

Drinking Water Information for the Umpqua River

Agricultural Water Quality Management Area

Oregon Department of Environmental Quality, Drinking Water Protection Program

10/14/2020

- Public drinking water systems in the Umpqua Agricultural Water Quality Management Area utilize surface water and groundwater sources to serve approximately 87,973 persons regularly.
- Recent alerts for fecal coliform bacteria are common, and several public water systems have had recent alerts for Total Coliform or *E. coli*. Three public systems have had recent MCL violations for *E. coli* – Ranch Motel, Douglas County Parks - Whistlers Bend, and Douglas County Parks - Kanipe Memorial.
- The Surprise Valley RV Park public water system has had recent alerts for elevated nitrate concentrations and no recent violations.
- 25 of the 858 private well tests for which there are data in the area had elevated nitrate concentrations. Four of these wells had nitrate concentrations over the MCL.
- Contaminants in water supplies such as bacteria and nutrients can come from agricultural and residential sources. In the management area, private wells and aquifers could be at risk of contamination.

91 active public water systems obtain domestic drinking water from primarily groundwater sources and 24 active public water systems obtain domestic drinking water primarily from surface water sources in the Umpqua Agricultural Water Quality Management Area. Drinking water is an important beneficial use under the federal Clean Water Act. When Clean Water Act standards are met in source waters, a drinking water treatment plant using standard technology can generate water meeting the Safe Drinking Water Act maximum contaminant limits (MCLs).

Agricultural land uses (hay/pasture, livestock, grapes, Christmas trees) are present near many of the public water system wells and springs in the management area. The agricultural lands are dispersed throughout the management area, but are more predominant in the western part of the Umpqua Basin.

There are 22 active Community public water systems in the plan area using surface water and four using groundwater to serve approximately 87,884 people on a regular basis, in addition to visitors at recreation sites. There are five Non-transient, Non-community workplace or school public water systems using groundwater and one using surface water, serving 2,530 persons regularly. The remaining 83 public water systems are Transient Non-community systems and Non-public, State-regulated systems using groundwater and surface water to serve an estimated population of 2,597.

See Table 1 below for a list of public water systems, their classifications, sources and activity status, and populations served.

Bacteria

Several public water systems in the management area have had recent alerts for detections of bacteria. These public water systems with *E. coli* alerts or violations or numerous total coliform violations are marked in **bold** text in Table 1. Three of the active public water systems have had recent MCL violations for *E. coli*: Ranch Motel, Douglas County Parks –Whistlers Bend, and Douglas County Parks – Kanipe Memorial. Five systems have had recent violations for the Total Coliform MCL: Douglas County Parks – Kanipe Memorial, Douglas County Parks – Halfmoon Bay, K-R Drive Inn, Douglas County Parks – Scottsburg, and BLM Susan Creek Campground.

Nitrates

Nitrate contamination is often related to animal and cropland agriculture. The soils through most of the management area have very high nitrate leaching potential, according to the Natural Resources Conservation Service.

Oregon Health Authority rated some of the public water system wells in the management area for contaminant susceptibility for land use impacts to drinking water sources based on Source Water Assessments, aquifer characteristics, and well locations and construction. The management area has a mix of moderate and high susceptibility wells. The nitrate and other contamination issues described above and the ready movement of nitrogen into aquifers in the area verify this susceptibility. Measures to reduce leachable nitrate in soils would reduce risk to groundwater sources of drinking water.

Nitrate alerts (generated when nitrate exceeds 5 mg/L) were recently recorded at the Surprise Valley RV Park. There were no recent violations for nitrate MCL (generated when nitrate exceeds 10 mg/L) recorded in the area.

DEQ only addresses drinking water issues identified for PUBLIC water systems. A query of Oregon Water Resources' water rights database for private domestic points of diversion (using a threshold of 0.005 cfs for domestic surface water rights that are household use only, not irrigation) identified 768 private domestic water rights in the area. There are also private groundwater wells for domestic use. The Domestic Well Testing Act database (real estate transaction testing data) for 1989-2018 indicates that out 858 wells included in the database for the area, 25 wells had nitrate concentrations above 5 mg/L. There were four significant detections of nitrate (>10mg/) recorded for the area.

