



LUBGWMA Committee Meeting 8

07/07/2023

HYBRID

MORROW COUNTY
GOVERNMENT CENTER
, 215 NE MAIN AVE., IRRIGON,
OR 97844

HOSTED BY
SALINI SASIDHARN
OREGON STATE UNIVERSITY

Agenda

Time	Action Item
9:30 am -9:40 am	Welcome; present agenda and recap. Salini Sasidharan
9:40 am – 9:45 am	Introduction LUBGWMA Committee Members
9:45 am –10:15 pm	Public Member #2 Candidates' introduction, nomination, and appointment DEQ
10:15 am– 11:15 am	Multiday workshop and discussion Salini Sasidharan, LUBGWMA Committee Members
11:15 am – 11:30 am	Break
11:30 am – 11:45 am	Updates from State Agencies DEQ, OHA, OWRD
11:45 am – 12:30 pm	LUBGWMA Business and other discussions LUBGWMA Committee Members and Public
12:30 pm	Adjourn



**Public Member #2 Candidates'
introduction, nomination, and
appointment**

9:45 am – 10:15 am

Name of the Voting Member:

Category:

Primary/Alternate:

Date:

Position under consideration: Rural Residential Community Representative (May 2023)

Evaluation Criteria

- 1. Knowledge and Experience in Rural Residential Communities and Environmental Issues:** The candidate should be a LUBGWMA resident and should demonstrate a deep understanding of rural residential communities, their needs, and challenges. Additionally, they should have knowledge of nitrate contamination in groundwater and the LUBGWMA. Prior experience in working with community organizations, environmental groups, or related fields would be a strong indicator of their expertise in this area.
- 2. Communication, Leadership, and Collaboration Skills:** The candidate should possess strong communication skills to effectively represent the interests of non-municipal residents and collaborate with other LUBGWMA Committee members. They should be able to lead community outreach efforts and engage diverse groups in meaningful conversations. Their ability to work well in a team, as well as independently, will be crucial for their success in this role.
- 3. Commitment and Engagement:** The candidate should demonstrate a strong commitment to the LUBGWMA's goals and initiatives, as well as to the rural residential communities they represent. This can be assessed through their past involvement in community development or environmental projects, their willingness to attend relevant meetings and events, and their enthusiasm for educating communities about nitrate pollution and its effects. A proactive approach and dedication to continuous learning and improvement will be essential for this role.

For the above three evaluation criteria, assign a rank between 1 and 5 based on the candidate's qualifications, experience, and skills. **1-10 scale (1 – Unsatisfactory; 2-3 – Satisfactory; 4-5 – Average; 6-7 - Above Average; 8-9 – Exceptional; 10 – Outstanding):** This will help in evaluating the candidate against the criteria and selecting the most suitable candidate for the LUBGWMA Rural Residential Committee member position.

Candidates	Knowledge and Experience in Rural Residential Communities and Environmental Issues	Communication, Leadership, and Collaboration Skills	Commitment and Engagement	Overall Ranking
Carla McLane				
Karmen Carlson				
Kelly Doherty				
Philip Hamm				
Todd Crosby				
Wes Killion				

Candidate Evaluation

Pause in Appointment

DEQ (Randy Jones) informed the LUBGWMA Committee that Oregon Gov. Tina Kotek requested to add Spanish-speaking member to the LUBGWMA Committee and, therefore, asked to pause the selection and appointment process of the 11th Public Member.

Candidate Nomination and Appointment

DEQ

Jose Garcia

Current chair of the Hispanic Advisory Council in the
City of Hermiston



Multiday Regional Workshop



Salini Sasidharan, Oregon State University/LUBGWMA Chair

Variables

Feedback – Updates from Responsible Entity

Challenges – Lack of data/funds/resources/others

Resources Required – Dedicated person/fund/data/monitoring/information/permit/policy/grant and loans

Collaboration Required – Interagency agreement, data sharing, trusted relationship, conflict management, incentives

Timeline of Implementation – e.g., Day 1 of Implementation

Timeline of Success Indicator - e.g., the day when a quantifiable outcome is observable.

