



Water-Data Report 2009

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR

Willamette Basin  
Lower Willamette Subbasin

LOCATION.--Lat 45°31'07", long 122°40'00" referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.3, T.1 S., R.1 E., Multnomah County, OR, Hydrologic Unit 17090012, in pier at east end of drawspan, on upstream side of Morrison Bridge, in Portland and at mile 12.8.

DRAINAGE AREA.--11,200 mi<sup>2</sup>, approximately.

### **SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1972 to current year. Unpublished records for period October 1994 to September 2002 are available in the files of the Portland Field Office. Gage height records collected in this vicinity since 1879 are in reports of National Weather Service.

GAGE.--Acoustic velocity meter (AVM) and water-stage recorder. Datum of gage is 1.55 ft above NGVD of 1929 (levels by National Weather Service).

REMARKS.--Records good except those below 20,000 ft<sup>3</sup>/s and estimated daily discharges, which are poor. Flow regulated by many reservoirs upstream. Many diversions for irrigation upstream from station. Flow affected by tide, which can cause reverse flow during tidal cycle low flow periods. Daily mean discharge values since water year 2007 are produced from unit discharges filtered to remove daily tidal cycle.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--37 years (water years 1973-2009), 32,970 ft<sup>3</sup>/s, 23,880,000 acre-ft/yr. Water years include routed discharges 1995-2007.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 420,000 ft<sup>3</sup>/s Feb. 9, 1996; maximum gage height, 27.74 ft Feb. 9, 1996; minimum daily discharge, 4,200 ft<sup>3</sup>/s July 10, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of June 7, 1894 and June 1, 1948, reached stages of 33.0 ft and 30.0 ft, respectively, from information by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 188,000 ft<sup>3</sup>/s Jan. 2; maximum gage height, 13.99 ft Jan. 8; minimum daily discharge, 6,260 ft<sup>3</sup>/s July 28.

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11,900	13,900	14,700	126,000	23,300	47,500	44,900	25,100	22,000	9,940	7,820	8,710
2	12,300	16,400	14,900	163,000	22,700	42,400	41,700	28,300	21,800	10,200	8,390	9,110
3	14,400	17,800	14,000	164,000	22,000	44,400	43,500	29,400	22,400	10,700	9,270	10,000
4	18,000	20,800	15,200	154,000	21,100	44,600	46,400	32,000	22,900	11,600	9,320	10,500
5	19,000	23,100	15,800	142,000	19,100	42,500	44,700	41,700	22,500	12,500	8,720	10,900
6	20,100	27,300	14,400	133,000	18,400	39,200	40,700	57,900	21,700	12,900	9,440	12,600