Many of the wells are in high and medium leaching potential soils. Nitrate from fertilizers and septic systems can readily penetrate to aquifers used for drinking water when leaching potential is high or very high, and bacteria removal through soil filtration can be less effective in sandy soils.

Other

Douglas County Parks - Whistlers Bend picnic area also had a recent turbidity violation.

Other contaminants found in public water systems that are not related to agriculture include: arsenic, sodium, lead, and copper. In some public water systems, there are recent issues with disinfectant byproducts in finished drinking water. This can result in the detection and alerts for Haloacetic Acid (HAA5) and total trihalomethanes (TTHM). Disinfection in water supplies is necessary to prevent illness from waterborne disease causing bacteria. The source of these bacteria in drinking water source areas can be residential, industrial, or agricultural.

Drinking Water Protection staff are happy to provide additional details, maps, and recommendations upon request.

Table 1. Public Water Systems in the Umpqua River Ag WQMA

Note: Table 1 does not include public water systems which purchase drinking water from these water systems but does include the population served by wholesale customers in the Total Population. **Bold text indicates PWSs w/ recent bacteria alerts.**

PWS_ID	Public Water System	Drinking Water Source	System type	Pop.
Groundwater				
4100168	Surprise Valley RV Park	2 wells	NC	45
4105283	Douglas Co Parks - Iverson Memorial	INACTIVE	NC	100
4105423	Mooney Boy Scout Ranch	2 wells (1 active, 1 inactive)	NC	10
4105967	Sawyers Rapids RV Resort	1 well	NC	25
4190476	Little River Christian Camp	1 GU well	NC	30
4190490	Kellogg Springs Christian Camp	3 wells, 1 spring	NC	80
4190650	BLM Tyee Rec Site	1 well	NC	50
4190651	BLM Millpond Rec Site	1 well	NC	78
4190655	BLM Cavitt Creek Rec Site	1 well	NC	33
4190895	Douglas Co Parks - Baker	INACTIVE	NC	100
4190898	Douglas Co Parks - Cavitt Creek	INACTIVE	NC	25
4190899	Douglas Co Parks - Cleveland Rapids	INACTIVE	NC	30
4190902	Douglas Co Parks - Longfibre	INACTIVE	NC	30
4190903	Douglas Co Parks - Mack Brown	INACTIVE	NC	25
4190906	Douglas Co Parks - Pass Creek	1 well	NC	50
4190907	Douglas Co Parks - Scottsburg	1 well	NC	50
4190908	Douglas Co Parks - Singleton	1 well	NC	25
4191003	Umpquas Last Resort	1 well	NC	50
4191026	BLM Susan Creek CG	1 well	NC	65
4191101	ODOT Cabin Creek Rest Area	2 wells (1 active, 1inactive)	NC	1000
4191102	ODOT South Umpqua Rest Area	INACTIVE	NC	1000
4191103	ODOT HD Cow Creek Rest Area	INACTIVE	NC	1000
4192098	Rock City Pizza	INACTIVE	NC	100
4192106	Salbasseon Inn	1 well	NC	26
4192114	Wells Creek Inn	1 well	NC	25
4192115	Heaven On Earth	1 well	NC	200
4192119	Lemolo Lake Resort	1 well	NC	100
4192121	Peggys	1 well	NC	50
4192123	Meadow Wood RV Park	1 well	NC	30
4192127	Narrows Tavern	1 well	NC	35
4192134	Stardust Motel	1 well	NC	38
4192135	Steamboat Inn	INACTIVE	NC	50
4192137	Lynns Drive-In	1 well	NC	100
4192145	Whistlers Park Mercantile	INACTIVE	NC	100
4192722	USFS Tyee Cg/Boat Site	1 well	NC	30
4192758	USFS Diamond Lake Rec Area	2 wells	NC	370
4192760	USFS Poole Creek Campground	1 well	NC	160
4192761	USFS Bogus Creek CG	1 well	NC	60