Roadmap to Implementation

Goals Achieved



- **Feedback**
- **Timeline of Success Indicator**

Goals Under Implementation



- **Feedback**
- **Challenges**
- **Resources Required**
- **Collaboration Required**
- **Timeline of Implementation**
- **Timeline of Success Indicator**

Goals Require Additional Information



- **Feedback**
- **Challenges**
- **Resources Required**
- **Collaboration Required**
- **Timeline of Implementation**
- **Timeline of Success Indicator**

Goals Need to be Updated/Merged//New Goals



- **Strategies and new actions**
- **Resources Required**
- **Collaboration Required**
- **Timeline of Implementation**
- **Timeline of Success Indicator**

Workshop Participants



- Oregon State Agencies, Local Agencies
- EPA, USGS, /relevant federal agency representative
- Oregon Legislative Representatives
- LUBGWMA Category representatives, interested parties, and public
- Science and Research Experts (in-state/out-of-state)
- Policy and Law experts
- Economists
- Industry Expert
- Potential guests from WA, CA, ID or other relevant states with experience in a similar matter

Workshop Structure



Eastern Oregon and LUBGWMA History



Federal and State Statutes and Water Laws

Federal, State, and local agencies and responsibilities



Comprehensive Update of Second Action Plan from Responsible Entities



Update from OSU Forensic Hydrology study team



Example Case Studies from OR and US



Evaluation of the Second Action Plan and Prioritization of Goals



Development of an Actionable Outcome such as a proposal for a bill or emergency fund or federal grant

Active Engagement and Collaborative Learning



Keynote Talk



Panel



Small Group Discussion

Session



Round Table Discussion



Synthesize of Actions



Workshop Format

2 day
9:00 am – 5:00 pm

August 17-18

Hermiston – In
person, with
limited Hybrid
option

Regional Workshop Feedback Questions

Met with each
committee-member

1-1

Send out the feedback
questioner for gaining
an unbiased feedback
and insight



What actionable outcome would you like to achieve at the end of the meeting?

- Define strategies to lower nitrate groundwater contamination in LUB to 7 mg/L as per Oregon's Act of 1989
- Prevention of groundwater contamination is a state goal for public health and future uses
- DEQ, ODA, and OHA are key agencies working towards this goal
- **LUBGWMA Committee** has a pivotal role in implementing nitrate reduction practices
- Progress tracking via **annual reports and quadrennial evaluations, incorporating domestic well testing data**
- The meeting will include a **review of technologies and strategies** for achieving the groundwater goal
- Enhance committee's understanding of **LUBGWMA history**
- Acknowledge the longevity of the issue and need for sustained efforts and **funding for resolution**

What actionable outcome would you like to achieve at the end of the meeting?

- **Develop a draft roadmap/framework** recommending and prioritizing near-term and long-term actions to reduce groundwater nitrates
- Request HDR to provide a draft for review
- Share the draft with LUBGWMA committee members before the August workshop
- Workshop goal: **Select 3-5 actionable strategies for nitrate reduction from Second Action Plan**
- **Focus strategies on Active Management Areas (AMAs)** for efficient nitrate reduction
- DEQ recommends acquiring a **hydrologic/hydraulic basin model to educate the public on groundwater functioning**

What actionable outcome would you like to achieve at the end of the meeting?

- Aim to **gather extensive data and information**
- The outcome should be a **knowledge base for plan development, not an immediate finalized plan**
- **Identify causes of high groundwater nitrate levels** in LUBGWMA
- Establish a process for **addressing queries and recognizing potential unknowns**
- **Assess current mitigation actions** and their effects on nitrate levels
- **Review actions taken** since LUBGWMA formation
- **Research successful models from other regions** with similar groundwater concerns

What are the most critical issues related to LUBGWMA (Lower Umatilla Basin Groundwater Management Area) nitrate contamination that you believe should be addressed in the workshop?

