

Backflow Prevention

Groundwater sources used for irrigation in combination with chemicals are required to have a functional backflow device installed.

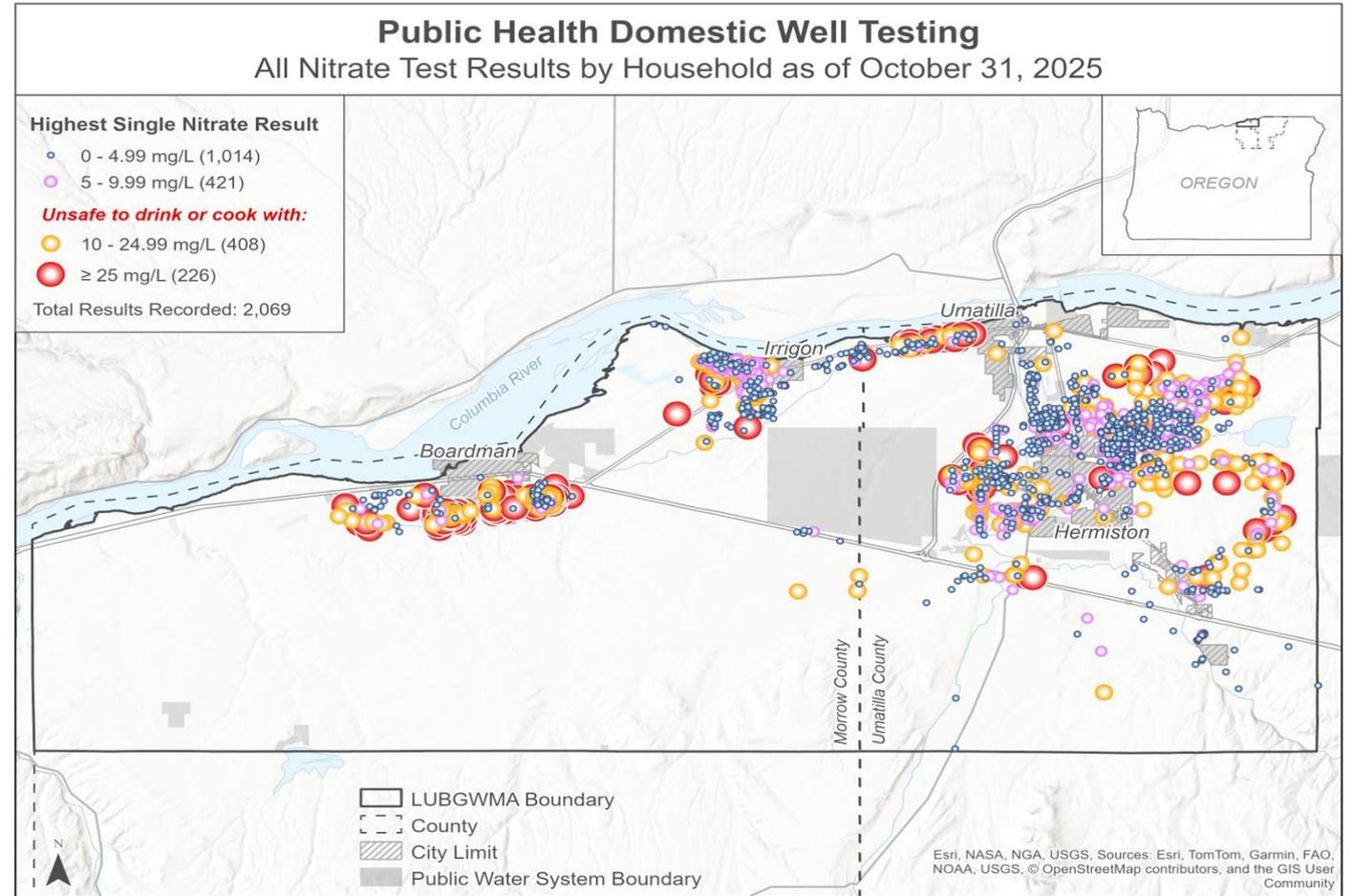
North Central Region
Oregon Water Resources Department



WHY ARE WE HERE

Nitrates Are A Potential Hazard

- Program initiated in the Lower Umatilla Basin Ground Water Management Area (LUBGWMA)
- Nitrate levels that exceed 10 milligrams per liter (mg/L) are considered dangerous for human consumption.
- The Governor has directed state agencies to focus and develop a plan for nitrate reduction in ground water management areas.