4193438	Timber River RV Park	1 well	NC	225
4193441	Ranch Restaurant	1 well	NC	80
4193442	Ranch Motel	1 well	NC	50
4193443	K-R Drive Inn	1 well	NC	200
4193667	Douglas Co Parks - Ben Irving Res	1 well	NC	165
4193688	Eagle Valley RV Park	1 well	NC	60
4193943	Tiller RV Park	INACTIVE	NC	40
4193944	Douglas Co Parks – Whistlers Bend	1 GW well, 1 SW well (N. Umpqua)	NC	100
4194108	Rice Hill Owners Association	3 wells	NC	90
4194282	Brandy Bar Landing	2 wells	NC	50
4194368	Curtin General Store	INACTIVE	NC	25
4194450	South Star Oil #1	1 well	NC	85
4194483	Douglas Co Parks - Chief Miwaleta	1 well	NC	50
4194553	Porter Creek Store LLC	INACTIVE	NC	40
4194591	Wilbur Mini Mart	INACTIVE	NC	200
4194675	Tiller Market	INACTIVE	NC	100
4194677	Cold Springs Store	INACTIVE	NC	150
4194692	Lighthouse Center Bakery	1 well	NC	300
4194788	Smith River Grocery	1 well	NC	15
4194912	Douglas Co Parks - Kanipe Mem.	1 GW well and SW purchased (Roseburg #00720)	NC	25
4194929	On The River RV Park	1 GU well	NC	60
4194967	BLM Dean Creek Elk Viewing Area	INACTIVE	NC	200
4195008	Steelhead Run Bed & Breakfast	INACTIVE	NC	25
4195041	The Big K Guest Ranch	1 well	NC	25
4195078	Elk Haven RV Park	1 well	NP	20
4195104	Umpqua RV Park	1 well	NC	50
4194507	OSDF DI Phipps Nursery	INACTIVE	NTNC	150
4194509	Kellogg Forest Tree Nursery	INACTIVE	NTNC	90
4100714	Umpqua Ranch Coop	3 GW wells, 1 inactive GW well, 1 SW well (N. Umpqua)	C	161
4101094	USFS Toketee Ranger Station	1 well	C	150
4194454	Pp&L-Clearwater Village	1 well	NP	24
4192104	Diamond Lake Lodge/Resort	2 springs	C	180
4192138	Tenmile Elementary SD 116	INACTIVE	NP	24
4100715	Porter Creek Mobile Home Park	2 wells	C	35
4192101	Days Creek High/Elem SD 15	1 GW spring, 1 inactive SW well	NTNC	230
4194519	Superior Lumber	INACTIVE	NP	10
4194521	Swanson Group LLC Plywood	1 well	NTNC	150
4195130	Swanson Group Sawmill	INACTIVE	NTNC	60
4192869	USFS Thielsen View CG	1 well	NC	225
4192117	Idlelyd Lodge	1 well	NC	25
4192128	Treats Hwy 42 Cafe	1 well	NC	30
4195220	Blm Lone Pine Campground	1 well	NC	30
4195253	Blm Eagleview Cg	1 well	NC	50
4194803	Motel 6 Rice Hill	1 well	NC	80
4195345	Douglas Co Pks - Halfmoon Bay	1 well	NC	100
4190619	Blm Loon Lake Rec Site	INACTIVE	NC	375

4195434	Buy 2 At Rice Hill	1 well	NC	133
4195472	Celebration Ranch	INACTIVE	NC	25
4195515	Douglas Co Pk-Kanipe Memorial	1 well	NC	30
4192109	Loon Lake Lodge #2	1 well, 1 inactive SW well	NC	62
4195210	Rice Hill Rv Park	1 well	NC	50
4193693	Blm Susan Creek Day Use	2 wells (1 active, 1 inactive)	NC	100
4194505	Tenmile Store	1 well	NC	300
Surface water				
4100276	City of Elkton	1 well (Umpqua)	C	205
4101092	USFS Tiller Ranger Station	1 well (S. Umpqua)	C	34
4101012	PP&L-Toketee Village	1 well (Toketee Lake), 1 inactive well (Fish creek)	C	50
4100706	City of Riddle	1 well (Cow Creek)	C	1300
4100720	City of Roseburg	1 well (N. Umpqua)	C	28800
4100957	Winston-Dillard Water District	1 well (S. Umpqua)	C	8060
4100549	Tri-City JW & SA	1 well (S. Umpqua) and purchased from City of Myrtle Creek (00550)	C	3,500
4100548	Clarks Branch Water Association	1 well (S. Umpqua)	C	140
4100581	City of Oakland	1 well (Calapooya creek)	C	954
4101095	USFS Wolf Creek Job Corps	1 well (Little River)	C	291
4100719	Umpqua Basin Water Association	1 well (N. Umpqua)	C	8900
4194300	Roseburg Forest Products - Dillard	1 well (S. Umpqua)	NTNC	2000
4100707	Lawson Acres Water Association	SW purchased from City of Riddle (00706)	C	75
4100260	City of Drain	1 well (Bear Creek) 1 inactive well (Billy Creek)	C	1151
4100717	Roberts Creek Water District	1 well	C	75
4100847	City of Sutherlin	2 wells (Calapooya and Cooper Creeks)	C	8060
4100699	City of Reedsport	1 well (Clear Lake)	C	4784
4100250	Milo Academy	2 wells (Lickey Creek and S. Umpqua)	C	150
4100958	City of Yoncalla	2 wells (Wilson and Adams Creeks)	C	1095
4100550	City of Myrtle Creek	2 wells (S. Umpqua and Springbook Springs)	C	3490
4100326	Glide Water Association	1 well (N. Umpqua)	C	1200
4100323	City of Glendale	1 well (Cow Creek), 2 inactive wells	C	980
4101091	USFS Steamboat Work Center	INACTIVE	NC	20
4100169	City of Canyonville	1 well (Canyon Creek), 1 inactive well	C	1975