- **Develop a roadmap with pilot projects** for nitrate reduction
- **Include cost estimates to enable state/federal funding requests**
- **Recognize the need for clear budgeting** to secure the necessary funding
- **Focus on identifying remediation techniques/actions** specifically for LUBGWMA
- Improve understanding of **technical and mechanical solutions to dilute nitrates via recharge**
- **Review postdoc work** and current learnings
- **Understand the data each agency holds**; recognizing data understanding is key to fixing the issue
- **Detailed hydrogeologic overview of LUBGWMA from each agency's perspective**

Which topics or subjects do you believe are not being sufficiently addressed in current discussions about nitrate contamination?

- **Define success metrics:** What are the target thresholds for the LUBGWMA Committee?
- **Identify goals to either remove the GWMA declaration or reduce the GWMA boundary size.**
- **Septic system impact** is not being addressed sufficiently and do appear to contribute.
- **Understand prevalence:** How many communities are facing similar groundwater issues?
- **Develop factual guidance** for homeowners, livestock operations, farmers, and well owners for better nitrate usage and protection of groundwater
- **Provide advice on safe water use for families and livestock**, e.g., filters or bottled water.

Are there any emerging technologies, strategies, or research related to nitrate contamination that you think should be included in the workshop content?

- **Assess emerging technologies, strategies, and research** to identify those best suited for LUBGWMA.
- Emphasize the need to **learn more about methods to reverse nitrate contamination**
- **Shift focus from identifying contamination sources to implementing strategies for aquifer cleanup.**
- Explore **solar panels that produce clean drinking water without electricity or water**
- **Review nitrate filtration systems-** Evaluate work done by NOWA, Madison Ranches
- Examine Food NW initiatives in Michigan
- **Assess remediation work in Yakima and Malheur County**
- Recognize importance of **postdoc data**
- **Compare current technologies with those in use at the start of the LUBGWMA**

What kind of educational materials or resources do you think would be most beneficial for participants?

- Include **case studies on pilot projects** in the roadmap
- **Analyze their success or failure** in other nitrate-contaminated aquifers
- **Develop a map and data to quantify nitrate levels and sample locations**
- **Provide a summary or list of potential nitrate remediation efforts**
- **Understand water flows and sources**
- **Track sources of nitrates** currently and **30 years ago** to understand historical nitrate contamination
- **Power points or handouts.**

Key Stakeholders



Key Participants

- Prioritize participation of **LUBGWMA Committee, agencies, and subject matter experts** in the initial workshop
- **Delay public input until a roadmap/plan has been agreed** upon by the committee and experts.
- Workshop should **primarily cater to committee members**
- It could be open to others, but the focus should be on **establishing a shared baseline understanding of issues and potential nitrate reduction strategies.**
- Initial stage stakeholders: **LUBGWMA Committee members, the governor, state administrative agency staff**
- Other stakeholders like **academics offer resources and information on new technologies**
- Importance of differentiating between two distinct roles: **decision-makers and resources.**

Key Participants to be invited

- a. DEQ, ODA, OWRD, USGS, OHA, Wells, DEQ, Real Estate, Planning and well drilling, DHS, Business Oregon, Natural Resources
- Land manager such as farmers, and irrigation specialists.
 - Jake Madison
 - Craig Reeder
 - HDR Engineering – Bob Waldher has contact
 - OSU Extension agronomist
- Is anyone testing the water delivered in the irrigation district?
 - Bev Bridgewater, West Extension Irrigation District
 - US Bureau of Reclamation
 - Westland Irrigation District
 - Stanfield Irrigation District
- c. JR Cook with NOWA
- d. Oregon Potato, Calbee, Lamb Weston, Tillamook Creamery, Olam, Cal Farms, Port of Morrow
- e. Lamb Weston Hermiston, Cleaver Farming and Columbia Basin Onion, Riverpoint Farms, Bud Rich

Key Participants

f. HDR, GSI

g. Courtney Crowell, Governor's Eastern Region Solutions Team, Legislators, US House of Representatives, Oregon House representatives, Governor's office

h. Gabriella Goldfarb, OHA, lead on LUBGWMA Drinking Water (important to cross train public health and environmental interests).

i. GIS and data specialists from OHA, DEQ, OWRD, ODA

- USGS specialist (name?) - to talk about age of groundwater/nitrate

- DEQ hydrogeologist (Phil Richerson) - to talk about existing and historic DEQ data (only available Thursday)

- WRD - private well expertise

- ODA and OSU - House Bill 3103 - agricultural water management assistance program and other items for CAFOs and irrigated ag.

