



Source Water Protection Tools and Technical Assistance for Small Water Systems

Julie Harvey Oregon DEQ

Drinking Water Protection Program – Watershed Management

May 26, 2021

Goals

- Become familiar with tools and technical assistance available to help reduce contamination risks
- Increase awareness of specific DEQ programs and assistance we can provide to you and water systems
- Become familiar with common strategies to reduce contamination risks from different land use categories



The Need for Source Water Protection in Oregon

- Treatment plants not always able to remove contaminants
- Many emerging chemicals, pharmaceuticals, etc. lack water quality standards and/or testing protocols.
- Cleaner raw water = lower treatment cost and fewer risks to public health
- Environmental impacts from Oregon's increasing population places increasing pressure on water quality
- Pollution “clean-up” is expensive -- on average 30 – 40x more costly than pollution prevention!

Updated Source Water Assessment Reports

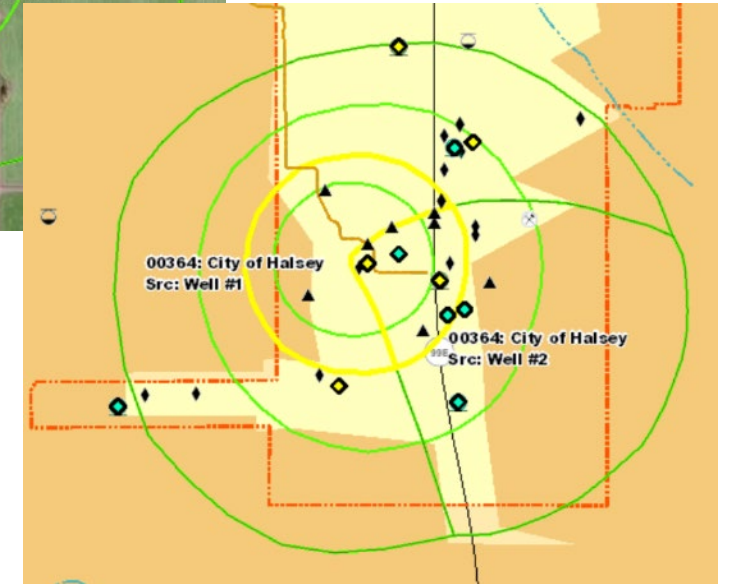
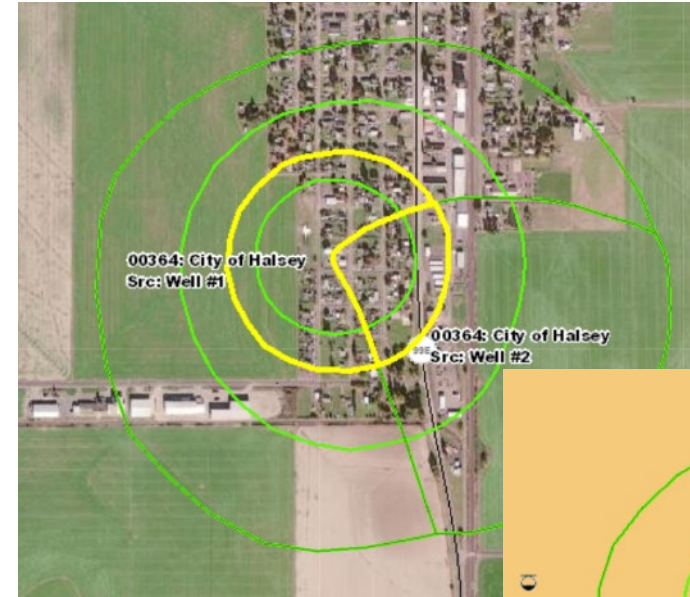
- Completed for all C and NTNC water systems
- Details on land use and ownership
- Maps of nearby water systems and drinking water source areas
- Potential contaminant sources (PCSs), locations, and risk levels
- Strategies and resources to help reduce risks



*Common Land-Use Risk Categories
Addressed in Source Water Assessments*

Updated Assessments and Enhancements

- GIS mapping shows more details on PCSs and land uses than original reports
- For groundwater systems, OHA identifies priority PCSs in cover letters
- Reports include common strategies to reduce risk, resources, and funding info



Technical Assistance Available

- DEQ/OHA Drinking Water Protection
 - Work with PWSs to develop and implement risk reduction measures
 - Website resources: factsheets, guidance documents; GIS layers
 - Grants available (up to \$30K per water system)
- Other DEQ Program Assistance
 - *Land Quality Programs:* Environmental Cleanup (including USTs), Solid and Hazardous Waste
 - *Water Quality Programs:* Stormwater, UICs, Biosolids, Industrial Permits, Onsite Septic, Mining (coordinated with DOGAMI)

How You Can Help

- Encourage PWSs to review their Source Water Assessments and contact us with questions
- Share source water protection brochures/factsheets and funding info with water systems
- In your interactions with PWSs, note any source water concerns and share those with us so we can assist.