System Type: C - "Community Water System (C)" means a public water system that has 15 or more service connections used by year-round residents or that regularly serves 25 or more year-round residents.

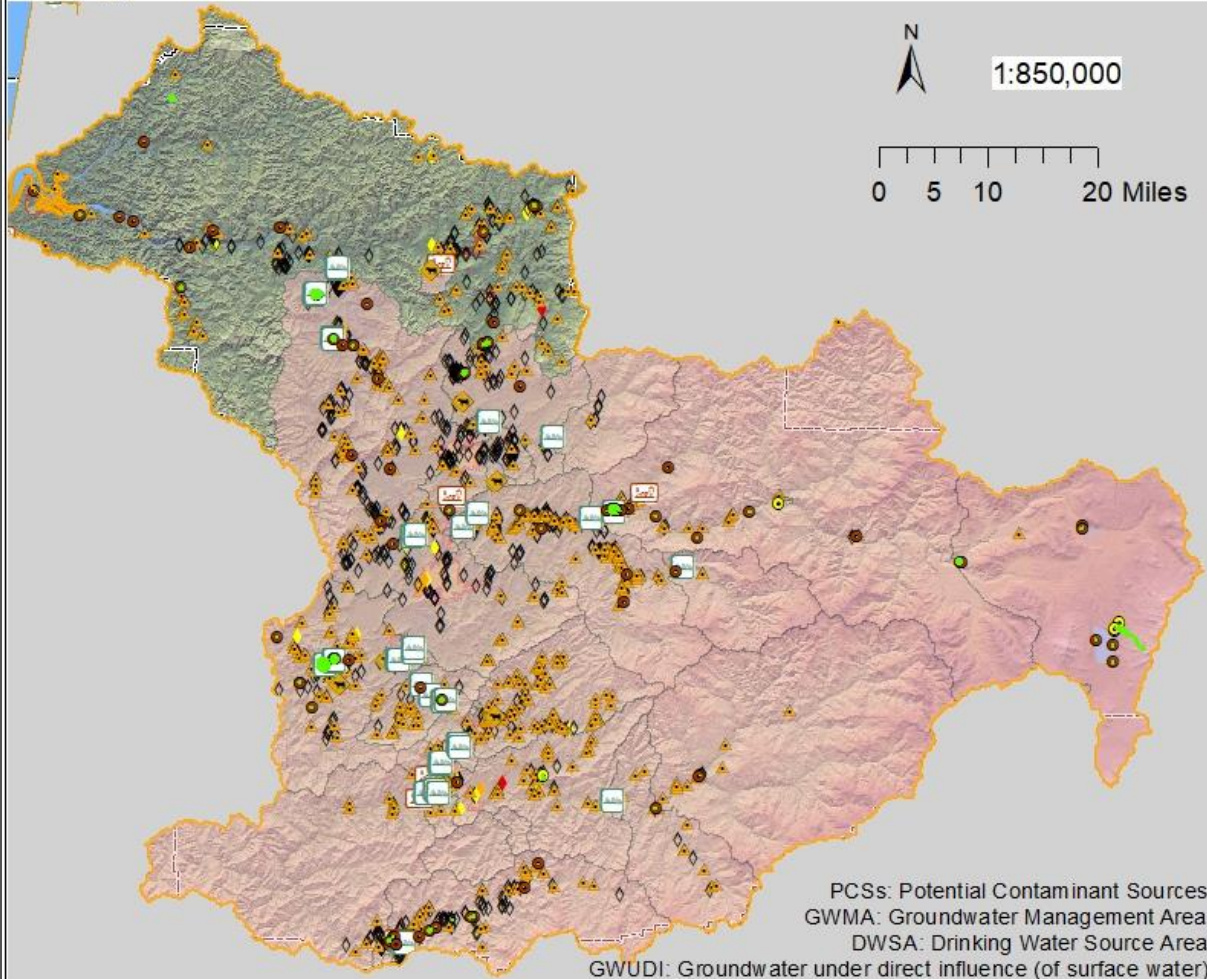
NTNC - "Non-Transient Non-Community Water System (NTNC)" means a public water system that is not a Community Water System and that regularly serves at least 25 of the same persons over 6 months per year.

