

SOUTHERN WILLAMETTE VALLEY GROUNDWATER MANAGEMENT AREA

JULY 2023

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For more information:

[wellwater.oregonstate.edu/
swvgwma](http://wellwater.oregonstate.edu/swvgwma)

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TELL THE GOOD DIRT STORY—PART 2

*By Teresa Matteson, Resource
Conservationist, Benton SWCD*

Benton Soil and Water Conservation District (SWCD) received an Oregon Watershed Enhancement Board (OWEB) Technical Assistance grant (#219-9001-19457) to build soil-minded relationships for resilient crop systems. The major area for the work is the Southern Willamette Valley Groundwater Management Area (SWV GWMA).

Thanks to the OWEB funding, over the past two years Benton SWCD has worked with twelve farmers in or near the SWV GWMA. We collected soil health samples from 30 fields, the management of which represents around 750 acres. Consistent with the Willamette Valley's wealth of crops, the project fields included a spectrum of cropping systems: short-term perennial tall fescue in a rotation with beans, pasture converting to market vegetable production, produce production (pumpkin, strawberries, blueberries, corn, and salad mix), hazelnuts, and various



We packed the Long Timber Brewing Company conference room on May 4, 2023 in Monroe.

other seed and grain crops (triticale, annual rye, and clover), and cover crops.

The project's culminating event was the Ag Soil Health Meeting at the Long Timber Brewing Company in Monroe on May 4, 2023. In respect for farmers' time, we hosted the event in the heart of the project area and offered a lunch buffet.

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CALL FOR COMMITTEE MEMBERS!

*By Grace Goldrich-Middaugh, SWV GWMA
Coordinator, DEQ*

Are you, or someone you know, interested in protecting groundwater and working with stakeholders to reduce groundwater contamination in the Groundwater Management Area? DEQ is looking for interested stakeholders to serve on the Southern Willamette Valley Groundwater Management Area Committee. The committee represents a balance of interests in the

affected area and includes attendance at annual meetings and providing advice and assistance regarding ongoing implementation of the Groundwater Management Area Action Plan. Current vacancies include OSU Extension Service, local watershed councils, and the real estate industry. Additional interests or sectors may also be considered.

SCREEN YOUR WELL WATER FOR NITRATE

By Chrissy Lucas-Woodruff, Outreach Program Coordinator, OSU Extension Service

The OSU Extension Service will be offering a free nitrate screening in selected locations across the southern Willamette Valley.

More will be added and can be found at wellwater.oregonstate.edu

- July 19 – Taste of Tri-County and Business Expo in downtown Monroe along Sixth Street from 4 p.m.-7:30 p.m.
- Aug. 5 – Corvallis Farmers Market on First Street in Corvallis from 9 a.m. to 1 p.m.
- Sept. 16 – Albany Farmers Market located at Ellsworth St & 4th Ave from 9 a.m.-1 p.m.
- OSU Extension Service Linn County Office located at 33630 McFarland Road in Tangent– During Business Hours – Call Ahead.
- OSU Extension Service Benton County Office located at 4077 SW Research Way in Corvallis – During Business Hours – Call Ahead.

For your free nitrate screening, bring about ½ cup of untreated well water in a clean, water-tight container. You may either wait for your results (the test takes 5 to 10 minutes if the well water clinic is not busy) or drop off your container with your contact information and we will mail your results and recycle your container.

Visit <http://wellwater.oregonstate.edu> for more scheduled workshops and free nitrate screening clinics. Summer interns will be all over the Willamette Valley this summer hosting clinics.



If you are interested in hosting a neighborhood screening on your driveway, please reach out to Chrissy.lucas@oregonstate.edu



FREE NITRATE SCREENING CLINIC AT THE TASTE OF TRI-COUNTY AND BUSINESS EXPO

When: Wednesday, July 19th, 2023 from 4-7:30PM

Where: Downtown Monroe along 6th Street

What to bring: 1/2 cup of well water in a clean container

Testing only takes 10 minutes!

A portion of the Southern Willamette Valley has been designated as a Groundwater Management Area by the Department of Environmental Quality due to elevated nitrate in well water. While it is especially important for households with pregnant women or newborns to test for nitrate because of a rare type of blue-baby syndrome, all homes with private wells should be aware of their nitrate levels.

MEET THE OSU EXTENSION SUMMER INTERNS



Ava Cordle

Ava Cordle is from Albany but is currently studying at OSU-Cascades in Bend. She is a second year student studying environmental science with an applied ecology option. She is excited to work and spend time in the community and meet people. Ava is looking forward to working for Extension this summer and getting the opportunity to learn more about the program.