* All the Yellow and Red Circles are 10mg/L or greater

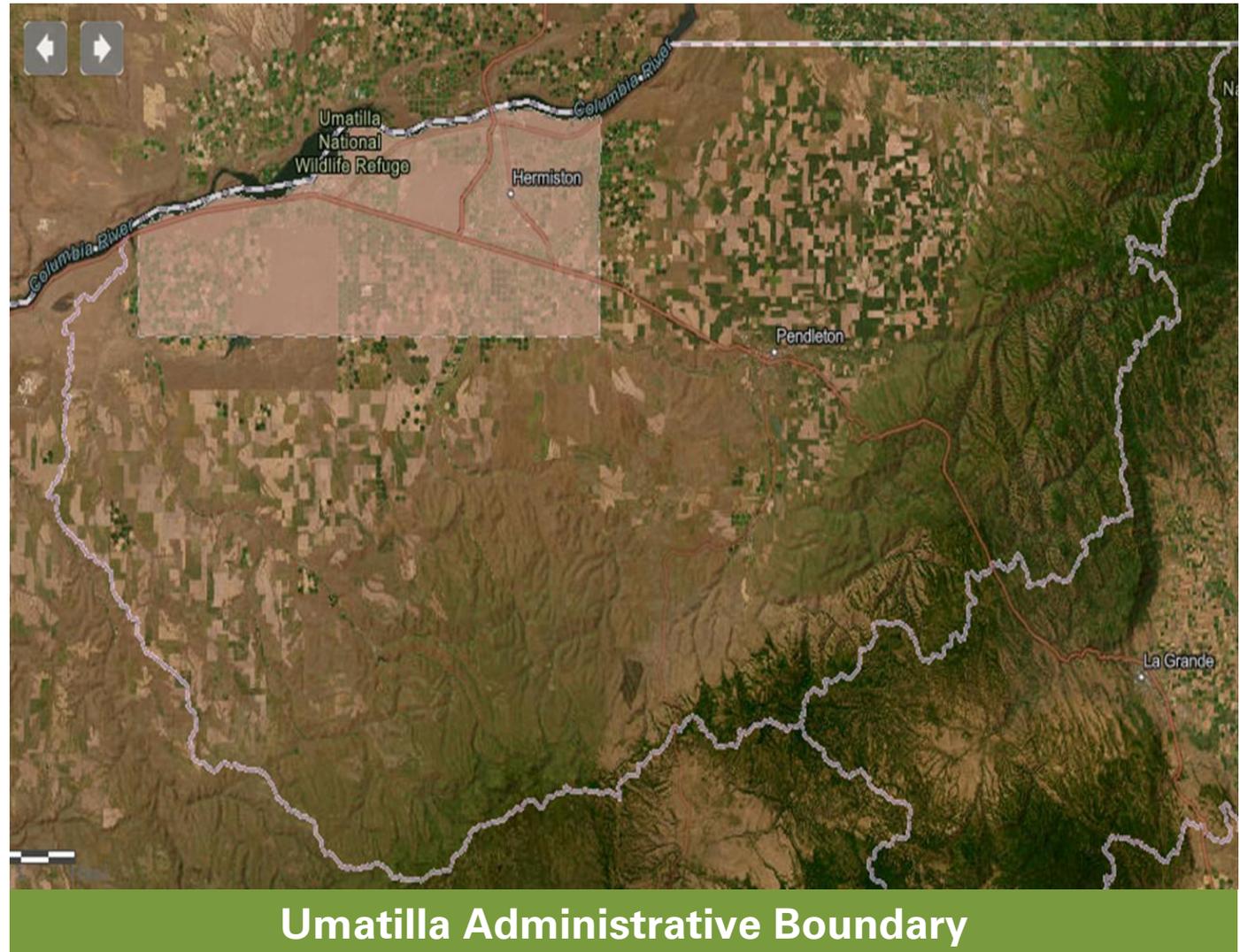
WHY ARE YOU HERE

Help Protect the Waters of the State

- Prevention of nitrates and other contaminants begins at the source
- Expanding to all groundwater right holders in the Umatilla Administrative Basin

Oregon Administrative Rule 690-215-0017(4):

Back-siphon prevention devices shall be installed on any irrigation system connected to a groundwater source when chemicals or fertilizers are applied through the system.