7	19,100	31,400	14,000	131,000	18,400	38,200	38,800	74,100	20,500	10,700	9,430	11,200
8	17,600	35,600	12,300	138,000	16,600	34,000	37,500	78,400	18,900	9,410	9,470	10,000
9	18,000	34,200	10,800	139,000	15,900	30,800	35,700	71,500	18,100	8,920	9,760	10,300
10	17,800	33,900	10,800	130,000	16,100	27,300	35,200	61,200	17,800	9,990	10,200	9,450
11	17,100	38,900	11,000	120,000	14,300	24,900	34,800	51,500	18,200	11,500	10,500	9,770
12	14,800	48,400	14,100	110,000	14,000	22,800	36,200	44,000	19,000	11,700	11,200	11,100
13	11,600	68,300	17,500	102,000	14,200	22,300	37,600	41,000	18,600	11,100	11,200	12,100
14	10,600	75,800	16,100	91,200	14,300	28,000	38,600	43,400	18,600	9,830	11,700	11,300
15	11,600	66,700	13,700	80,300	13,600	34,600	38,100	46,100	17,600	9,380	10,900	9,690
16	13,000	53,800	14,100	73,000	13,900	44,400	35,700	e46,000	16,000	9,120	9,910	e9,500
17	12,900	44,100	19,100	68,500	13,000	55,300	32,900	e44,100	14,700	8,020	9,730	e9,000
18	14,100	37,700	18,300	62,400	13,400	57,500	31,800	41,200	13,300	7,740	9,740	e9,200
19	14,300	33,700	16,500	55,000	13,900	54,000	31,700	39,000	15,100	7,320	9,190	e10,100
20	14,900	32,000	21,300	50,400	13,900	49,600	30,700	37,900	14,000	6,970	9,630	e11,400
21	13,700	29,800	22,100	46,400	13,400	45,100	31,000	36,600	11,900	7,950	9,440	e10,200
22	13,300	28,800	22,700	42,900	12,100	41,400	31,900	33,900	11,800	8,090	7,690	e8,600
23	10,500	26,500	29,400	38,500	15,500	39,700	30,400	32,200	11,600	8,450	8,510	e8,800
24	11,100	24,100	34,600	34,500	25,600	37,000	27,800	29,600	12,700	8,490	8,840	8,950
25	11,600	23,200	35,100	31,800	41,900	36,600	24,800	26,700	12,500	9,000	9,450	8,640
26	11,500	21,900	38,800	27,700	58,200	38,600	24,800	25,600	12,000	8,660	9,230	9,650
27	11,900	19,100	44,400	28,800	64,400	40,900	27,200	24,900	11,400	7,120	9,780	10,000
28	12,000	17,000	60,700	28,300	58,800	43,500	26,400	24,000	10,900	6,260	10,300	11,000
29	11,000	14,700	87,100	27,300	---	45,800	23,000	23,100	10,600	7,120	9,420	11,700
30	9,810	13,500	104,000	24,100	---	47,200	24,000	24,000	10,200	8,570	9,190	11,000
31	11,600	---	110,000	24,000	---	46,600	---	23,700	---	8,870	8,850	---
<b>Total</b>	431,110	972,400	887,500	2,587,100	622,000	1,246,700	1,028,500	1,238,100	489,300	288,120	296,220	304,470
<b>Mean</b>	13,910	32,410	28,630	83,450	22,210	40,220	34,280	39,940	16,310	9,294	9,555	10,150
<b>Max</b>	20,100	75,800	110,000	164,000	64,400	57,500	46,400	78,400	22,900	12,900	11,700	12,600
<b>Min</b>	9,810	13,500	10,800	24,000	12,100	22,300	23,000	23,100	10,200	6,260	7,690	8,600
<b>Ac-ft</b>	855,100	1,929,000	1,760,000	5,132,000	1,234,000	2,473,000	2,040,000	2,456,000	970,500	571,500	587,600	603,900