- [illegible]

- 

Common Potential Contaminant Sources and Strategies to Reduce Risk

Industrial/Commercial – Hazardous Waste

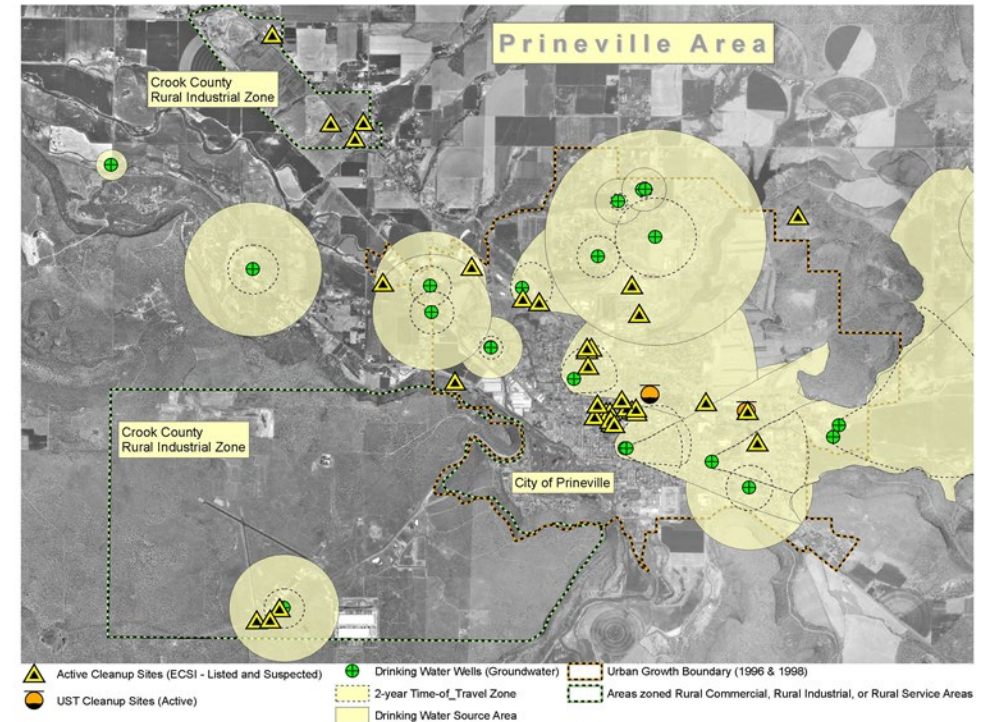
- Toxic cleaners and solvents can easily move to groundwater and waterways via storm drains and runoff
- Improve spill management and readiness
- Use alternative effective products when available
- Assistance (non-regulatory) available from DEQ hazardous waste staff
- Pursue EcoBiz certification for Auto shops!



EcoBiz Certified Business in Beaverton. Photo: EcoBiz

Industrial/Commercial – Environmental Cleanup Sites

- DEQ maintains database of sites
- Contact DEQ Drinking Water for initial assistance
- Contact Cleanup Program staff for detailed info about residual contamination from current or previous cleanup sites



Industrial/Commercial – Storage Tanks

- Underground Storage Tanks (USTs)
 - Replace USTs before they leak (DW SPF grant money can cover this!)
 - Work with DEQ to prioritize cleanup of leaking USTs close to drinking water wells
- Aboveground Storage Tanks (ASTs) (*generally not subject to DEQ rules except for spills*)
 - Install secondary containment
 - Develop spill containment plans
 - Be “spill ready” with kits and trained staff



