

TABLE 20

WATER QUALITY CRITERIA SUMMARY
(Applicable to all Basins)¹

The concentration for each compound listed in this chart is a criteria or guidance value* not to be exceeded in waters of the state for the protection of aquatic life and human health. Specific descriptions of each compound and an explanation of values are included in Quality Criteria for Water (1986). Selecting values for regulatory purposes will depend on the most sensitive beneficial use to be protected, and what level of protection is necessary for aquatic life and human health.

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
ACENAPTHENE	Y	N	*1,700.	*520.	*970.	*710.			
ACROLEIN	Y	N	*68.	*21.	*55.		320.ug	780.ug	
ACRYLONITRILE	Y	Y	*7,550.	*2,600.			0.058ug**	0.65ug**	
ALDRIN	Y	Y	3.0		1.3		0.074ng**	0.079ng**	
ALKALINITY	N	N		20,000					
AMMONIA	N	N	CRITERIA ARE pH AND TEMPERATURE DEPENDENT — SEE DOCUMENT USEPA JANUARY 1985 (Fresh Water) CRITERIA ARE pH AND TEMPERATURE DEPENDENT — SEE DOCUMENT USEPA APRIL 1989 (Marine Water)						
ANTIMONY	Y	N	*9,000.	*1,600.			146.ug	45,000.ug	
ARSENIC	Y	Y					2.2ng**	17.5ng**	0.05mg
ARSENIC (PENT)	Y	Y	*850.	*48.	*2,319.	*13.			
ARSENIC (TRI)	Y	Y	360.	190.	69.	36.			
ASBESTOS	Y	Y					30K f/L**		
BARIUM	N	N					1.mg		1.0mg
BENZENE	Y	Y	*5,300.		*5,100.	*700.	0.66ug**	40.ug**	
BENZIDINE	Y	Y	*2,500.				0.12ng	0.53ng**	
BERYLLIUM	Y	Y	*130.	*5.3			6.8ng**	117.ng**	
BHC	Y	N	*100.		*0.34				
CADMIUM	Y	N	3.9+	1.1+	43.	9.3	10.ug		0.010mg
CARBON TETRACHLORIDE	Y	Y	*35,200.		*50,000.		0.4ug**	6.94ug**	
CHLORDANE	Y	Y	2.4	0.0043	0.09	0.004	0.46ng**	0.48ng**	
CHLORIDE	N	N	860 mg/L	230 mg/L					
CHLORINATED BENZENES	Y	Y	*250	*50.	*160.	*129.	488.ug		
CHLORINATED NAPHTHALENES	Y	N	*1,600.		*7.5				
CHLORINE	N	N	19.	11.	13.	7.5			
CHLOROALKYL ETHERS	Y	N	*238,000.						
CHLOROETHYL ETHER (BIS-2)	Y	Y					0.03ug	1.36ug**	
CHLOROFORM	Y	Y	*28,900.	*1,240.			0.19ug**	15.7ug**	
CHLOROISOPROPYL ETHER (BIS-2)	Y	N					34.7ug	4.36mg	

Elaine -

I don't have a lot of
time to do an assessment
of the surface water data;
attached is a table from OR
surface water rules that
gives some basis for interpretation.

PV

Also, the lead data indicator
data (e.g., Cl^- , NH_3)

