

## Appendix 1 - Groundwater Quality Assessment Projects

Summary as of November 2006

Basin	Project Name	No. of Sample Events	No. of Wells Sampled	Groundwater Quality Rating <sup>(b)</sup>	Contaminants Of Concern	Contaminants Found <sup>(b)</sup>	Suspected Contaminant Sources	Date Last Monitored
Deschutes	Bend	1	8	1	Nitrate, Pesticides	None	-	1990
Deschutes	La Pine	6	65	4	Nitrate	Nitrate	Onsite Systems	1982
Deschutes	La Pine	2	103	4	Nitrate	Nitrate	Onsite Systems	1995
Deschutes	La Pine	1	199	1	Nitrate	Nitrate	Onsite Systems	2000
Deschutes	La Pine	Ongoing	192	3	Nitrate	Nitrate	Onsite Systems	2004
Deschutes	Mosier	4	12	1	Nitrate, Inorganics, Organics	None	-	1987
Deschutes	Prineville	1	11	1	Nitrates	Benzene	Onsite/Agriculture	1990
Deschutes	Rufus	1	4	4	Nitrate	Nitrate	Onsite/Agriculture	1993
Deschutes	Rufus	2	4	4	Nitrate, Pesticides	Nitrate	Agriculture	1996
Grande Ronde	City of Imbler	2	24	4	Nitrates, Other	Nitrate	Varied	1986
Hood	Hood River	1	36	1	Nitrate, Other	Nitrates	Varied	1993
Hood	Hood River	1	11	1	Nitrate, Pesticides	Nitrate	Onsite Systems	1995
Klamath	Klamath Falls	3	50	3	Nitrate, Pesticides	Nitrate, Ammonia	Agriculture	1990
Malheur	Burns/Hines	1	17	4	Nitrate, Pesticides	None	-	2004
North Coast	Clatsop Plains	10	83	3	Nitrate, Pesticides, VOCs, Bacteria	Nitrate, VOCs, Bacteria, Pesticides	Septic, Municipal	1998
North Coast	Tillamook	2	83	3	Bacteria, VOCs, Nitrate	Nitrate	Onsite/Municipal	1998
Powder	Haines	2	25	1	Nitrate, Bacteria, VOCs, Inorganics	Nitrate, VOCs	Onsite, CAFO, Industrial	1998
Rogue	Haines	2	14	2	Nitrate, Herbicides	VOCs	Unknown	1989
Rogue	Grants Pass	12	53	2	Nitrate, Inorganics, Organics	VOCs	Unknown	1994
Rogue	Jackson County	1	30	1	Inorganic, Organic, Pesticides	None	-	1992
Rogue	North Bear Creek Valley	1	19	3	Nitrate, Pesticides, Organic Compounds	Nitrate, Pesticide, VOCs	Onsite, Agriculture	1995
South Coast	Harbor Bench	3	15	3	Nitrate, Pesticides	1,2-DCEP, Aldicarb, Nitrate	Agriculture	1991
Statewide	Department of Human Services Public Drinking	Varies	2,459 ground water systems	154 maximum level violations reported	Bacteria, Disinfectants, Inorganics, Organics, Radiological	Nitrate, Arsenic, Coliform, Cadmium, Mercury, Lead, Copper, VOCs, Pesticides	Various	2001