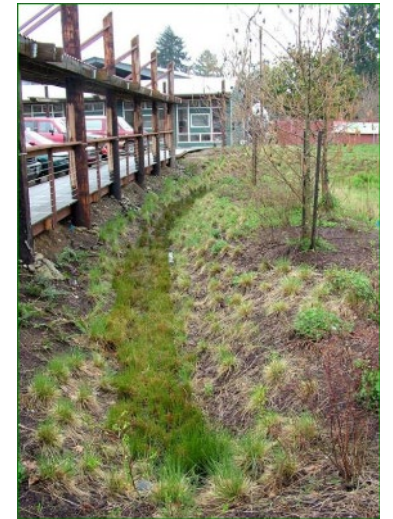
Photo: Oregon DEQ Tanks Program



Photo: EPA

Stormwater Management

- Contaminants can be easily carried in stormwater and pollute drinking water via leaching and/or runoff
- Cover waste/materials to prevent contact between stormwater and contaminants
- Work with local partners to implement creative stormwater treatments
- Prevent and eliminate cross-contamination issues
- Retain vegetation; reduce impervious surfaces



Solid Waste – Permitted and Illicit Activities

- Work with DEQ solid waste permit staff for information on permitted sites and historic landfills
- Contact county for assistance with illicit dumping in rural areas
- Encourage participation in recycling/reuse roundups and educational events

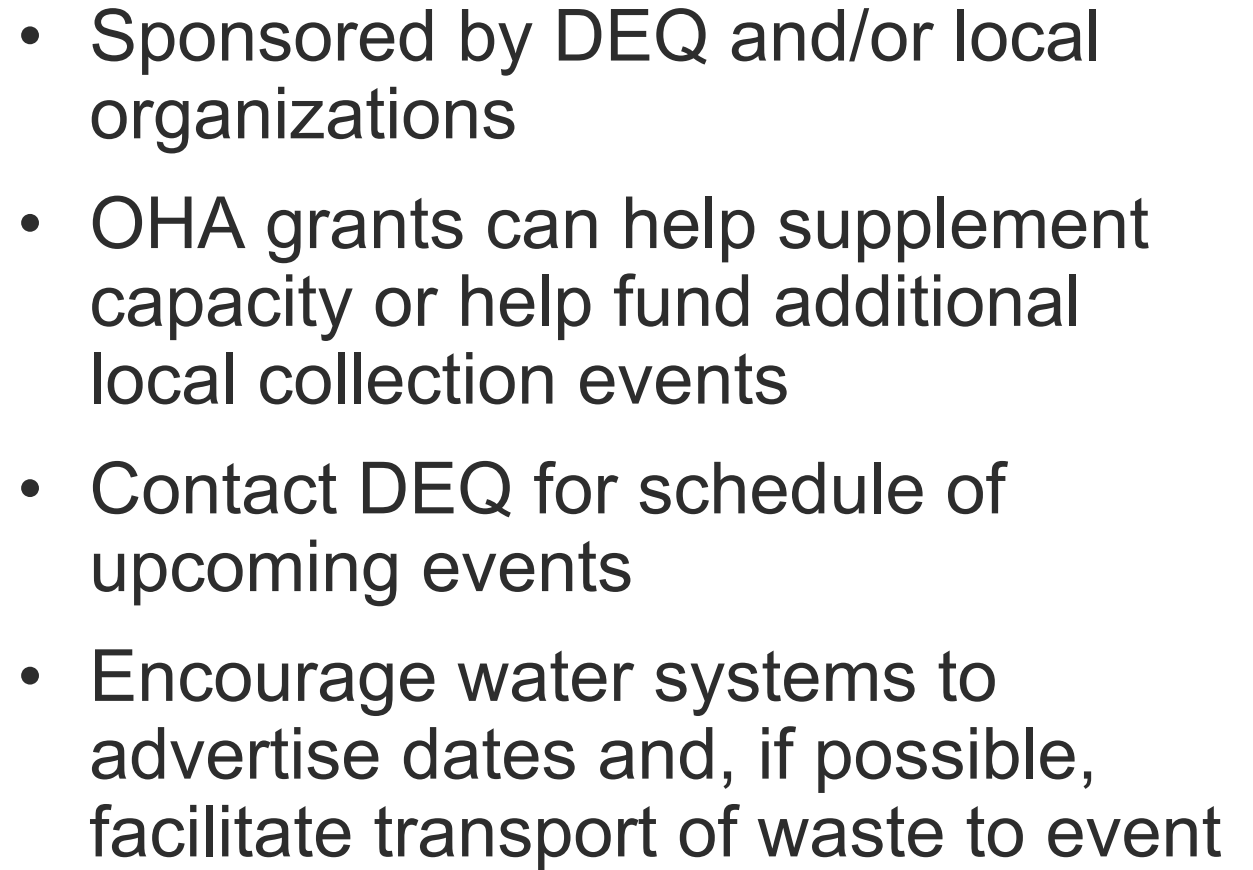
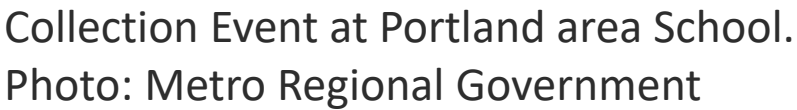