Lauren Henkens

Lauren Henkens is from Wilton, California but I currently live in Corvallis while I attend OSU. I have strong ties to agriculture back home since I grew up on a small ranch and raised livestock for 4-H and FFA my whole life. Going into my senior year, I am working towards receiving my Agriculture and Food Business Management degree. My goal is that after I graduate, I will be able to work for an Extension program or in administration for a commercial ranch. I am so excited to broaden my horizons through this internship and gain insight into what it is like to work for Extension this summer!



Olivia Jacobs

Olivia Jacobs is from Beaverton and is studying Ecological Engineering at OSU. Her passions include soil, restoration in riparian areas, and being outdoors. She is beyond excited to connect with local communities in the Willamette Valley!

NEW OSU PUBLICATION ABOUT NITRATE IN DRINKING WATER

By Chrissy Lucas-Woodruff, Outreach Program Coordinator, OSU Extension Service

The OSU Extension Service has released EM 9400 **Nitrate in Drinking Water** in June 2023. The concept for this publication started with our education and outreach program within the Southern Willamette Valley Groundwater Management Area. Written for domestic well users, this publication covers what nitrate is, where it may come from, what levels are concerning and appropriate treatment options. With brand new visuals and graphic elements. Peer reviewed and pilot tested we are so excited to share this resource with all of you.

You can find the publication at <https://extension.oregonstate.edu/catalog/pub/em-9400-nitrate-your-drinking-water> in both pdf and html formats. We recommend the pdf version if you are sharing with others.

A Spanish version should be released shortly, along with sister publications **Arsenic in Drinking Water** and **Lead in Drinking Water**.

NITRATE IN YOUR DRINKING WATER

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THE WORKING LANDS PROGRAM: ONE-ON-ONE SUPPORT FOR LANDOWNERS PRACTICING ON-FARM CONSERVATION

By Penny Feltner, Working Lands Projects Manager

The Upper Willamette Stewardship Network has a new regional program to support farmers, ranchers, and foresters in land stewardship in the Southern Willamette. The Working Lands Program provides free one-on-one support for landowners and farm

operators practicing voluntary conservation.

The agricultural community takes their role as land stewards very seriously, but making conservation management a priority isn't always easy when land managers are balancing stewardship with the demands of production and pressures of business. It can be a lot to

juggle in good times, and as extreme weather events, rising market prices, and access to supplies and labor make things more complicated, growers can use all the help they can get.



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The Working Lands program gives farmers, ranchers, and foresters individualized support in adopting practices that enhance their land's ability to contribute valuable agroecosystem services to our environment and communities, while remaining productive and working farms and forests.

"We've done a number of different stewardship projects on the land in the last 20 years, and it's been great, but it's also been a challenge," says John Deck, of Deck Family Farms in Junction City. "How do we work with the existing natural systems? How do we generate a profit? It's helpful to be able know what you can ask for, what are the tools you have at your disposal."

The Working Lands Program was developed with the help of an advisory group of agricultural producers from across Lane County, representing a variety of operations ranging from organic livestock and diversified market farms to hazelnut orchards and small timber woodlands. Participants in the program are paired with a Navigator, who works with the landowner to identify their conservation goals, look out for opportunities, and helps to connect them with resources.

Interested landowners in Lane County can learn more and submit an initial interest form at <http://upperwillamette.org/workinglands>. Or contact Penny Feltner, Working Lands Projects Manager, at penny@coastfork.org.



*Kingsley, farm hand at Deck Family Farms,
updating livestock records*



John Deck of Deck Family Farms in Junction City

The Upper Willamette Stewardship Network is a partnership between the Coast Fork Willamette, Long Tom, Middle Fork Willamette, and McKenzie Watershed Councils, The Friends of Buford Park & Mt. Pisgah, and McKenzie River Trust.

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We packed the conference room with a mixed group of 35 partners: 14 farmers, four researchers, six agency staff, five BSWCD folks, four students, and two field reps.

The strong meeting turnout was due to the central location, delicious food, and especially to well-respected presenters and topics of interest to the farming community. We express a heart-felt thanks to the four speakers listed below with their presentation titles:

- **Christy Tanner**, OSU Extension South Valley Field Crops – Assessing vole damage in grass seed fields with aerial imagery.
- **Jennifer Moore, PhD.**, Research Soil Scientist, Forage Seed and Cereal Research, USDA Ag Research Service — Tile drainage and greenhouse gas emissions: preliminary results in a ryegrass field
- **Kristin Trippe, PhD.**, Research Microbiologist, Forage Seed and Cereal Research, USDA Ag Research Service – How does residue removal impact carbon stocks in Willamette Valley Seed crops?
- **Theresa Brehm**, Resource Conservationist, USDA-NRCS – Managing for Soil Health. This soil health trailer demonstration compared water capture and runoff from five soil systems: a natural forest floor, established tall fescue, beans sprayed out to failed tall fescue, and four year-old hazelnut alleys with and without vegetative conservation cover.

