Oregon Department of Environmental Quality

Drinking Water Assessment for the Lower Deschutes Water Quality Management Area

April 2021

Overview

- Public drinking water systems in the Lower Deschutes Agricultural Water Quality Management Area utilize groundwater and surface water sources to serve approximately 27,660 persons regularly.
- Recent alerts for E. coli bacteria exist for 20 Community Water System with 8 violations at USFS Bear Springs Ranger Station, Pinewood Mobile Manor, Northwest Aluminum Company, View Point Trailer Court, Tygh Valley Water District, Linda's Restaurant, Orchard View Farms, and Hazel Dell Orchard.
- 33 systems have recent alerts for Total Coliform bacteria with no violations.
- Four water systems have recent alerts for elevated nitrate concentration with 2 Maximum Contaminant Level (MCL) violations at Tooley Water District and Pinewood Mobile Manor.
- Eight of 80 private wells results in the area have elevated (≥ 3 mg/L) nitrate concentrations.
- Contaminants in water supplies potentially related to agriculture occur near human populations, agricultural land uses, and aquifers susceptible to contaminant infiltration.

Water Use

57 public water systems obtain domestic drinking water from groundwater and surface water sources in the Lower Deschutes Agricultural Water Quality Management Area. Drinking water is an important beneficial use under the federal Clean Water Act. When CWA 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). There are 21 Community public water systems in the plan area using only groundwater wells to serve approximately 21,855 people on a regular basis, in addition to visitors at recreation sites. There are four Non-Transient, Non-Community workplace or school public water systems using groundwater, serving 321 persons regularly. The remaining 32 public water systems are Transient Non-Community systems and Non-Public, state-regulated systems with an estimated service population of 5,484. See **Table 1** below for a list of public water systems, their classifications, sources and activity status, and populations served.

Agricultural land uses (e.g. hay/pasture, alfalfa, wheat, and livestock) are present near many of the public water system wells and springs in the area. Agricultural areas in the Lower Deschutes have the majority of both intensive agriculture area and human population, providing the contributing areas for numerous streams (many used for private domestic water supply) in the WQMA.

Bacteria

20 public water systems in the management area have recent alerts for detections of *E. coli*. Eight systems have recent *E. coli* violations: Hazel Dell Orchard, Orchard View Farms, Linda's Restaurant, Tygh Valley Water District, View Point Trailer Court, Northwest Aluminum Company, Pinewood Mobile Manor, and United States Forest Service Bear Springs Ranger Station.

Nitrates

Four public water systems have recent nitrate alerts (generated when nitrate exceeds 5 mg/L): Auction Sales Company, Tooley Water District, Pinewood Mobile Manor, and Rufus Public Works. Tooley Water District and Pinewood Mobile Manor have recent nitrate violations. The drinking water MCL for nitrates is 10 mg/L. These contaminants are often related to animal and cropland agriculture.

There are also numerous private groundwater wells for domestic use in the area. The Domestic Well Testing Act database (real estate transaction testing data) for 1989-2019 indicates two significant detections of nitrate (>7mg/L) in private wells out of 80 total results included in the database for this area. Of those private wells, 4 results are ≥5 mg/L, and 0 are ≥10mg/L.

Of the soils assessed in the management area, most have high nitrate leaching potential, according to the National Cooperative Soil Survey, based on slope, precipitation, and land use.
Nitrate from fertilizers and septic systems can readily penetrate to the aquifers used for drinking water when leaching potential is high, and bacteria removal through soil filtration can be less effective in sandy soils.

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 29 private domestic water rights in the area.

Other Contaminants

A recent alert at The Dalles was found for the pesticide Picloram. Other contaminants for which there are recent alerts that are not related to agricultural activities include arsenic, tetrachloroethylene, sodium, xylenes, fluoride, copper, lead, total haloacetic acids, and toulene.

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

Contact

For more information, please contact the Drinking Water Protection Program or send an email to drinkingwater.protection@deq.oregon.gov.

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age or sex in administration of its programs or activities. Visit DEQ's Civil Rights and Environmental Justice page.

Table 1. Public Water Systems in the Lower Deschutes 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 with recent *E. coli* alerts.