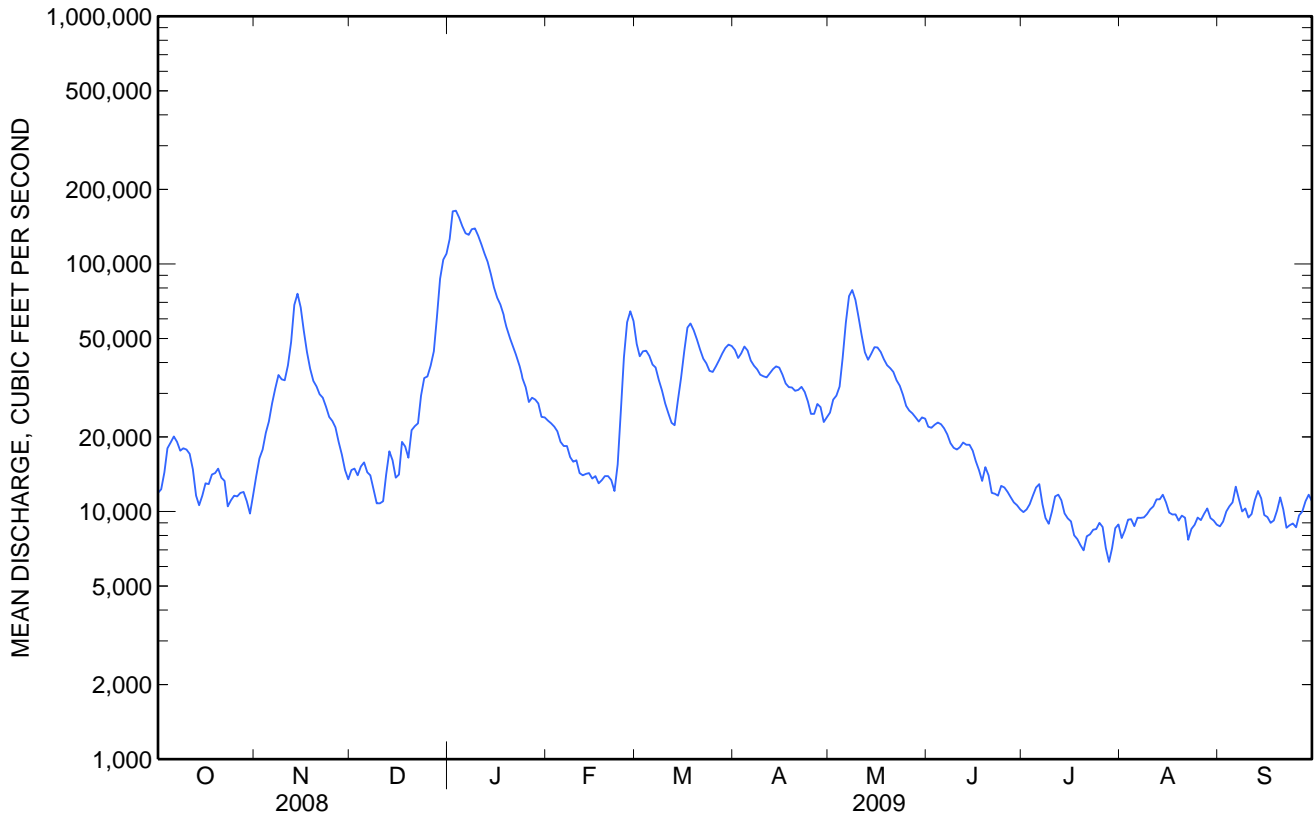
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2009, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	15,530	39,070	67,010	68,040	53,180	43,700	35,130	27,330	18,370	9,573	8,523	11,040
<b>Max</b>	28,860	98,410	155,600	149,900	149,500	77,790	72,060	46,730	38,730	15,870	11,850	17,350
<b>(WY)</b>	(1998)	(1974)	(1997)	(2006)	(1996)	(1974)	(1993)	(1993)	(1984)	(1983)	(1993)	(1978)
<b>Min</b>	8,915	10,300	8,894	8,795	8,050	17,980	17,630	11,150	7,125	6,541	6,136	7,460
<b>(WY)</b>	(1988)	(1988)	(1977)	(1977)	(1977)	(1978)	(1977)	(1973)	(1992)	(1973)	(1973)	(2001)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1973 - 2009	
<b>Annual total</b>	11,563,100		10,391,520			
<b>Annual mean</b>	31,590		28,470		32,970	
<b>Highest annual mean</b>					54,490	1974
<b>Lowest annual mean</b>					13,710	1977
<b>Highest daily mean</b>	114,000	Jan 13	164,000	Jan 3	420,000	Feb 9, 1996
<b>Lowest daily mean</b>	7,240	Aug 16	6,260	Jul 28	4,200	Jul 10, 1978
<b>Annual seven-day minimum</b>	8,620	Aug 11	7,740	Jul 27	5,260	Jul 31, 1973
<b>Annual runoff (ac-ft)</b>	22,940,000		20,610,000		23,880,000	
<b>10 percent exceeds</b>	64,600		54,400		75,900	
<b>50 percent exceeds</b>	27,200		18,600		21,000	
<b>90 percent exceeds</b>	10,300		9,300		8,300	