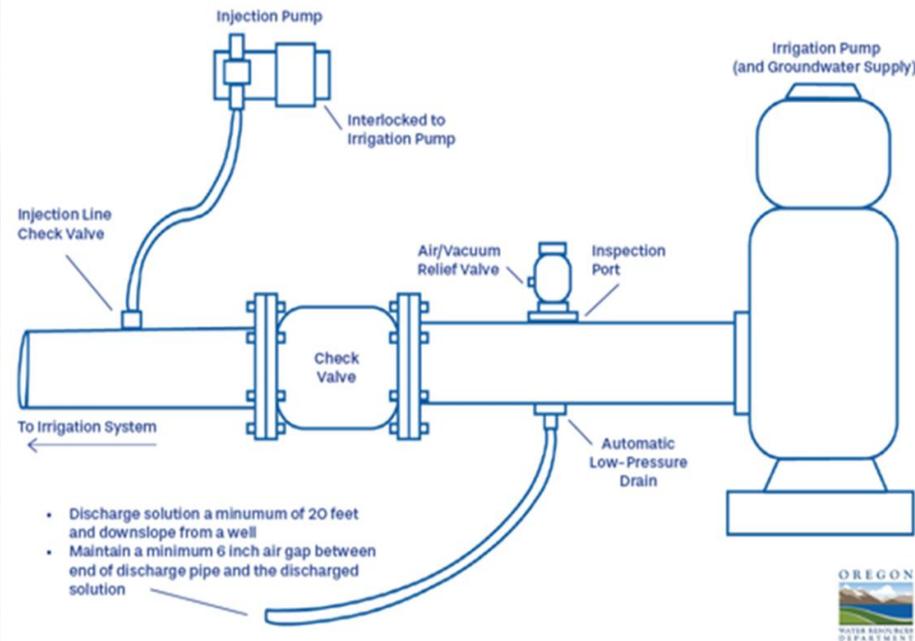
Umatilla Administrative Boundary

HOW DO BACKFLOW DEVICES HELP

Nitrates dissolve easily in water and are highly mobile in soil



Minimum Requirements



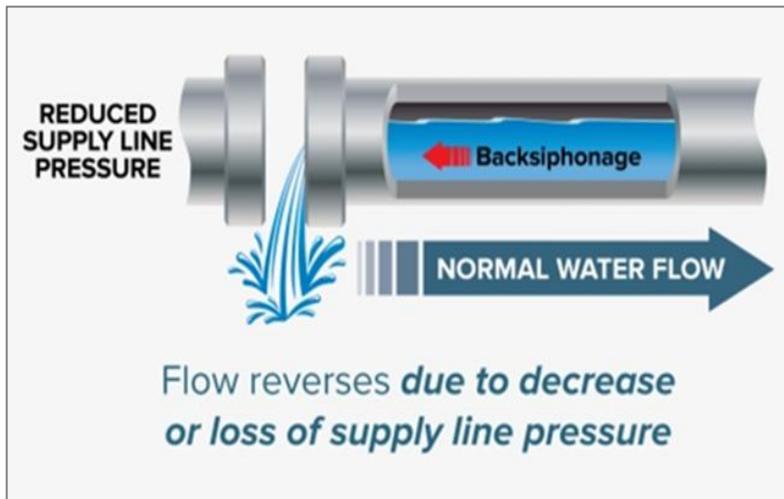
As shown in the diagram on the left, effective back-flow prevention devices must include all of the following:

- Automatic low-pressure drain
- Inspection port; directly overlying the automatic low-pressure drain
- Irrigation line check valve
- Air/vacuum relief valve
- 20' Discharge Hose
- 6" Air Gap @ end of hose

When there is a backflow event a properly installed backflow *system* is designed to prevent contaminated water from going back down the well and into the groundwater