PWS ID	Public Water System Name	Drinking Water Source	System Type	Pop.
Groundwater Systems				
4101081	**USFS Bear Springs Ranger Station**	**1 GW well**	**NC**	**40**
4106176	Mt Hood Bed and Breakfast	1 GW well	NC	45
4190267	**The Dalles Country Club**	**1 GW well**	**NC**	**25**
4190646	BLM Macks Canyon Rec Site	INACTIVE (1 GW well)	NC	50
4190648	BLM Beavertail Rec North Well	1 GW well	NC	75
4190847	Biggs Petroleum LLC	1 GW well	NC	25
4191079	OPRD Deschutes River Rec Area	1 GW well	NC	200
4191168	Aubrey-Watzek Cascade Pacific BSA	1 GW well	NC	225
4192595	USFS Rock Creek Work Center	1 GW well	NC	40
4192600	USFS Frog Lake CG #1	1 GW well	NC	44
4192884	USFS Clear Lake CG 2	1 GW well	NC	65
4193440	Columbia River Gorge RV Resort	INACTIVE (1 GW well)	NC	200
4193455	Three Rivers Inn	1 GW well	NC	600
4193821	USFS Frog Lake CG #2	1 GW well	NC	44
4193950	OPRD West Mayer State Park	1 GW well	NC	200
4193951	Camp Morrow Bible Conference	1 GW well	NC	140
4193952	Lakeside Water Company	1 GW well	NC	200
4193989	ODOT HD Memaloose Rest Area	1 GW well	NC	800
4194077	Auction Sales Co	1 GW well	NC	50
4194202	**COE Dalles/JD-Celilo Park**	**1 GW well**	**NC**	**310**
4194225	Blm Beavertail Rec South Well	INACTIVE (1 GW well)	NC	75
4194233	OPRD Heritage Landing	INACTIVE (1 GW well)	NC	30
4194900	OPRD East Mayer State Park	INACTIVE (1 GW well)	NC	300
4195025	USFS Clear Lake CG - Hand Pump 3	1 GW well	NC	65
4100543	City of Mosier	2 GW wells (1 active, 1 inactive, emergency)	C	450
4100865	Rowena Crest Manor	1 GW well	C	47
4100911	**Tooley Water District**	**2 GW wells (1 active, 1 inactive)**	**C**	**42**
4100872	**Pinewood Mobile Manor**	**1 GW well**	**C**	**130**
4100871	**Foley Lakes Mobile Home Park**	**2 GW wells**	**C**	**300**
4100867	**Chenowith PUD**	**4 GW wells**	**C**	**4,500**
4100870	Lower Chenowith Water District	INACTIVE (2 GW wells)	C	450
4190872	**Northwest Aluminum Company**	**INACTIVE (2 GW wells)**	**NTNC**	**70**

4194200	COE Dalles/JD-The Dalles Dam	3 GW wells (1 active, 2 inactive emergency)	NTNC	140
4190603	Dufur Schools Dist 29	1 GW well	NTNC	50
4190269	**View Point Trailer Court**	**1 GW well**	**C**	**160**
4194418	BPA-Celilo/Big Eddy	2 GW wells	NTNC	61
4101015	Chenowith PUD - Columbia Crest	INACTIVE (1 active, 2 inactive emergency)	C	50
4100935	City of Wasco	2 GW wells	C	415
4100261	City of Dufur: Wells 1,2 Town	2 GW wells	C	610
4101216	**Dufur, South Basin**	**1 GW well**	**C**	**90**
4100912	**Tygh Valley Water District**	**2 GW wells (1 active, 1 inactive emergency)**	**C**	**247**
4100909	Barlow Water District	4 GW wells (3 active, 1 emergency)	C	500
4100931	Wamic Water Association	2 GW wells (1 active, 1 inactive, emergency)	C	130
4100910	**Sportsmans Park Water Assn**	**2 GW wells**	**C**	**150**
4100510	**City of Maupin**	**3 GW springs**	**C**	**420**
4194822	Walters Corner	INACTIVE (1 GW well)	NP	4
4101122	Pine Grove Water District	1 GW well	C	140
4193954	**Linda's Restaurant**	**1 GW spring**	**NC**	**1001**
4192086	**Camp Baldwin BSA**	**1 GW well**	**NC**	**250**
4195027	Columbia Gorge Discovery Center	1 GW well	NC	25
4195388	**Celilo Inn**	**1 GW well**	**NC**	**46**
4105551	Verne Root Orchard	1 GW well	NC	50
4105555	**Orchard View Farms**	**2 GW wells**	**NC**	**110**
4195018	**Wasco County Fairgrounds**	**1 GW well**	**NC**	**150**
4105553	**Hazel Dell Orchard**	**2 GW wells**	**C**	**260**
4100723	**Rufus Public Works**	**2 GW wells**	**C**	**270**
Surface Water and Groundwater Systems				
4100869	City of The Dalles	1 SW well, 3 GW wells	C	12,494