**14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1975 to September 1981, November 2001 to September 2004, January to September 2009.

pH: January to September 2009.

WATER TEMPERATURE: November 1975 to September 1981, November 2001 to September 2005, January to September 2009.

DISSOLVED OXYGEN: January to September 2009.

TURBIDITY: January to September 2009.

CHLOROPHYLL: January to September 2009.

INSTRUMENTATION.--Water-quality monitor. Any use of trade, product, or firm names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Government.

REMARKS.--

SPECIFIC CONDUCTANCE: Records excellent except those for Apr. 1 to May 18, which are good and June 24 to Aug. 3, which are poor.

PH: Records excellent.

WATER TEMPERATURE: Records excellent.

DISSOLVED OXYGEN: Records excellent.

TURBIDITY: Records excellent except those for June 24 to Aug. 3, which are poor. Data collected using a YSI 6136 turbidity sensor. Manufacturer's stated accuracy is the greater of +/- 5 percent or 2 Formazin Nephelometric Units. FNU values below 10 are reported to nearest 0.1 FNU. Negative recorded values are reported as 0.0 FNU.

CHLOROPHYLL: No criteria have been established for rating this parameter. Based on criteria that have been suggested, records excellent except those for Feb. 26 to Mar. 31, which are good and May 19 to Aug. 3, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 144 microsiemens July 27, 2003; minimum, 42 microsiemens Apr. 15, 16, 2002.

WATER TEMPERATURE: Maximum, 27.5°C July 29, Aug. 7, 8, 1978; minimum, 0.0°C Jan. 3-10, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 96 microsiemens Aug. 2; minimum, 52 microsiemens May 9, 10.

pH: Maximum, 8.6 units July 21, 27, 28, 30; minimum, 7.0 units May 8, Aug. 7-9.

WATER TEMPERATURE: Maximum, 26.4°C July 30; minimum recorded, 4.5°C Jan. 22.

DISSOLVED OXYGEN: Maximum recorded, 14.2 mg/L Jan. 21-23, 28, 30; minimum 7.2 mg/L Aug. 8.

TURBIDITY: Maximum, 44 FNU Feb. 27; minimum recorded, 0.8 FNU Aug. 25.

CHLOROPHYLL: Maximum, 32 ug/L Aug. 1, 2; minimum, 0.4 ug/L Jan. 23.

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SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	63	61	62
23	---	---	---	---	---	---	---	---	---	63	62	63
24	---	---	---	---	---	---	---	---	---	65	63	64
25	---	---	---	---	---	---	---	---	---	66	65	65
26	---	---	---	---	---	---	---	---	---	69	66	68
27	---	---	---	---	---	---	---	---	---	71	69	70
28	---	---	---	---	---	---	---	---	---	71	70	71
29	---	---	---	---	---	---	---	---	---	70	70	70
30	---	---	---	---	---	---	---	---	---	71	70	71
31	---	---	---	---	---	---	---	---	---	72	71	72
Month	---	---	---	---	---	---	---	---	---	---	---	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
	<b>February</b>			<b>March</b>			<b>April</b>			<b>May</b>		
<b>1</b>	72	72	72	70	66	68	61	60	60	66	62	63
<b>2</b>	72	72	72	72	70	71	61	60	61	64	63	64
<b>3</b>	73	72	73	72	72	72	62	61	61	66	63	64
<b>4</b>	73	73	73	74	72	73	64	62	63	68	66	67
<b>5</b>	74	73	73	77	74	75	63	59	60	68	66	67
<b>6</b>	74	74	74	78	77	77	60	58	59	66	61	63
<b>7</b>	75	74	75	77	77	77	61	60	60	63	54	60
<b>8</b>	78	75	76	77	76	76	61	60	61	54	53	53
<b>9</b>	81	78	80	76	76	76	61	60	61	53	52	52
<b>10</b>	84	80	82	76	76	76	62	61	61	54	52	53
<b>11</b>	86	83	85	78	76	77	61	61	61	56	54	55
<b>12</b>	86	85	86	80	78	79	61	60	61	58	56	57
<b>13</b>	87	86	86	82	80	81	61	59	60	60	58	58
<b>14</b>	87	86	87	83	82	83	59	59	59	60	60	60
<b>15</b>	88	86	88	84	83	84	60	58	59	60	58	59
<b>16</b>	89	88	89	84	81	83	58	57	57	60	57	59
<b>17</b>	89	88	89	84	78	82	59	57	58	57	56	56
<b>18</b>	90	88	89	78	68	72	62	59	61	56	56	56
<b>19</b>	91	90	90	71	68	69	63	62	63	57	56	57
<b>20</b>	92	90	91	73	71	72	63	63	63	57	57	57
<b>21</b>	90	89	90	73	72	72	63	62	63	57	56	56
<b>22</b>	90	89	90	72	72	72	62	61	62	56	56	56
<b>23</b>	91	90	90	72	71	71	61	60	61	57	56	56
<b>24</b>	92	89	91	71	70	71	60	58	59	60	57	58
<b>25</b>	91	81	---	70	69	69	59	58	58	60	60	60
<b>26</b>	80	74	77	69	68	69	59	58	59	61	60	60
<b>27</b>	74	68	71	69	69	69	61	59	60	62	61	61
<b>28</b>	68	66	66	69	66	67	61	60	61	62	61	62
<b>29</b>	---	---	---	66	61	64	62	60	61	61	60	61
<b>30</b>	---	---	---	65	63	64	62	62	62	62	61	61
<b>31</b>	---	---	---	65	60	---	---	---	---	63	62	62
<b>Month</b>	92	66	---	84	60	---	64	57	60	68	52	59