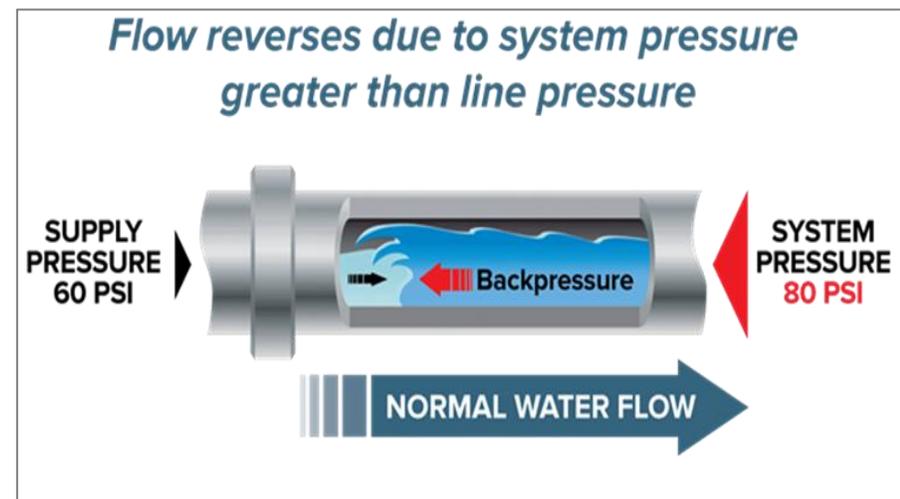
WHAT IS A BACKFLOW EVENT

Back-Siphonage: Negative Pressure from the well side



Possible Causes: interruptions to water supply, pump failure, power outages, preventer malfunctions etc.

Back-Pressure: Positive Pressure from the irrigation system



Possible Causes: Booster Pumps, interconnection with higher pressure systems, elevated piping etc.

Backflow of any kind threatens the health and safety of the community

BACKFLOW REQUIREMENTS



CHECK VALVE



DRAIN



AIR VENT/ INSPECTION



AIR VENT/INSPECTION



4" INSPECTION PORT



**DRAIN DIRECTLY
BELOW**



20' HOSE



**SECURED 6" OFF THE
GROUND**

APPROVED BACKFLOW SYSTEMS



Modified

Air Vent/Inspection port/Low pressure drain and hose added to a check valve



All in One Systems

Pierce/Clemens are common types with all components integrated



Use of Additional Backflows

Complicated systems may require special approvals and/or additional backflows

WHEN IS A BACKFLOW REQUIRED

When ANY OF YOUR GROUNDWATER SOURCES ARE CONNECTED TO CHEMICALS



CHEMIGATION

Any process whereby chemicals are added to irrigation water and applied to land, crops or plants through an irrigation system.

FERTIGATION

Type of chemigation where injection of fertilizers, used for soil amendments and water soluble products are added to the irrigation system.

Terminology often interchanged: both require backflow

What to expect with backflow regulation

- ✓ Pre-site inspections are available upon request
- ✓ Site inspections will begin February 2026
- ✓ Inspections take place at the well site and at chemigation locations.
- ✓ A blue tag identifies status of compliance with instructions
- ✓ Please call if you need assistance



INSPECTION TAGS

COMPLIANCE VS NON-COMPLIANCE

Backflow prevention equipment has been required in Oregon since the mid-1990s

*PLEASE: LOOK FOR AND REVIEW INSTRUCTIONS ON BLUE INSPECTION TAGS

COMPLIANCE NO FURTHER ACTION

- ✓ Never use chemicals in irrigation
- ✓ Approved backflow system installed



NON-COMPLIANCE IMMEDIATE ACTION

- ✓ Chemigation without an approved backflow device= NOTICE OF VIOLATION (NOV)
- ✓ Continued Chemigation without an approved backflow device= NOTICE OF ASSESSMENT (NOA)

REVIEW

- ✓ If you NEVER use chemicals in your system, a backflow device is NOT REQUIRED.
- ✓ ANY type of chemical connection even if the pump is not on is considered chemigation.
- ✓ Limited cost share reimbursement funding for flowmeter replacement.
- ✓ No cost share reimbursement for backflow.
- ✓ Approved devices must be installed prior to any chemigation starting in 2026



QUESTIONS

OREGON



WATER RESOURCES
DEPARTMENT