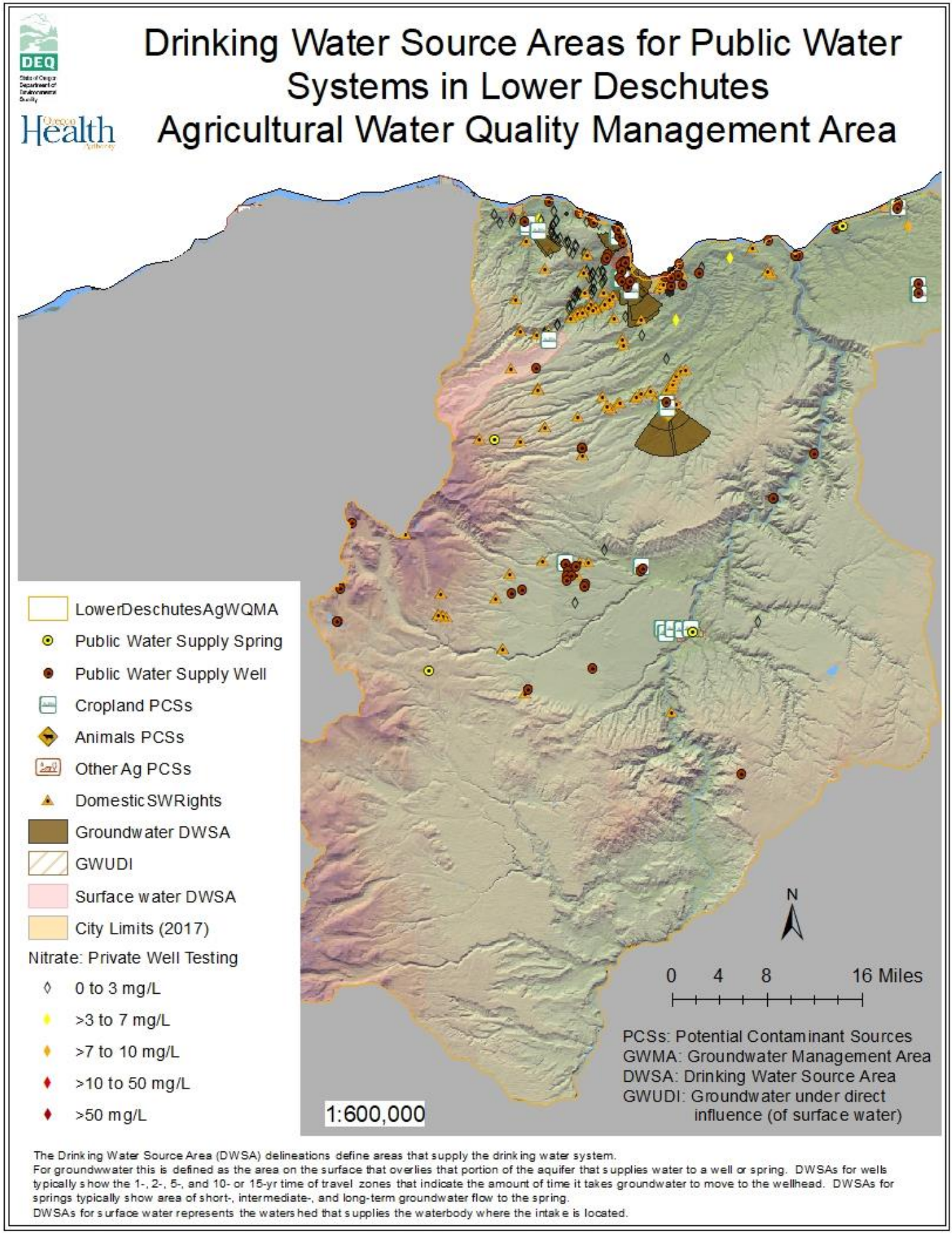
System Type:

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.

