollution Control Hearings Board affirmed Ecology's certification of the program on March 19, 2021.
2) COVID-19 Federal and State Restrictions. Between March 2020 and June 2022, state requirements for social distancing, "work from home" mandates, and similar restrictions curtailed nearly all previously successful outreach strategies: door-to-door outreach, well sampling, focus groups, public meetings, and health fairs.

Only recently has the Implementation Committee been able to resume close contact outreach and well sampling that are critical components to education, wellhead protection, and nitrate sampling. (see State Department of Health and Yakima Health District's 2022 Lower Yakima Valley Drinking Water Pilot Project). Yakima County's role is, and will continue to be, collecting and storing all nitrate groundwater

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data in our Geographic Information System (GIS), maintaining the GWMA website, and supporting outreach efforts.

Implementation. Yakima County's role in groundwater quality protection is enabled by Washington's Growth Management Act (GMA) and the State Environmental Policy Act (SEPA). As noted previously, the County has been a key participant in the GWMA since its inception. Of the 64 recommendations found in the GWMA Program, the County was named in several items. The recommended actions were listed in order of priority with the number of GWAC votes and the implementing agency listed in the parentheses. A brief explanation of those items assigned to Yakima County and overview of status include:

1. **Install Ambient Groundwater Monitoring Wells. (42 – Yakima County)**

   This item is complete. Department of Ecology and the county continue to coordinate with regard to these installed ambient groundwater monitoring wells.

3. **Establish a Lead Agency responsible for implementation and oversight of the GWMA Groundwater Management Plan and acquisition of stable funding to support their activities. (41 – Yakima County)**

   This item is complete, with the South Yakima Conservation District serving as lead agency.

8. **Establish or maintain ongoing, extended funding necessary for the Yakima County Department of Public Services and the Yakima Health District to actively participate in water quality improvement, testing, monitoring, scientific data analysis, and infrastructure development. (35 – Ecology, Yakima County and Yakima Health District).**

   Yakima County, working with partner agencies, has secured state funding in the past, which helped with many items required in the development of the GWMA Program. The GWMA Implementation Committee continues to look for new funding sources and grants.

15. **Develop a bilingual, health-risk education and outreach campaign. (28 – DOH, Yakima Health District and Yakima County)**

    As described earlier in this response, Yakima County, the GWAC, and many of the participants in the GWMA Program have a long history of education and outreach related to nitrates in the groundwater. Since 2012, one of the main education and outreach focus of the GWAC was working to identify residents impacted by nitrate contamination and providing notice regarding potential exposure to elevated nitrate concentrations and associated health risks. A partial list of the past public education and outreach 2012 through 2017 includes items such as:

In 2012:

- The GWAC helped develop the Education and Public Outreach (EPO) Plan as required under WAC 173-100-090 (1) Groundwater advisory committee.
- December 12, 2012 the GWAC approved the outreach plan; Yakima County submitted it to the Department of Ecology.

In 2013:

- The GWAC contracted with Heritage University to conduct bilingual door-to-door surveys which resulted in 300 direct bilingual contacts (direct main, in person, flyers) to households in the GWMA, 136 surveys completed, Spanish/English news releases issued to the media (pre-and post-survey), and results posted on the GWMA website hosted by Yakima County.
- Over 200 healthcare providers were reached with health information and a survey
- Presentation to the Central Family Medicine Residency Program
- Spanish radio talk show as part of Hispanic Affairs Commission "Connect with Your Government" program.
- GWMA Website launched

In 2014:

- *New Mom Campaign (English/Spanish), includes distribution of over 2,000 flyers.
- Partnership with the University of Washington's Pediatric Environmental Health Specialty Unit (PEHSU)
- GWAC educational materials posted on website
- Bilingual news release

In 2015:

- Direct mail and well sampling survey
- Continuation of English/Spanish outreach including direct mail, radio advertising, flyers, and newspaper coverage.

In 2016:

- Yakima County sends 115 (English/Spanish) results letters to recent well assessment participants. An additional 350 households are again invited to participate in testing by letter.
- News release
- Another 466 completed surveys collected
- Yakima County participates in five Spanish-language health fairs.
- Residents on private wells are offered (English/Spanish) nitrate test strips
- Bilingual billboard campaign.