- OSU Hermiston Agricultural Research Center and Columbia Basin Agricultural Research Center – description of large-scale biochar demonstration project (~1,000 acres) in an active, irrigated agricultural site to monitor nitrate retention, irrigation water reduction, and crop yield changes.

Are there any stakeholders that are currently underrepresented or not involved in the discussion on LUBGWMA nitrate contamination?

Include LUBGWMA members with science background or practical experience in septic systems, irrigation management, and wastewater management.

Highlight the importance of diverse expertise for effective decision-making and problem-solving.

Atkinson Staffing Agency, Independent Transport Staffing Agency, Cleaver Farming, Walhter Farms, Agri Northwest, Riverpoint Farms, Craig Reader

What specifics administrative rules, LUBGWMA/GWMA/Oregon statute or agency responsibility (local, state, and federal) questions you would like to include or discuss?

- **Develop a matrix/spreadsheet illustrating various agency responsibilities**
- **Provide a copy of ORS** (Oregon Revised Statutes) related to exempt wells (ORS 537.545) with background and history explanation. Also, reference OAR (Oregon Administrative Rules) 690-340-0010.
- Consider an **overview of regulatory and planning responsibilities across federal, state, local agencies, special districts, and tribal entities in relation to water quality.**
- Include a presentation on **the role of land use planning and regulation, water planning and regulation**, and how **Oregon's Statewide Planning Goals address water quality** (and quantity). Consider referencing Tamra Mabbott's slide presentation on this topic.


What specifics administrative rules, LUBGWMA/GWMA/Oregon statute or agency responsibility (local, state, and federal) questions you would like to include or discuss?

- Address **well drilling considerations**
- **Provide education for existing homeowners and new home buyers with wells**
- Discuss **sources of nitrates in water supply**
- Explore the **proximity of Columbia River as a water supply and potential options**
- Examine farmers' **use of nitrates, cost implications, and impact on groundwater when using nitrate-free water for irrigation and receiving wastewater from POM (Pacific Ocean Market)**
- Highlight concerns regarding the **quantity of water applied to the ground during winter months and its effect on groundwater nitrates**
- Analyze the **impact of supplying wastewater to dry land areas further south on groundwater**
- **Identify the areas where POM wastewater might affect groundwater**
- **Investigate factors contributing to higher nitrates in certain communities while neighboring areas have lower levels**
- **Address whether nitrates have a distinct smell**




Format






What kind of workshop format do you believe would be most effective for achieving our goals (e.g., panel discussions, breakout sessions, keynote presentations, hands-on activities)?

- **Include panel discussions** for diverse perspectives
- **Utilize breakout sessions or table talks for more focused discussions**
- **Invite subject matter experts** to present case studies and examples of successful strategies from other GWMAAs.
- **Include a keynote speaker with success in a similar project**, offering practical advice and inspiration
- **Presentations by the science community** to discuss **issues and remedies**, allowing audience interaction
- Conduct a **dialogue-style presentation** involving 2-3 individuals discussing remediation options
- Organize **breakout sessions or group activities to brainstorm funding strategies and progress**. Reconvene as a large group to share findings from smaller groups.



What kind of workshop format do you believe would be most effective for achieving our goals (e.g., panel discussions, breakout sessions, keynote presentations, hands-on activities)?

- **Incorporate a chat feature for the audience** to submit questions electronically
- **Moderator filters and selects questions for real-time or follow-up answers**
- Organize breakout sessions for discussions on panel topics, with feedback electronically provided to the facilitator for sharing the top 3 items from each group
- **Collect the contact information of all attendees** for follow-up discussions
- **Provide web links and resources** from panelists and other knowledgeable individuals
- **Share relevant information with attendees prior to the workshop for pre-reading and review**



What kind of workshop format do you believe would be most effective for achieving our goals (e.g., panel discussions, breakout sessions, keynote presentations, hands-on activities)?