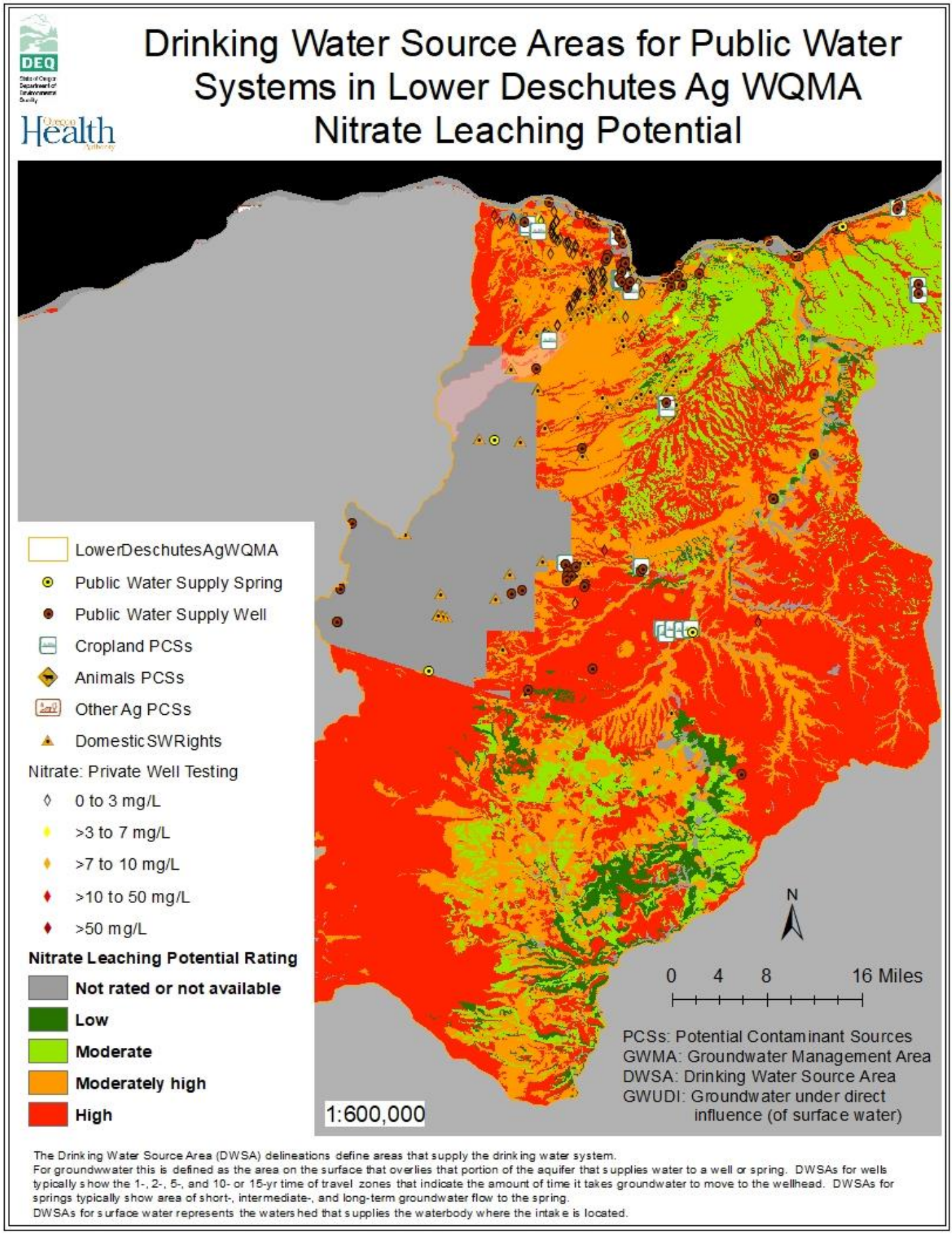
NTNC - "Non-Transient Non-Community Water System (NTNC)" means a public water system that is not a Community Water System and that regularly serves at least 25 of the same persons over 6 months per year.