Photo: Craig Filip, Oregon DEQ

Residential – Well and Septic System Assistance



- Outreach materials available for residents in groundwater source areas
- In some locations, educational programs are offered (e.g. by OSU Extension and RCAC)
- OHA grants can cover septic system risk prevention projects; additional funding may be available
- DEQ Onsite Program can provide information



Residential – Mobile Home Park Strategies

- Park owners/managers can prohibit or limit activities where contaminants could leach to groundwater or move to surface water including:
 - Vehicle washing, repairing, or changing oil
 - Use and storage of pesticides or other hazardous or toxic chemicals
 - Accumulation of trash, unused vehicles, appliances, etc.
- Encourage best management practices for spill cleanup, irrigation, and septic system care

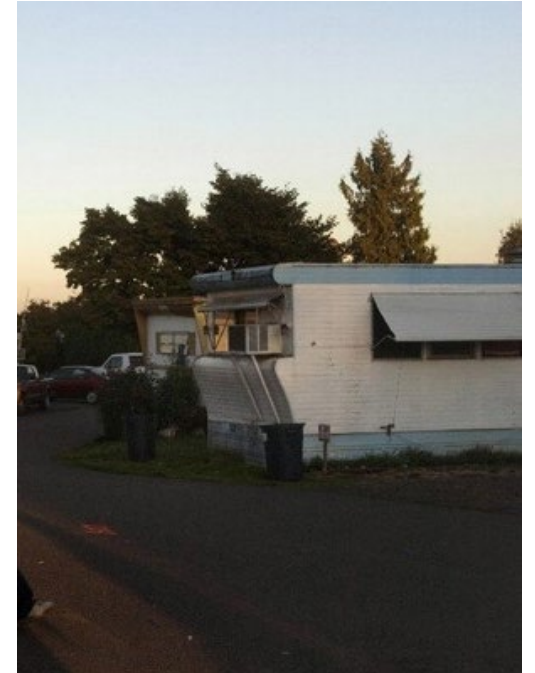


Photo: oregonlive.com

Municipal/public areas – grounds maintenance

- Minimize use of pesticides and fertilizers
- Encourage chemical-free management of city-owned land to model good practices
- Encourage golf course certifications for sustainable practices (e.g. Salmon-Safe, Audubon)



WaterWise and Pesticide-free area in Newberg.
Photo: OSU Extension Yamhill County

Transportation Related Issues

- Risks can include:
 - Roadside herbicide applications
 - Chemical/petroleum spills
 - Erosion/increased runoff caused by undersized culverts and poorly graded roadways
- PWSs can work with roadway managers and partners to improve conditions and enhance spill prevention measures



Agricultural Lands - managing animal waste, pesticides, and fertilizers

- Cover manure piles and store on hardened surface to prevent leaching and runoff
- Fence livestock and provide off-channel water where feasible
- Minimize use of fertilizers and pesticides, especially near wells and waterways
- Encourage water systems to work with OSU Extension, SWCDs, and WSCs

Photo: Oregon DEQ



Photo Courtesy ODA

Pesticide waste collection events



- Partnerships with SWCDs, OSU Extension, water utilities, growers, ag chemical suppliers
- OHA grants have helped with portion of event funding
- Result: large quantities of pesticide waste removed from local watersheds (Over 100,000 lbs collected in last several years!)

Riparian Areas - Agricultural and Forest Lands

- Healthy riparian buffers slow and treat contaminants in runoff and help recharge groundwater
- Encourage PWSs to work with partners to set aside conservation acreage and/or improve quality of riparian areas.
- Reducing chemical use near wells and waterways benefits both drinking water and aquatic species.