- Focus on **panel discussions and presentations** for a comprehensive understanding of the problem
- Recognize the **challenge of ensuring representation from all groups in breakout sessions**
- **Prioritize bringing together diverse perspectives and expertise** in the main sessions




What is the best number of participants (25-100) that you would like to see in this workshop?

- Begin with **small group discussions to develop a roadmap/framework**
- **Emphasize the need for a solid plan** before engaging in broader public discussions
- Limit the workshop attendance to a range of **35-50 participants**
- **Consider smaller group** sizes for effective discussions and decision-making
- Prioritize **inviting and listening to as many experts as possible** during the two-day workshop
- Set the workshop attendance to a range of **25-35 participants**, including presenters and guests
- Recognize that a larger number, **such as 100, may be excessive** for the intended purpose



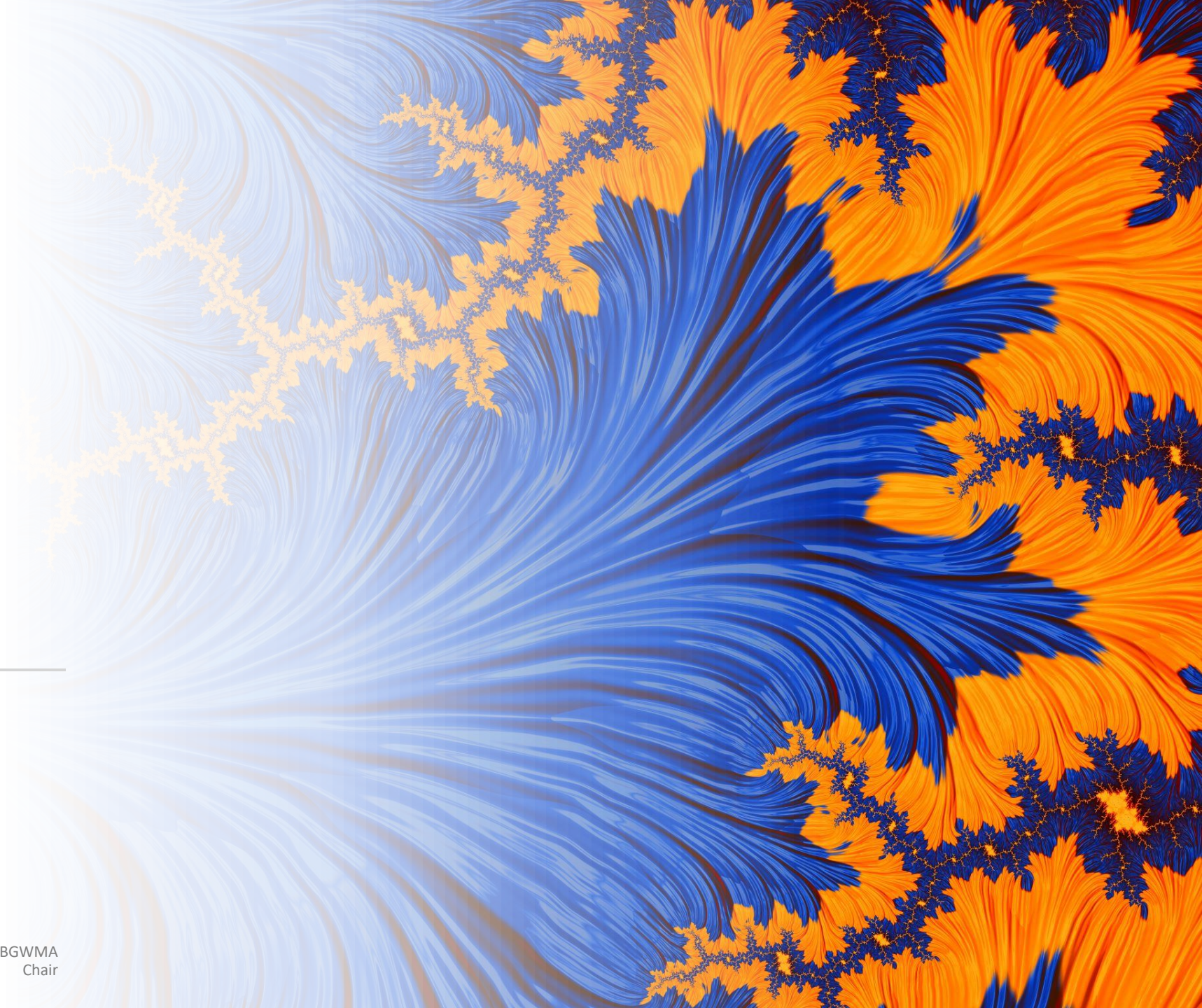
How can we ensure the workshop is accessible and inclusive for all participants (e.g., language, physical accessibility, time zones)?