Basin	Project Name	No. of Sample Events	No. of Wells Sampled	Groundwater Quality Rating <sup>(D)</sup>	Contaminants Of Concern	Contaminants Found <sup>(D)</sup>	Suspected Contaminant Sources	Date Last Monitored
Statewide	Water System Compliance <sup>(W)</sup>	Ongoing	14,127 (1989-1998)	Not rated	Nitrate, Bacteria	Nitrate, Bacteria	Various	Ongoing
Statewide	Department of Human Services Real Estate Transaction	1	7	1	Nitrate, Pesticides, Organics	None	-	1989
Statewide	National Pesticide Survey (OR)	28	1,641	2	Nitrate	Nitrate	Varied; Unknown	1993
Umatilla	Lower Umatilla Basin GWMA <sup>(M)</sup>	Ongoing	38 (198 synoptic)	3	Nitrate, Pesticides	Nitrate, EDB, Atrazine, Dacthal, Dicamba, Picloram	Agriculture, Onsite Septic, Industry	2006
Umatilla	Milton-Freewater	2	40	4	Bacteria, Nitrate, Pesticides	Bacteria	Onsite, Agriculture	1999
Willamette	Mid-Multnomah	107	25	3	Nitrate	Nitrate, VOCs	Onsite, Urban, Industrial	1995
Willamette	Sauvie Island	1	3	2	Nitrate, Pesticides	Nitrate	Agriculture	1985
Willamette	Boring	14	25	3	General	VOCs	Agriculture	1990
Willamette	Canby	2	21	3	Nitrate, Pesticides	Nitrate, Dacthal	Agriculture, Onsite	1993
Willamette	Coburg	4	28	2	Nitrate, Pesticides	Nitrate	Agriculture, Onsite	1994
Willamette	Dever-Conner Albany	1	3	2	Nitrate, Pesticides	Nitrate	Agriculture	1984
Willamette	Farmington/Hillsboro	3	15	3	Nitrate, Pesticides	EDB	Agriculture	1986
Willamette	Florence-Clear Lake Aquifer	12	24	1	Nitrate, Phosphorus	None	-	1981
Willamette	French Prairie	1	9	1	Nitrate	None	-	1985
Willamette	Jefferson	1	5	3	Nitrate, Pesticides	Bromocil, Dinoseb	Agriculture	1985
Willamette	Junction City	2	20	4	Nitrate, Pesticides	Nitrate, VOC	Agriculture, Onsite; Unknown	1993
Willamette	Lake Labish	1	3	2	Nitrate, Pesticides	Nitrate	Agriculture	1985
Willamette	Lebanon-Albany	1	19	1	Nitrate, Pesticides	Nitrate	Unknown	1993

Basin	Project Name	No. of Sample Events	No. of Wells Sampled	Groundwater Quality Rating <sup>(1)</sup>	Contaminants Of Concern	Contaminants Found <sup>(1b)</sup>	Suspected Contaminant Sources	Date Last Monitored
Willamette	Milwaukie	2	34	3	Volatile Organic Compounds	VOCs	Industry and Commerce	1989
Willamette	Mission Bottom	7	90	4	Heavy Metals, Nitrate, Pesticides	Nitrate, EDB	Agriculture, Municipal, Onsite	1986
Willamette	North Albany Groundwater	14	33	2	Nitrate, VOC, Bacteria	VOCs, Nitrate	Unknown; Onsite	1996
Willamette	Santa Clara/River Road	12	26	4	Nitrate, Bacteria	Nitrate, Bacteria	Onsite	1980
Willamette	Scio Groundwater Study	3	14	4	Bacteria	Bacteria	Onsite, Livestock	1988
Willamette	Woodburn	2	21	2	Nitrate	Nitrate, PCE	Unknown	1993
Willamette	Southern Willamette Valley	on-going	480	2	Nitrate, Pesticides	Nitrate, Pesticides	Agriculture, Onsite	2006
Willamette	USGS NA/WQA Willamette Valley <sup>(VI)</sup>	-	70	2	Nitrate, Pesticides, VOCs,	Nitrate, Arsenic, 13 Pesticides (Atrazine), 5 VOCs	Agriculture, Urban	1993
Willamette	USGS/OWRD Cooperative Study <sup>(VII)</sup>	Varies	131	1, 4	Arsenic	Arsenic	Natural, possibly agriculture.	1997

Notes:

I. **Groundwater Quality Rating:**

- 1 = Means less than 10% of wells had a contaminant level over the drinking water standard.
- 2 = Means 25% or more of wells had nitrate levels between 5 to 10 mg/L, or any well had an organic compound detected.
- 3 = Means 10% to 25% of wells had a contaminant level over the drinking water standard.
- 4 = Means more than 25% of wells had a contaminant level over the drinking water standard.