probably don't mean much
because the conc

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			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
CHLOROMETHYL ETHER (BIS)	N	Y					0.00000376ng**	0.00184ug**	
CHLOROPHENOL 2	Y	N	*4,380.	*2,000.					
CHLOROPHENOL 4	N	N			*29,700.				
CHLOROPHENOXY HERBICIDES (2,4,5,-TP)	N	N					10.ug		
CHLOROPHENOXY HERBICIDES (2,4-D)	N	N					100.ug		
CHLORPYRIFOS	N	N	0.083	0.041	0.011	0.0056			
CHLORO-4 METHYL-3 PHENOL	N	N	*30.						
CHROMIUM (HEX)	Y	N	16.	11.	1,100	50.	50.ug		0.05mg
CHROMIUM (TRI)	N	N	1,700.+	210.+	*10,300		170.mg	3,433.mg	0.05mg
COPPER	Y	N	18.+	12.+	2.9	2.9			
CYANIDE	Y	N	22.	5.2	1.	1.	200.ug		
DDT	Y	Y	1.1	0.001	0.13	0.001	0.024ng**	0.024ng**	
DDT METABOLITE (DDE)	Y	Y	*1,050.		*14.				
DDT METABOLITE (TDE)	Y	Y	*0.06		*3.6				
DEMETON	Y	N		0.1		0.1			
DIBUTYLPHTHALATE	Y	N					35.mg	154.mg	
DICHLOROBENZENES	Y	N	*1,120.	*763.	*1,970.		400.ug	2.6mg	
DICHLOROBENZIDINE	Y	Y					0.01ug**	0.020ug**	
DICHLOROETHANE 1,2	Y	Y	*118,000.	*20,000.	*113,000.		0.94ug**	243.ug**	
DICHLOROETHYLENES	Y	Y	*11,600.		*224,000.		0.033ug**	1.85ug**	
DICHLOROPHENOL 2,4	N	N	*2,020.	*365.			3.09mg		
DICHLOROPROPANE	Y	N	*23,000.	*5,700.	*10,300.	*3,040.			
DICHLOROPROPENE	Y	N	*6,060.	*244.	*790.		87.ug	14.1mg	
DIELDRIN	Y	Y	2.5	0.0019	0.71	.0019	0.071ng**	0.076ng**	
DIETHYLPHTHALATE	Y	N					350.mg	1.8g	
DIMETHYL PHENOL 2,4	Y	N	*2,120.						
DIMETHYL PHTHALATE	Y	N					313.mg	2.9g	
DINITROTOLUENE 2,4	N	Y					0.11ug**	9.1ug**	
DINITROTOLUENE	Y	N					70.ug	14.3mg	
DINITROTOLUENE	N	Y	*330.	*230.	*590.	*370.			
DINITRO-O-CRESOL 2,4	Y	N					13.4g	765.ug	
DIOXIN (2,3,7,8-TCDD)	Y	Y	*0.01	*38 pg/L			0.000013ng**	0.000014ng**	
DIPHENYLHYDRAZINE	Y	N					42.ng**	0.56ug**	

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DIPHENYLHYDRAZINE 1,2	Y	N	*270.						
DI-2-ETHYLHEXYL PHTHALATE	Y	N					15.mg	50.mg	
ENDOSULFAN	Y	N	0.22	0.056	0.034	0.0087	74.ug	159.ug	
ENDRIN	Y	N	0.18	0.0023	0.037	0.0023	1.ug		0.0002mg
ETHYLBENZENE	Y	N	*32,000.		*430.		1.4mg	3.28mg	
FLUORANTHENE	Y	N	*3,980.		*40.	*16.	42.ug	54.ug	
GUTHION	N	N		0.01		0.01			
HALOETHERS	Y	N	*360.	*122.					
HALOMETHANES	Y	Y	*11,000.		*12,000.	*6,400.	0.19ug**	15.7ug**	
HEPTACHLOR	Y	Y	0.52	0.0038	0.053	0.0036	0.28ng**	0.29ng**	
HEXACHLOROETHANE	N	Y	*980.	*540.	*940.		1.9ug	8.74ug	
HEXACHLOROBENZENE	Y	N					0.72ng**	0.74ng**	
HEXACHLOROBUTADIENE	Y	Y	*90.	*9.3	*32.		0.45ug**	50.ug**	
HEXACHLOROCYCLOHEXANE (LINDANE)	Y	Y	2.0	0.08	0.16				0.004mg
HEXACHLOROCYCLOHEXANE-ALPHA	Y	Y					9.2ng**	31.ng**	
HEXACHLOROCYCLOHEXANE-BETA	Y	Y					16.3ng**	54.7ng**	
HEXACHLOROCYCLOHEXANE-GAMA	Y	Y					18.6ng**	62.5ng**	
HEXACHLOROCYCLOHEXANE-TECHNICAL	Y	Y					12.3ng**	41.4ng**	
HEXACHLOROCYCLOPENTADIENE	Y	N	*7.	*5.2	*7.		206.ug		
IRON	N	N		1,000.			0.3mg		
ISOPHORONE	Y	N	*117,000.		*12,900.		5.2mg	520.mg	
LEAD	Y	N	82.+	3.2+	140.	5.6	50.ug		0.05mg
MALATHION	N	N		0.1		0.1			
MANGANESE	N	N					50.ug	100.ug	
MERCURY	Y	N	2.4	0.012	2.1	0.025	144.ng	146.ng	0.002mg
METHOXYCHLOR	N	N		0.03		0.03	100.ug		0.1mg
MIREX	N	N		0.001		0.001			
MONOCHLOROBENZENE	Y	N					488.ug		
NAPHTHALENE	Y	N	*2,300.	*620.	*2,350.				
NICKEL	Y	N	1,400.+	160+	75	8.3	13.4ug	100.ug	
NITRATES	N	N					10.mg		10.mg
NITROBENZENE	Y	N	*27,000.		*6,680.		19.8mg		
NITROPHENOLS	Y	N	*230.	*150.	*4,850.				