Practices to help improve soil health

During follow-up meetings with farmers, we will provide information to help them consider how their management impacts soil function. One helpful aspect is that the soil health report establishes a baseline for comparison in the future, say in three to five years. Consider that a farmer can track organic matter levels. If the level decreases over time, the farmer should consider reduced tillage, and increased organic amendments such as compost, manure, or cover crops.



Teresa Brehm, Resource Conservationist, USDA-NRCS, demonstrated how soil management impacts erosion, water infiltration and soil water storage



Mixed native forest for soil trailer demo soil

The OWEB funding allowed BSWCD to purchase copies of *Building Soils for Better Crops: Ecological management for Healthy Soils*, by Fred Magdoff and Harold Van Es. On page 375, Table 24.2, titled Linking Some Soil Health Measurements to General Management Solutions, lists management practices to address soil health concerns.

Often a related group of conservation practices, like the addition of organic materials to soil, will address multiple concerns. For example, the addition of fresh organic materials (shallow-rooted cover/rotation crops, manure, green clippings) will serve as a short or intermittent solution to improve aggregate stability and boost active carbon (the labile, easy to use feedstocks for soil microbes). The addition of stable organic materials, such as compost, crop residues, biochar, and rotation crops, will raise organic matter content and increase cation exchange capacity in the short term. For long term improvement, reduce soil disturbance through different tillage methods (e.g., strip till) or decrease the number of passes or tillage depth. Copies of *Building Soils* are available to Benton County farmers who participate in the BSWCD soil health work.

So, how does building soil health help farmers in the SWV GWMA reduce nitrate in groundwater? Healthy soil helps with water and nutrient management. Organic matter serves as a nutrient warehouse. It provides food for soil creatures that cycle nitrogen and other vital nutrients. As soil organic matter increases, fewer applications of costly amendments are needed which also saves the farmer time and fuel. The microbes build soil structure that captures water. Healthy soil requires less water because irrigation and precipitation are captured and stored in the soil. Erosion is reduced. If less nitrogen and water are needed, there is a lower risk of transporting nitrate down through the soil and into groundwater.

For more information, contact Teresa Matteson at tmatteson@bentonswcd.org.



Beans sprayed out to failed tall fescue (left) and established tall fescue (right)



Hazelnuts with no alley vegetative cover (upper left) and hazelnuts with conservation cover alley of creeping red fescue (lower right)

NEIGHBORHOOD PROJECT 2023

DEQ, ODA, and OSU extension are currently working on a collaboration with Oregon State University Biological and Ecological Engineering (BEE) students to bring free soil testing to landowners who live and work in areas of the GWMA with high nitrate levels.

BEE students will visit

with landowners and provide soil testing. Recommendations and educational resources will be provided by OSU extension staff.

If you are interested in participating in this program please reach out to Paul Measeles (ODA) or Christy Tanner (OSU Extension)



SPRING 2024 GWMA TOUR

Interested in learning more about what's going on in the GWMA?

Eager to show off some great work you've been implementing?

Reach out to DEQ to participate in a Southern Willamette Valley GWMA tour planned for Spring 2024.

DEQ staff hopes to foster

learning and collaboration between groups working and living in the GWMA.

Tour agenda is TBD but will include opportunities to meet with others who live and work in this area and discuss everything from nitrate levels near you, to innovative measures for improving soil health.

If you are interested you are encouraged to contact Grace Goldrich-Middaugh (DEQ)

All who live and work in the GWMA can benefit from each other's knowledge

FUNDING OPPORTUNITY: USDA INFLATION REDUCTION ACT

By Amy Kaiser, Soil Conservationist, Benton and Linn Counties

Over the next 5 years, Oregon NRCS will be seeing an unprecedented level of funding, focused on the goals of implementing Climate Smart Agriculture and Forestry (CSAF) practices. Specifi-

cally addressing the resource concerns of aggregate instability, emissions of greenhouse gases, and energy efficiency of equipment and facilities/ farming practices/ field operations.

Financial and technical assistance is available through NRCS existing

conservation programs, including the Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), and the Agricultural Conservation Easement Program (ACEP).

The focus area is not restricted to a specific locality but covers all of Oregon.

Every landowner has a part to play when it comes to reducing greenhouse gas emissions, regardless of the size or type of operation. Whether you are a new or an existing NRCS participant, we encourage you to apply or connect with your local NRCS office.