**Contaminants:** 1,2 DCP = 1,2 dichloropropane; EDB = Ethylene dibromide; PCE = Perchloroethylene or tetrachloroethylene; PCP = Pentachlorophenol; VOC = Volatile organic compound.

III. **GWMA = Groundwater Management Area**

- IV. Nitrate, Dacthal, 2,6-Dichloraniline, Methyl parathion, Dimethoate, DDE, Epram, Metolachlor, Pendimethalin, Trifluralin, Alachlor, Atrazine, Desethyl Atrazine, Propargite, Simazine, Prometon, Metribuzin

V. **2001 Annual Compliance Report on Oregon Public Drinking Water Systems, Oregon Department of Human Services Drinking Water Program.**  
<http://www.ohd.hr.state.or.us/dwp/welcome.htm>

VI. **1997, Hinkle, S.R., "Quality of Shallow Ground water in Alluvial Aquifers of the Willamette Basin, Oregon, 1993-1995", USGS Water-Resources Investigations Report 97-4082-B**

VII. **1999, Hinkle, S.R. and Polette, D.J., "Arsenic in Ground Water of the Willamette Basin, Oregon", USGS Water-Resources Investigations Report 98-4205**

# Appendix 1 - Groundwater Quality Assessment Projects

Summary as of November 2014

Basin	Project Name	No. of Sample Events	No. of Wells Sampled	Groundwater Quality Rating <sup>(b)</sup>	Contaminants Of Concern	Contaminants Found <sup>(a)</sup>	Suspected Contaminant Sources	Date Last Monitored
Malheur	Northern Malheur County GWMA <sup>iii</sup>	Ongoing	39	4	Nitrate, Pesticides	Nitrate, Dacthal	Agriculture	2014
Umatilla	Lower Umatilla Basin GWMA	Ongoing	33	4	Nitrate, Pesticides	Nitrate, EDB, Atrazine, Dacthal, Dicamba, Picloram	Agriculture, Onsite Septic Systems, Industry	2014
Willamette	Southern Willamette Valley GWMA	Ongoing	40	2	Nitrate, Pesticides	Nitrate, Pesticides	Agriculture, CAFOs, Onsite Septic Systems	2014
Willamette	Pesticide Monitoring - Southern Willamette Valley GWMA	1	33	2	Nitrate, Pesticides	Nitrate, Pesticides	Agriculture, CAFOs, Onsite Septic Systems	2013
Deschutes	Southern Deschutes/Northern Klamath County Groundwater Study	1	13	IV	Nitrate, Pesticides, pharmaceuticals, personal care products	IV	Onsite Septic Systems	2014

# Groundwater Quality Protection in Oregon

Basin	Project Name	No. of Sample Events	No. of Wells Sampled	Groundwater Quality Rating <sup>(1)</sup>	Contaminants Of Concern	Contaminants Found <sup>(1)</sup>	Suspected Contaminant Sources	Date Last Monitored
Statewide	Drinking Water Source Monitoring	1	12	1	Pesticides/herbicides/ fungicides, pharmaceuticals, organics, metals, bacteria	Nitrate, VOCs, steroids/hormones,	Sewage treatment plants, agriculture, industry, urbanization, industry, naturally occurring	2012

**Notes:**

**I. Groundwater Quality Rating:**

- 1 = Means less than 10 percent of wells had a contaminant level over the drinking water standard.
  - 2 = Means 25 percent or more of wells had nitrate levels between 5 to 10 mg/L, or any well had an organic compound detected.
  - 3 = Means 10 percent to 25 percent of wells had a contaminant level over the drinking water standard.
  - 4 = Means more than 25 percent of wells had a contaminant level over the drinking water standard.
- II. Contaminants EDB = Ethylene dibromide; VOC = Volatile organic compound.**
- III. GWMA = Groundwater Management Area**
- IV. Pending analysis results**