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			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
NITROSAMINES	Y	Y	*5,850.		*3,300,000		0.8ng**	1,240.ng**	
NITROSODIBUTYLAMINE N	Y	Y					6.4ng**	587.ng**	
NITROSODIETHYLAMINE N	Y	Y					0.8ng**	1,240.ng**	
NITROSODIMETHYLAMINE N	Y	Y					1.4ng**	16,000.ng**	
NITROSODIPHENYLAMINE N	Y	Y					4,900.ng**	16,100.ng**	
NITROSOPYRROLIDINE N	Y	Y					16.ng**	91,900.ng**	
PARATHION	N	N	0.065	0.013					
PCB's	Y	Y	2.0	0.014	10.	0.03	0.079ng**	0.079ng**	
PENTACHLORINATED ETHANES	N	N	*7,240.	*1,100.	*390.	*281.			
PENTACHLOROBENZENE	N	N					74.ug	85.ug	
PENTACHLOROPHENOL	Y	N	***20.	***13.	13.	*7.9	1.01mg		
PHENOL	Y	N	*10,200.	*2,560.	*5,800.		3.5mg		
PHOSPHORUS ELEMENTAL	N	N				0.1			
PHTHALATE ESTERS	Y	N	*940.	*3.	*2,944.	*3.4			
POLYNUCLEAR AROMATIC HYDROCARBONS	Y	Y			*300.		2.8ng**	31.1ng**	
SELENIUM	Y	N	260.	35.	410.	54.	10.ug		0.01mg
SILVER	Y	N	4.1+	0.12	2.3		50.ug		0.05mg
SULFIDE-HYDROGEN SULFIDE	N	N		2.		2.			
TETRACHLORINATED ETHANES	Y	N	*9,320.						
TETRACHLOROBENZENE 1,2,4,5	Y	N					38.ug	48.ug	
TETRACHLOROETHANE 1,1,2,2	Y	Y		*2,400.	*9,020.		0.17ug**	10.7ug**	
TETRACHLOROETHANES	Y	N	*9,320.						
TETRACHLOROETHYLENE	Y	Y	*5,280.	*840.	*10,200.	*450.	0.8ug**	8.85ug**	
TETRACHLOROPHENOL 2,3,5,6	Y	N				*440.			
THALLIUM	Y	N	*1,400.	*40.	*2,130.		13.ug	48.ug	
TOLUENE	Y	N	*17,500.		*6,300.	*5,000.	14.3mg	424.mg	
TOXAPHENE	Y	Y	0.73	0.0002	0.21	0.0002	0.71ng**	0.73ng**	0.005mg
TRICHLORINATED ETHANES	Y	Y	*18,000.						
TRICHLOROETHANE 1,1,1	Y	N			*31,2000.		18.4mg	1.03g	
TRICHLOROETHANE 1,1,2	Y	Y		*9,400.			0.6ug**	41.8ug**	
TRICHLOROETHYLENE	Y	Y	*45,000.	*21,900.	*2,000.		2.7ug**	80.7ug**	
TRICHLOROPHENOL 2,4,5	N	N					2,600.ug		
TRICHLOROPHENOL 2,4,6	Y	Y		*970.			1.2ug**	3.6ug**	

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			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
VINYL CHLORIDE	Y	Y					2.ug**	525.ug**	
X ZINC	Y	N	120.+	110+	95	86			