DEQ GROUNDWATER MONITORING UPDATE

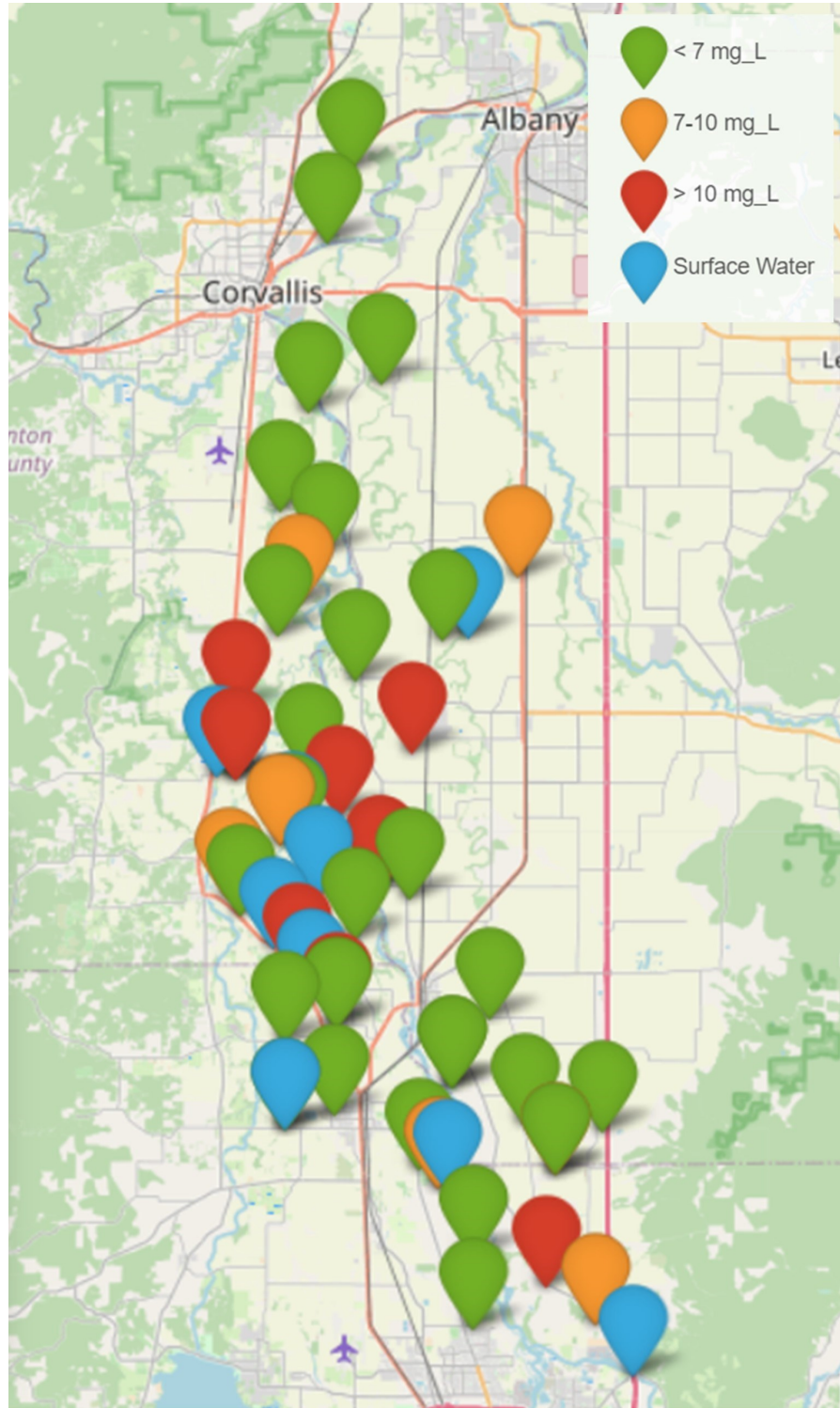
By Grace Goldrich-Middaugh, Oregon DEQ

DEQ staff conducts quarterly to annual monitoring of groundwater wells at 37 locations within the Southern Willamette Valley GWMA. The map to the right shows the nitrate level at the most recent sampling date for each well. Wells in the central and southernmost portions of the GWMA have high levels of nitrate, many being well above the safe drinking water standard of 10 mg/L. Other wells, including those in the northern portion of the GWMA show decreasing levels, many of which are below the action threshold of 7 mg/L.

Ongoing high levels of nitrate measured in wells throughout the GWMA demonstrate that further actions are needed to ensure safe drinking water for all who live and work in this region.

DEQ is developing a web tool including an interactive map to increase the accessibility of this monitoring data. This tool was developed in collaboration with EPA staff and an OSU graduate student intern and will be hosted and maintained by DEQ staff. A beta version of the tool is available upon request.

To learn more about the data please reach out to Grace Goldrich-Middaugh, DEQ Basin Coordinator and SWV GWMA Coordinator at 541-972-5520 or grace.goldrich-middaugh@deq.oregon.gov



Map of DEQ sampling locations within the SWV GWMA. Marker color indicates nitrate level at most recent sampling date.