NC - "Transient Non-Community Water System (NC)" means a public water system that serves a transient population of 25 or more persons.

NP - "State Regulated Water System (NP)" means a public water system, which serves 4 to 14 service connections or serves 10 to 24 people. Monitoring requirements for these systems are the same as those for Transient Non-Community water systems.



Drinking Water Source Areas for Public Water Systems in Umpqua River Agricultural Water Quality Management Area



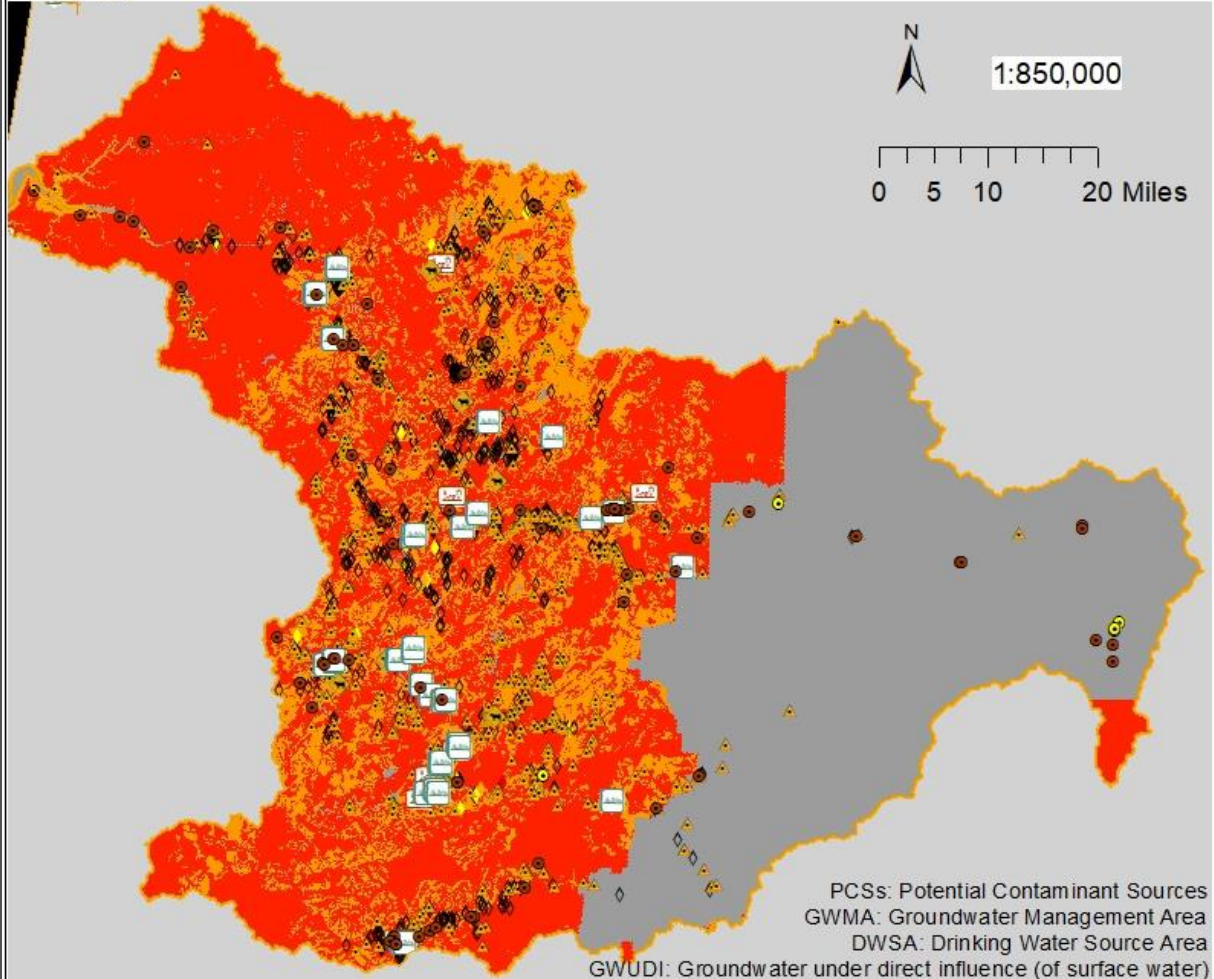
PCSs: Potential Contaminant Sources
 GWMA: Groundwater Management Area
 DWSA: Drinking Water Source Area
 GWUDI: Groundwater under direct influence (of surface water)