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

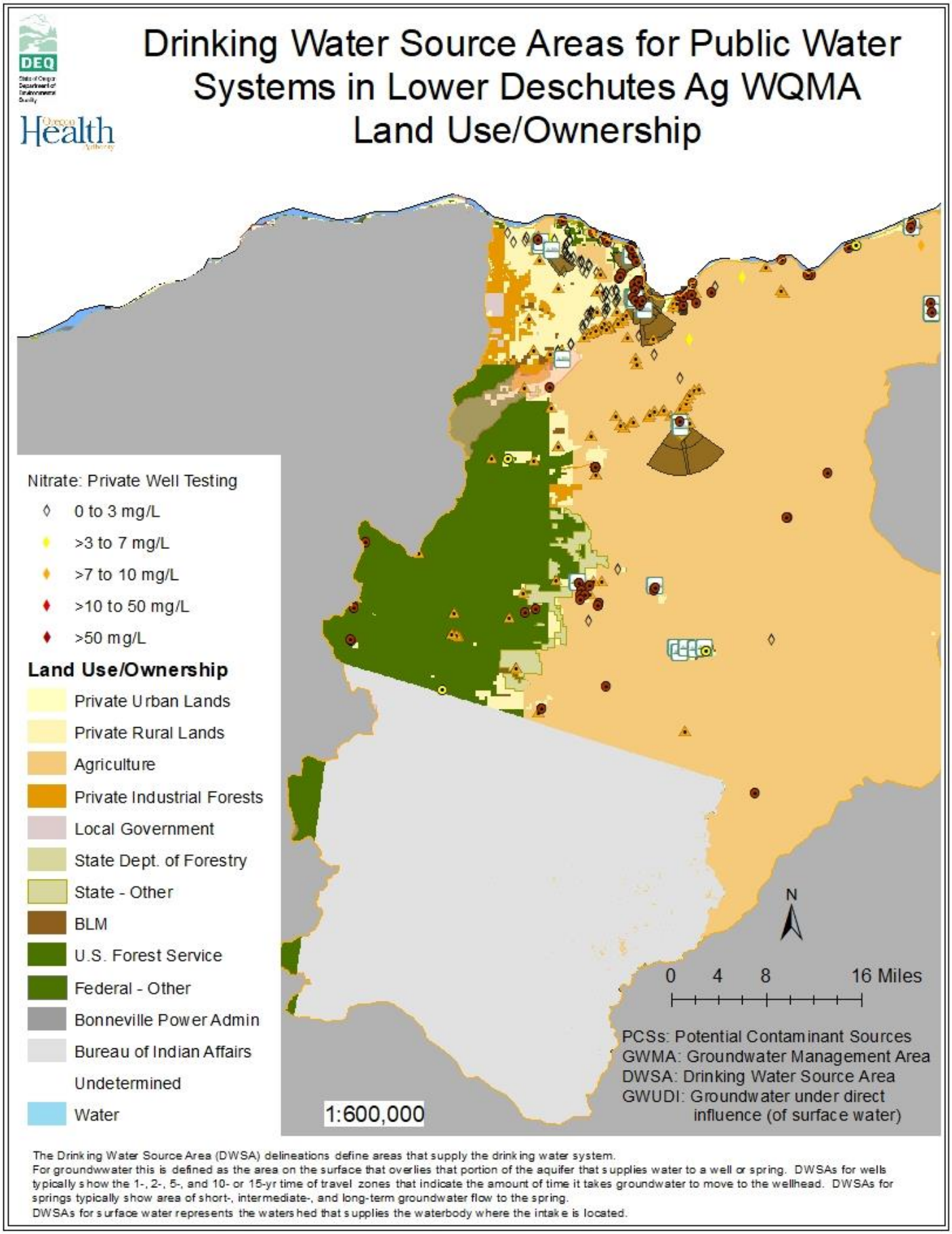
NP or OVS - "State Regulated Water System (NP)" means a public water system, which serves 4 to 14 service connections or serves 10 to 24 people. Monitoring requirements for these systems are the same as those for Transient Non-Community water systems. This designation was recently changed to OVS for Oregon Very Small systems. Both designations are still used.