In 2017:

- Flyers delivered to residents in Outlook, 12,000 flyers in the Sunnyside Daily Sun News, 10,700 flyers inserted into El Sol weekly publication, 200 flyers at Toppenish Community Hospital.
- KDNA news show
- Radio interviews
- Flyers distributed at Sunnyside Walmart

Yakima County continues to coordinate as part of the Implementation Committee on education and outreach related to the GWMA.

16. **Contract with USGS to collect data from water well system per 2017. (28 – Yakima County)**

    This item is complete.

17. **Encourage municipalities within the GWMA to extend municipal sewer systems within urban growth areas and retire ROSS and LOSS; alternatively, extend public water systems. Encourage connection of residences within urban growth zones to sewer systems extended by municipalities. (26 – Yakima County).**

    Yakima County is currently in process to complete this item in 2022.

32. **Adopt and Implement an Adaptive Management Plan. (22 – Yakima County).**

    Yakima County continues to coordinate as part of the Implementation Committee on adaptive management.

43. **Require new developments to address potential impacts on groundwater quality. Limit new development utilizing septic system where soil filtration rate is high, where housing density is already big, where nitrate concentration is already great downstream of the septic plume. Consider the nitrate density element (# of systems per-area) when approving proposed septic systems in order to reduce the nutrient nitrogen in domestic wastewater discharged from OSS. (15 – Yakima County).**

    Yakima County is currently in review of this item.

44. **Perform an engineering study of water supply alternatives. (14 – Yakima County)**

    Yakima County has this as a future item dependent on funding and available engineering staff. County programs are currently understaffed.

46. **Provide funding for municipalities to replace aging sewer system infrastructure and ensure proper system maintenance to reduce nitrate leaching. (11 – Municipalities)**

    This is an ongoing item for all municipalities within the GWMA.

47. **Develop an urban and hobby agriculturalist education and outreach campaign. (10 – Yakima County)**

    Yakima County is currently in process to complete this item in 2022.

48. **Contract with USGS to do particle tracking model study to indicate where groundwater moves faster (permeability). (9 – Yakima County)**

    Yakima County continues to coordinate as part of the Implementation Committee. This is a lower priority item that is planned to be completed in the future, depending on funding.

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52. **Assess Nitrogen Loading. Building from the WSDA's Nitrogen Availability Assessment, develop a Nitrogen Loading Assessment for all agricultural, residential and commercial properties, using newly collected data. (5 – WSDA, Ecology and Yakima County)**

Yakima County continues to coordinate as part of the Implementation Committee. This is a lower priority item that is planned to be completed in the future, depending on funding. Further information, education, outreach, and summaries of past and ongoing activities within the GWMA can also be found on the GWMA website at: https://www.yakimacounty.us/541/Groundwater-Management.

Final Notes

County Response to PFAS in Groundwater. Yakima County has always been responsive to health and safety concerns from members of the community. Currently the County is offering County resources (data, mapping, addressing, and outreach assistance) to the U.S. Army Yakima Training Center, which has identified high levels of PFAS in private and shared drinking water wells near its facility east of Selah, Washington. While the County has no regulatory authority or responsibility over the contamination, we have created a website https://www.yakimacounty.us/2656/Training-Center-Well-Concerns linking readers to PFAS materials, participated in two public forums hosted by the U.S. Army to answer questions by impacted residents, offered County mapping and data information and outreach recommendations to the Army based on our successful outreach experience with nitrate education, outreach and well testing in the Lower Yakima County.

Cooperative Success. The success of the nitrate-related programs in the LYV GWMA are based on the close, cooperative relationships with the community and with other local, state, and federal agencies. This cooperative effort has been sustained for the last 14 years and resulted in significant accomplishments and is continuing with many of the recommended actions actively being addressed by committed entities that are focused on the goal of reducing nitrate concentrations in groundwater.

EPA Partnership. Finally, EPA has been a close agency partner since 2008 in addressing nitrates in Lower Yakima Valley groundwater. We look forward to our continued collaboration to reduce nitrate concentrations in groundwater below state drinking water standards.

Please let me know if you have any questions.

Sincerely,
Lisa H. Freund
Lisa H. Freund, Director

cc: Board of Yakima County Commissioners
Holly Myers, Washington Department of Health
Vincent McGowen, Department of Ecology
Sage Park, Department of Ecology
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