UmpquaAWQMA	Animals PCSs	Nitrate: Private Well Testing
Groundwater DWSA	Other Ag PCSs	0 to 3 mg/L
Surface watershed GWUDI	Domestic SW Rights	>3 to 7 mg/L
Public Water Supply Spring	Surface Water DWSA	>7 to 10 mg/L
Public Water Supply Well	City Limits (2017)	>10 to 50 mg/L
Cropland PCSs		>50 mg/L

The Drinking Water Source Area (DWSA) delineations define areas that supply the drinking water system. For groundwater this is defined as the area on the surface that overlies that portion of the aquifer that supplies water to a well or spring. DWSAs for wells typically show the 1-, 2-, 5-, and 10- or 15-yr time of travel zones that indicate the amount of time it takes groundwater to move to the wellhead. DWSAs for springs typically show area of short-, intermediate-, and long-term groundwater flow to the spring. DWSAs for surface water represents the watershed that supplies the waterbody where the intake is located.



Drinking Water Source Areas for Public Water Systems in Umpqua River Agricultural WQMA: Nitrate Leaching Potential



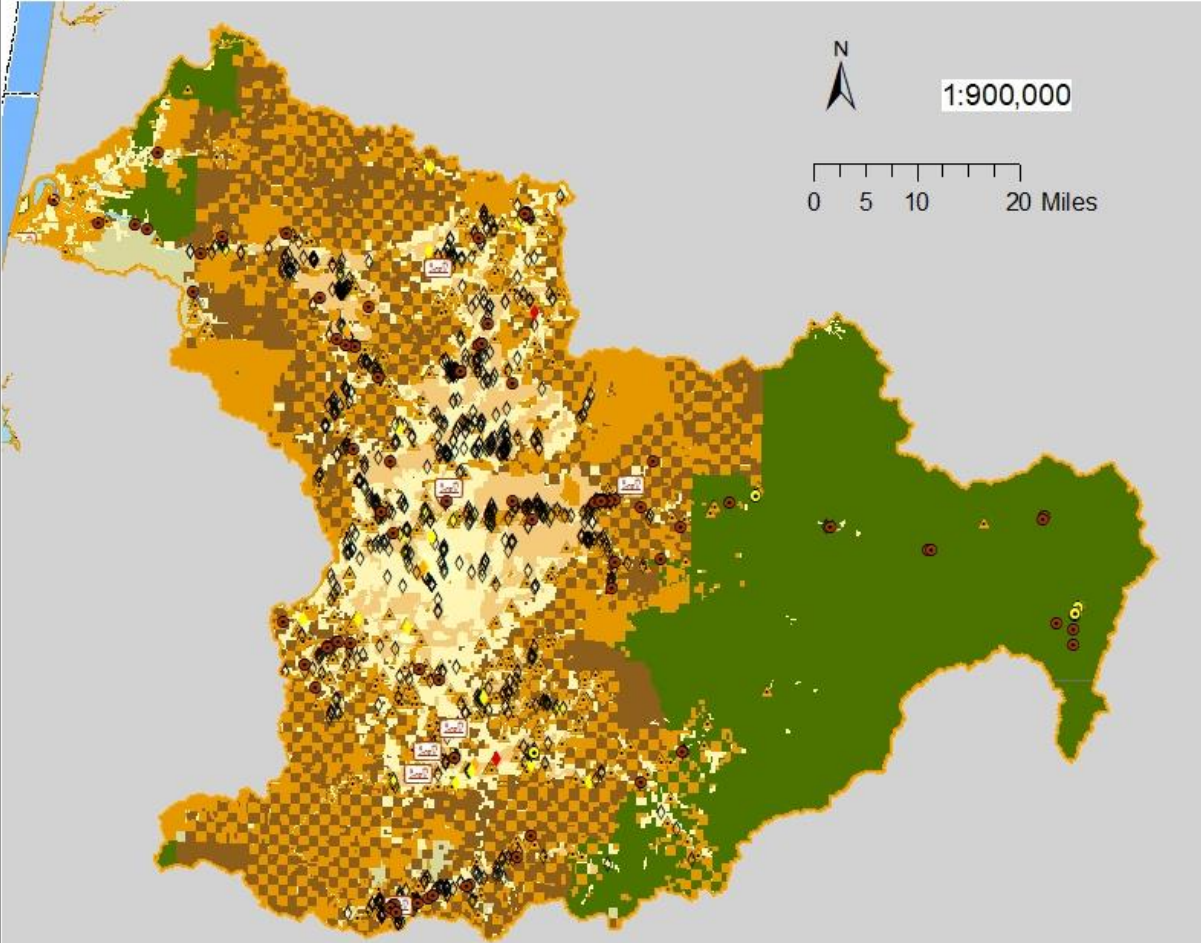