- **Keep the workshop group small** for effective participation and engagement
- Choose a **centrally-located public building** as the venue
- Provide a **virtual option for remote participants** who cannot attend in person
- Arrange **language translation services with headsets** and a translator to accommodate language needs.



What are some of the funding sources that you can suggest that we can cover the expenses (what type expense do you expect or recommend) as part of this workshop (e.g., logistics, location, audio and video, flyer, food, and participants participation cost)?

- Explore the **possibility of funding from state agencies** for the workshop
- Recognize that **securing financial participation on short notice may be challenging**
- Consider requesting each **county and state entity** to contribute a set amount of money, such as **\$500-\$1,000 each**, towards workshop expenses
- Request funding contributions from each **County Health Department, H2OEO, and LUBGWMA categories**
- Consider **Hermiston High School or Eastern Oregon TC as potential venues**, preferably without a rental fee if possible
- Explore location **suggestions and ideas from Eastern Oregon Women's Coalition and State Representative Bobby Levy.**



Outcome

What are you hoping to achieve from this workshop?

- Development of a **framework/roadmap for implementation actions**
- Creation of a **public engagement strategy**
- **Consensus among the LUBGWMA Committee on the framework/roadmap** and selection of 3-5 actionable strategies to reduce nitrate source-inputs
- **Geographically focused strategies for Active Management Areas (AMAs)** with known nitrate concentrations
- Coordinating and **acquiring a hydrologic/hydraulic model of the basin** to demonstrate groundwater system functioning
- **Higher level of understanding among workshop participants** on contamination sources, remedies, hydrological data, and funding sources
- **Alignment with the LUBGWMA Action Plan** and achievable deliverables
- Enhancing understanding of **hydrogeologic knowledge from each state agency** in the LUBGWMA
- **Recognition that modern Ag and CAFO practices differ from those of the past**
- **Consensus-building and understanding as prerequisites for effective problem-solving**

Do you see a need for follow-up actions or events after the workshop?

Follow-up process: **Revealing the roadmap** to the public may involve a separate process

Preferred method of follow-up: **Regular LUBGWMA committee meetings** to measure progress

Avoiding meeting overload by addressing gaps and extraordinary matters during committee meetings

Annual review recommended, aligning with regular LUBGWMA meetings

Are there any other suggestions or concerns you have for the workshop that we haven't discussed?

- Acknowledge challenges with **key stakeholder attendance and participation due to busy schedules** during August
- Express concerns about **insufficient time for comprehensive workshop planning**
- **Suggest rescheduling the workshop for fall/winter** to allow for better participation
- Recommend **hiring an outside entity or firm with expertise in groundwater issues to conduct the workshop and lead an effective public engagement strategy**
- Highlight the **need for a professional moderator and meeting facilitator to manage and coordinate the meeting** effectively.
- Foster better **understanding among representatives from different categories**
- **Enhance awareness of each other's perspectives and priorities** within the LUBGWMA
- **Facilitate effective communication and collaboration** among representatives from different categories

Challenges

- Number of participants: 25-40 or Max less than 50
 - LUBGWMA Committee and alternate plus the agency will meet this threshold
 - Number of proposed invited participants and stakeholders will be well over 50
 - Concern over scheduling time for stakeholders but still will be higher than 25-50
- Suggestion over an external entity for moderation and logistics
 - Identifying such an entity in a short time can be challenging (funding, educating such entity about the LUBGWMA issue)
- Time and coordination required for workshop coordination
- Identifying funding to cover expenses