Forest Land Practices

- Risks include runoff from chemical applications and soil erosion, especially on steeper slopes
- Public forest lands (primarily USFS and BLM) - contact district offices for questions
- Private industrial forest lands (regulated by ODF)
 - PWSs can sign up for free notifications; contact ODF Stewardship Forester for assistance
- Private woodlot owners (non-industrial):
 - Work with OSU Extension, NRCS, and SWCDs for landowner assistance and funding

Privately owner forest land in
Reedsport's Clear Lake
Watershed



Examples of Strategies Already Implemented

Help Us Add to the List!

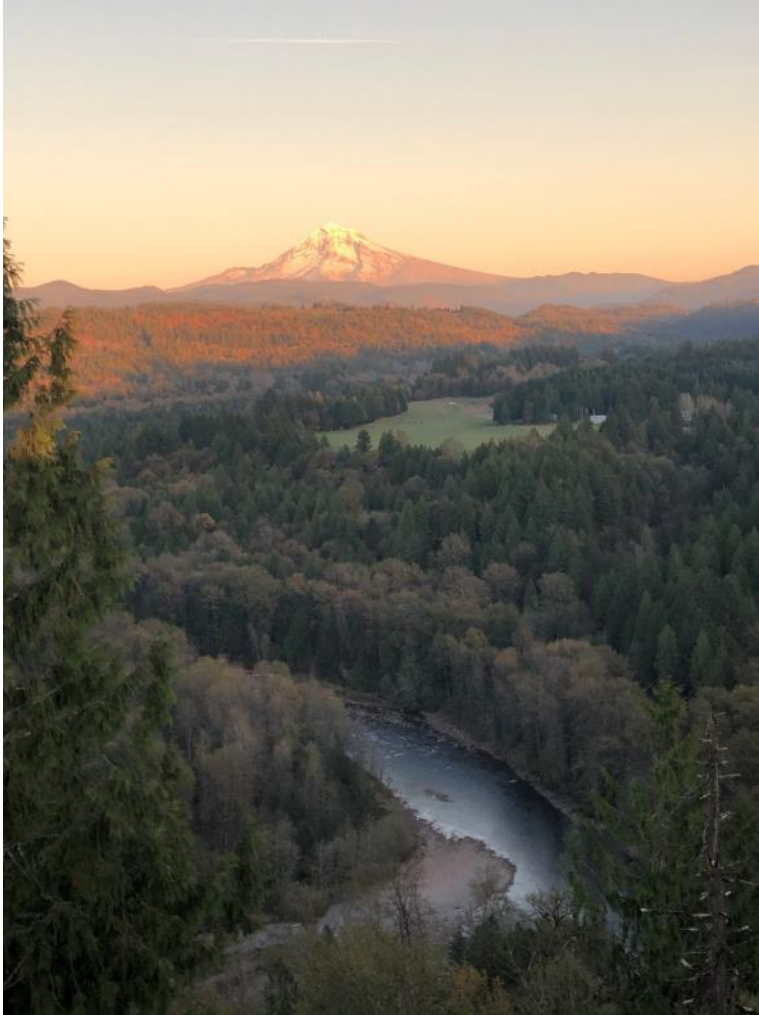
- Septic system replacement, education, and maintenance
- Drinking Water Protection Plans
- Pesticide collection events
- Expanded/restored riparian buffers
- Landowner agreements re pesticide applications
- UST removal/replacement
- Land conservation and acquisition

These practices help PWSs meet “Substantial Implementation” which is a priority for DWS

Funding Source Water Protection

- Source Water Protection Grants and Loans
- Drinking Water Providers Partnership Grants
- Funding and/or Technical Assistance from Partners including OWEB, NRCS, SWCDs, OSU Extension

Questions?



Oregon Drinking Water Protection Program

<https://www.oregon.gov/deq/wq/programs/Pages/dwp.aspx>

Julie Harvey -DEQ Program Coordinator julie.harvey@state.or.us

Tom Pattee – OHA Groundwater Program Coordinator

Resources:

Oregon DWP (including regional staff contacts):

<https://www.oregon.gov/deq/wq/programs/Pages/dwp.aspx>

OHA DW SPF:

<https://www.oregon.gov/oha/PH/healthyenvironments/drinkingwater/SRF/Pages/spf.aspx>