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UmpquaAWQMA		Nitrate: Private Well Testing		Nitrate Leaching Rating	
	Public Water Supply Spring		0 to 3 mg/L		Not rated or not available
	Public Water Supply Well		>3 to 7 mg/L		Low
	Cropland PCSs		>7 to 10 mg/L		Moderate
	Animals PCSs		>10 to 50 mg/L		Moderately high
	Other Ag PCSs		>50 mg/L		High
	DomesticSWRights				

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Drinking Water Source Areas for Public Water Systems in Umpqua River Agricultural WQMA: Land Use/Ownership



Nitrate: Private Well Testing		Land Ownership (2017)	
◇	0 to 3 mg/L	Private Urban Lands	Bureau of Land Management
●	>3 to 7 mg/L	Private Rural Lands	U.S. Forest Service
◆	>7 to 10 mg/L	Agriculture	Federal - Other
◆	>10 to 50 mg/L	Private Industrial Forests	Bonneville Power Administration
◆	>50 mg/L	Local Government	Bureau of Indian Affairs
		State Dept. of Forestry	Undetermined
		State - Other	Water

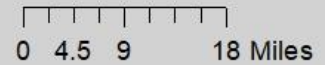
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Drinking Water Source Areas for Public Water Systems in Umpqua River Agricultural WQMA: Crops (2015 NASS)