MEANING OF SYMBOLS:

g = grams	M.C.L. = Maximum Contaminant Level.
mg = milligrams	+ = Hardness Dependent Criteria (100 mg/L used).
ug = micrograms	* = Insufficient data to develop criteria; value presented is the L.O.E.L. — Lowest Observed Effect Level.
ng = nanograms	** = Human health criteria for carcinogens reported for three risk levels. Value presented is the 10-6 risk level, which means the probability of one concern case per one million people at the stated concentration.
pg = picograms	*** = pH Dependent Criteria (7.8 pH used).
f = fibers	
Y = Yes	
N = No	

1 = Values in Table 20 are applicable to all basins as follows:

Basin	Rule	Basin	Rule
North Coast	340-41-205(p)	Umatilla	340-41-645(p)
Mid Coast	340-41-245(p)	Walla Walla	340-41-685(p)
Umpqua	340-41-285(p)	Grande Ronde	340-41-725(p)
South Coast	340-41-325(p)	Powder	340-41-765(p)
Rogue	340-41-365(p)	Malheur River	340-41-805(p)
Willamette	340-41-445(p)	Owyhee	340-41-845(p)
Sandy	340-41-485(p)	Malheur Lake	340-41-885(p)
Hood	340-41-525(p)	Goose & Summer Lakes	340-41-925(p)
Deschutes	340-41-565(p)	Klamath	340-41-965(p)
John Day	340-41-605(p)		

Water and Fish Ingestion

Values represent the maximum ambient water concentration for consumption of both contaminated water and fish or other aquatic organisms.

Fish Ingestion

Values represent the maximum ambient water concentration for consumption of fish or other aquatic organisms.

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TABLE 21
DISSOLVED OXYGEN & INTERGRAVEL DISSOLVED OXYGEN CRITERIA
(Applicable to All Basins)

Class	Concentration and Period ¹ (All Units Are mg/L)				Use/Level of Protection
	30-D	7-D	7-Mi	Min	
Salmonid Spawning		11.0 ^{2,3}		9.0 ³ 8.0 ⁴ 6.0 ⁵	Principal use of salmonid spawning and incubation of embryos until emergence from the gravels. Low risk of impairment to cold-water aquatic life, other native fish and invertebrates. The IGDO criteria represents an acute threshold for survival based on field studies.
Cold Water	8.0 ⁶		6.5	6.0	Principally cold-water aquatic life. Salmon, trout, cold-water invertebrates, and other native cold-water species exist throughout all or most of the year. Juvenile anadromous salmonids may rear throughout the year. No measurable risk level for these communities.
Cool Water	6.5		5.0	4.0	Mixed native cool-water aquatic life, such as sculpins, smelt, and lampreys. Waterbodies includes estuaries. Salmonids and other cold-water biota may be present during part or all of the year but do not form a dominant component of the community structure. No measurable risk to cool-water species, slight risk to cold-water species present.
Warm Water	5.5			4.0	Waterbodies whose aquatic life beneficial uses are characterized by introduced, or native, warm-water species.
No Risk	No Change from Background				The only DO criterion that provides no additional risk is "no change from background". Waterbodies accorded this level of protection include marine waters and waters in Wilderness areas.

¹ 30-D = 30-day mean minimum as defined in OAR 340-41-006.
7-D = 7-day mean minimum as defined in OAR 340-41-006.
7-Mi = 7-day minimum mean as defined in OAR 340-41-006.
Min = Absolute minimums for surface samples when applying the averaging period, spatial median of IGDO.

² When Intergravel DO levels are 8.0 mg/L or greater, DO levels may be as low as 9.0 mg/L, without triggering a violation.

³ If conditions of barometric pressure, altitude and temperature preclude achievement of the footnoted criteria, then 95 percent saturation applies.

⁴ Intergravel DO action level, spatial median minimum.

⁵ Intergravel DO criterion, spatial median minimum.

⁶ If conditions of barometric pressure, altitude and temperature preclude achievement of 8.0 mg/L, then 90 percent saturation applies.

Note:

Shaded values present the absolute minimum criteria, unless the Department believes adequate data exists to apply the multiple criteria and associated periods.