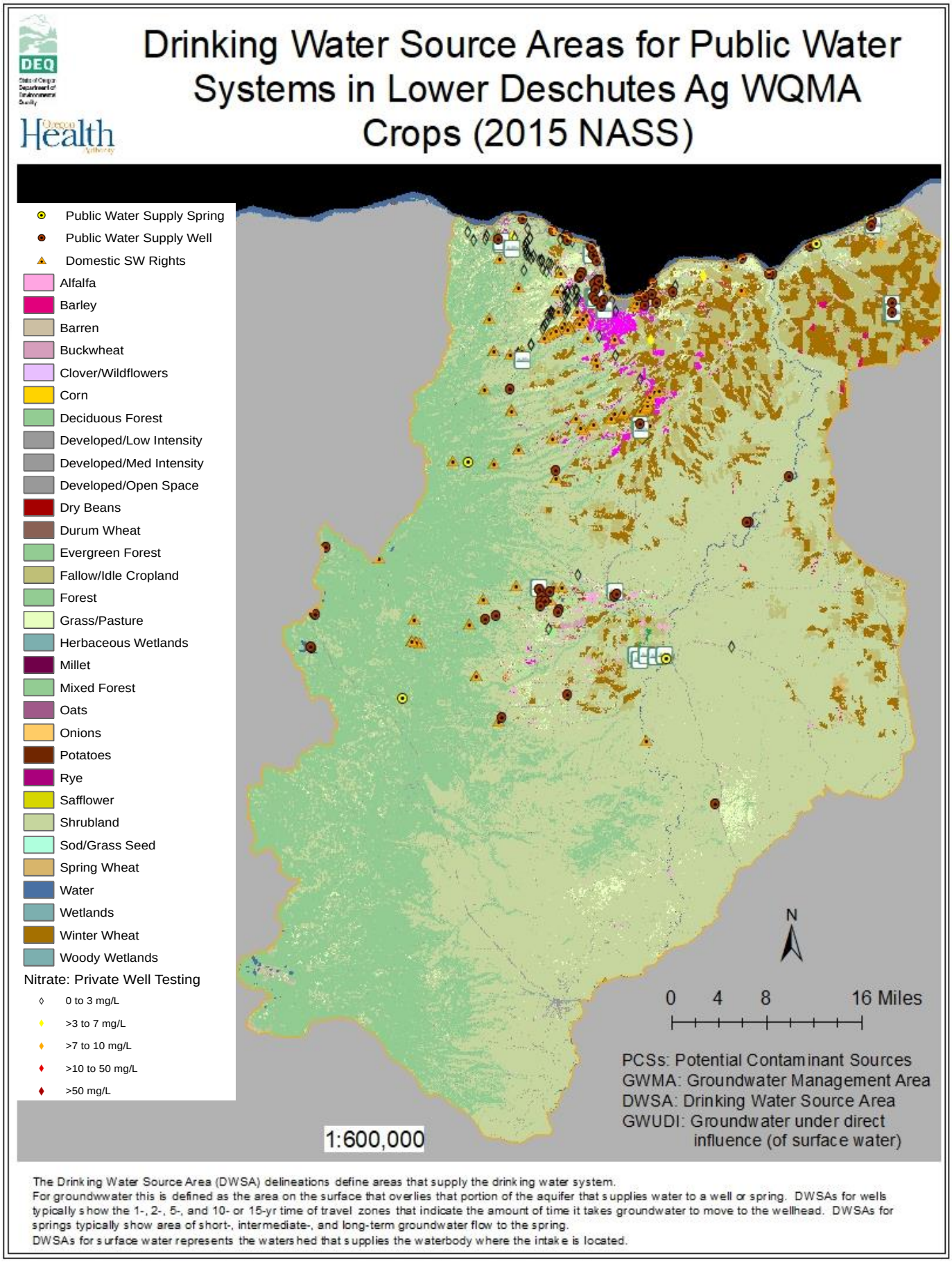
Map 1: Drinking Water Source Area for Public Water Systems in the Lower Deschutes Agricultural Water Quality Management Area



Map 2: Drinking Water Source Area for Public Water Systems in the Lower Deschutes Agricultural Water Quality Management Area, Nitrate Leaching



Map 3: Drinking Water Source Area for Public Water Systems in the Lower Deschutes Agricultural Water Quality Management Area, Land Use/Land Ownership



Map 4: Drinking Water Source Area for Public Water Systems in the Lower Deschutes Agricultural Water Quality Management Area, Crops