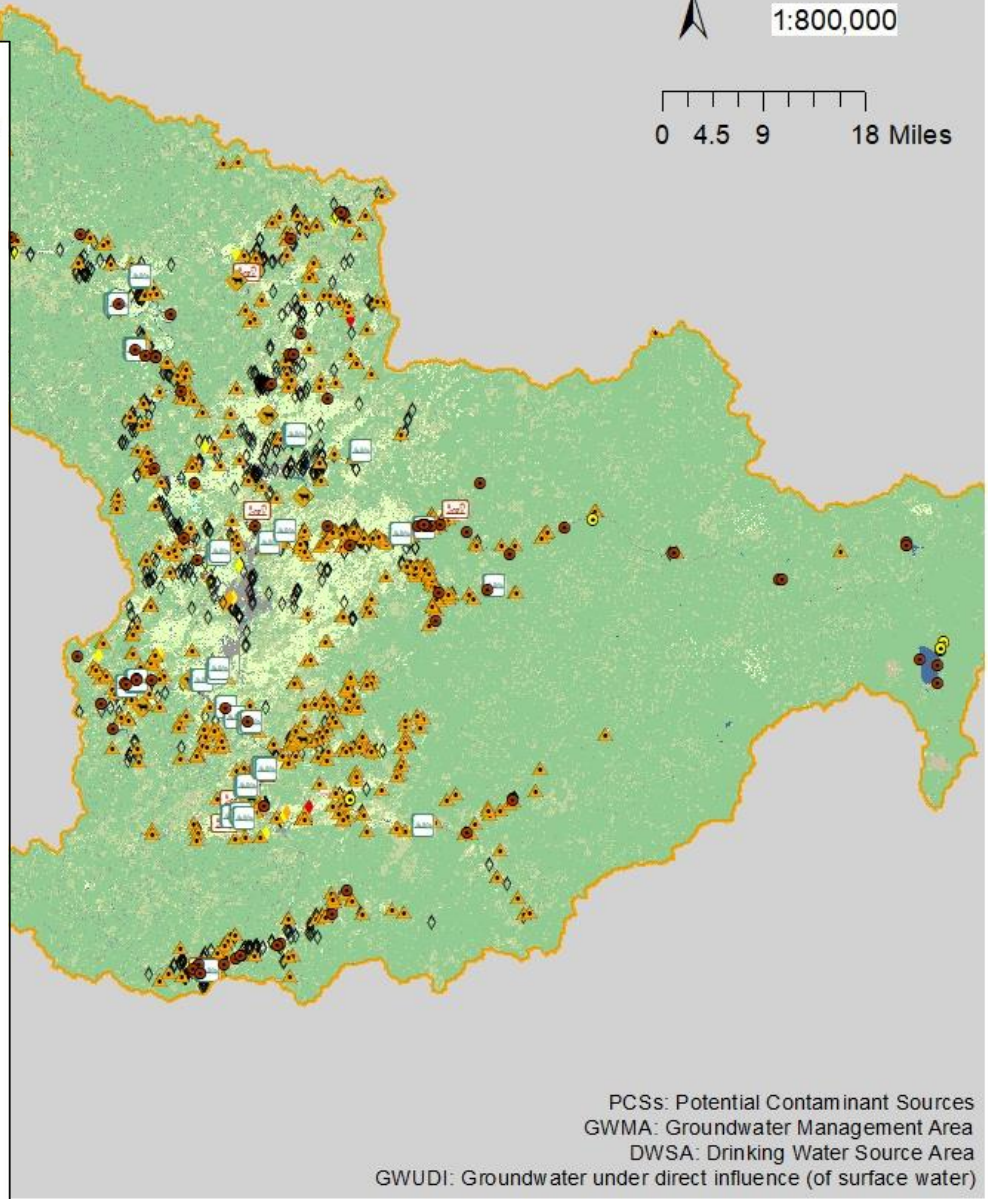


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- Public Water Supply Spring
- Public Water Supply Well
- ▲ Domestic Surface Water Rights
- Background
- Mint
- Barley
- Spring Wheat
- Winter Wheat
- Rye
- Oats
- Alfalfa
- Other Hay/Non Alfalfa
- Dry Beans
- Potatoes
- Onions
- Herbs
- Fallow/Idle Cropland
- Open Water
- Developed/Open Space
- Developed/Low Intensity
- Developed/Med Intensity
- Developed/High Intensity
- Barren
- Deciduous Forest
- Evergreen Forest
- Shrubland
- Grass/Pasture
- Woody Wetlands
- Herbaceous Wetlands
- Triticale
- Garlic

- Nitrate: Private Well Testing**
- ◇ 0 to 3 mg/L
 - >3 to 7 mg/L
 - >7 to 10 mg/L
 - >10 to 50 mg/L
 - >50 mg/L



PCSs: Potential Contaminant Sources
 GWMA: Groundwater Management Area
 DWSA: Drinking Water Source Area
 GWUDI: Groundwater under direct influence (of surface water)

Drinking Water Source Area (DWSA) delineations define areas that supply the drinking water system. DWSAs are defined as the area on the surface that overlies that portion of the aquifer that supplies water to a well or spring. DWSAs for wells are defined by 5-, 10- or 15-yr time of travel zones that indicate the amount of time it takes groundwater to move to the wellhead. DWSAs for springs are defined by short-, intermediate-, and long-term groundwater flow to the spring. GWUDI represents the watershed that supplies the waterbody where the intake is located.