Agenda and potential speakers

Eastern Oregon and LUBGWMA History

- Leaders from the region with knowledge of Eastern Oregon and LUBGWMA
- Past Agency and OSU delegates with extensive knowledge of the region and LUBGWMA
- Justin Green
- Phill Richardson

- **Federal and State Statutes and Water Laws**
 - **Federal, State, and local agencies and responsibilities**
 - **Detailed hydrogeologic overview**
 - **Data from each agency**
 - **ORS related to exempt**
 - **Overview of regulatory and planning responsibilities across federal, state, local agencies, special districts, and tribal entities in relation to water quality.**
 - **The role of land use planning and regulation,**
 - **Water planning and regulation**
 - **Oregon's Statewide Planning Goals address water quality (and quantity).**
-
- **DEQ**
 - **ODA**
 - **OHA**
 - **OWRD**
 - **EPA**
 - **USGS**
- **US Bureau of Reclamation**
 - **Cities of LUBGWMA**
 - **Counties of LUBGWMA**
 - **SWCD of LUBGWMA**
 - **Irrigation District of LUBGWMA**
 - **Oregon Real Estate Agency**

Comprehensive Update of Second Action Plan from Responsible Entities

Responsible Agencies for Various Goals per 2nd Action Plan

- DEQ
- ODA
- OHA
- OWRD
- ODFW
- DLCDC (Oregon Department of Land Conservation and Development)
- USGS
- Salmon Safe
- Oregon State University
- Oregon Department of Agriculture
- EPA
- Umatilla County and Morrow SWCDs
- Morrow County and Umatilla County
- WPCF permit holders
- OSU Master Gardener Program
- County Planning Departments
- County weed managers or supervisors
- Municipal Water Systems
- Cities within the LUBGWMA
- CAFO Operators and technical service providers
- LUBGWMA Committee stakeholders

Salini Sasidharan, Oregon State
University/LUBGWMA Chair

Update from OSU Forensic Hydrology study team

- Dr. Suraj Jena
- Dr. Todd Jarvis
- Dr. Salini Sasidharan

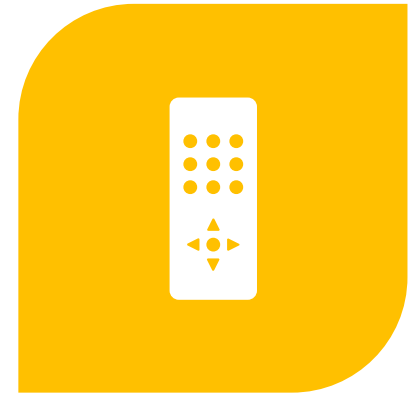
Example Case Studies from OR and US



OSU/OTHER RESEARCH
ENTITIES



DEQ

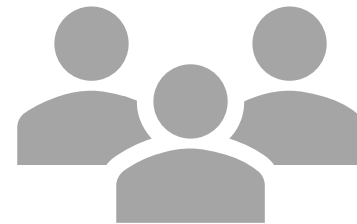


GSI, HDR, NOWA

Evaluation of the Second Action Plan and Prioritization of Goals



Review of technologies and strategies for achieving
the groundwater goal
OSU/other research entities



LUBGWMA Committee Members

Development of an Actionable
Outcome such as a proposal for a bill
or emergency fund or federal grant

The image features two stylized speech bubbles. The one on the left is yellow and contains a large, semi-transparent question mark. The one on the right is blue and contains a large, semi-transparent exclamation mark. The text 'Q & A and Discussion' is centered over the overlapping area of the two bubbles.

Q & A and Discussion

A photograph of a breakfast table. In the foreground, a white coffee cup sits on a saucer to the left. Next to it is a stack of folded newspapers. To the right, a white plate holds two golden-brown, flaky pastries. The background is softly blurred, showing a white mug and a vase with flowers on a table. The word "Break" is overlaid in white text in the center of the image.

Break



State Agency Update

Salini Sasidharan, Oregon State University/LUBGWMA Chair

LUBGWMA Business and Discussion