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	65	63	63	79	77	78	93	89	91	85	83	84
2	65	65	65	81	79	80	96	89	91	84	82	83
3	65	63	64	81	79	79	93	88	---	83	82	83
4	63	61	62	80	78	79	88	87	88	84	83	84
5	63	61	62	79	78	79	89	87	88	84	82	83
6	62	62	62	82	78	80	92	89	91	82	81	82
7	64	62	62	81	78	79	93	92	92	82	80	81
8	65	63	64	82	79	80	93	90	92	81	80	81
9	67	65	66	80	78	79	90	88	89	82	81	81
10	68	66	67	83	80	82	88	85	87	83	82	82
11	69	67	68	84	81	82	86	83	84	83	82	83
12	70	68	69	83	81	82	85	83	84	83	82	83
13	71	69	70	83	81	82	87	84	86	82	79	81
14	71	69	69	81	78	80	87	84	86	80	78	79
15	70	68	69	80	78	79	89	85	86	79	77	78
16	70	69	69	82	79	81	86	85	86	78	77	78
17	71	69	69	83	81	82	86	85	86	80	78	79
18	72	70	71	83	82	83	92	85	86	80	79	80
19	73	71	72	83	81	82	87	85	85	80	78	79
20	75	72	73	85	81	81	86	84	85	78	77	78
21	76	73	75	82	81	82	85	84	84	78	77	78
22	79	75	76	83	81	82	85	84	84	78	76	77
23	82	79	---	84	82	83	84	83	83	78	77	77
24	82	81	82	88	83	85	83	81	82	79	78	79
25	82	81	81	89	87	88	84	82	83	82	79	81
26	82	79	81	90	88	89	83	82	83	82	81	82
27	79	77	78	89	85	87	85	82	83	83	81	82
28	77	75	76	89	84	85	84	83	84	83	80	81
29	76	76	76	88	84	85	84	83	84	80	79	80
30	78	76	76	88	85	87	84	82	83	79	78	79
31	---	---	---	93	87	89	84	82	82	---	---	---
<b>Month</b>	82	61	---	93	77	82	96	81	---	85	76	81

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PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
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12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	7.3	7.3	7.3
23	---	---	---	---	---	---	---	---	---	7.3	7.3	7.3
24	---	---	---	---	---	---	---	---	---	7.3	7.3	7.3
25	---	---	---	---	---	---	---	---	---	7.3	7.2	7.2
26	---	---	---	---	---	---	---	---	---	7.3	7.2	7.2
27	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
28	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
29	---	---	---	---	---	---	---	---	---	7.3	7.3	7.3
30	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
31	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---



## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	7.3	7.2	7.3	7.2	7.2	7.2	7.3	7.2	7.2	7.4	7.3	7.3
2	7.3	7.3	7.3	7.2	7.2	7.2	7.3	7.2	7.2	7.5	7.3	7.4
3	7.3	7.3	7.3	7.3	7.2	7.2	7.3	7.2	7.2	7.4	7.3	7.3
4	7.3	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2	7.4	7.2	7.3
5	7.3	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2	7.3	7.2	7.3
6	7.3	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2	7.3	7.2	7.2
7	7.3	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2	7.3	7.1	7.2
8	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.2	7.2	7.0	7.1
9	7.3	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.2	7.1	7.1
10	7.3	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.2	7.1	7.1
11	7.3	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.2	7.1	7.2
12	7.4	7.3	7.3	7.4	7.3	7.3	7.4	7.2	7.3	7.2	7.2	7.2
13	7.4	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2
14	7.4	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2
15	7.4	7.3	7.3	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2
16	7.4	7.3	7.4	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.2	7.2
17	7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.1	7.2
18	7.4	7.3	7.4	7.3	7.2	7.2	7.3	7.2	7.3	7.3	7.1	7.2
19	7.4	7.3	7.4	7.2	7.2	7.2	7.3	7.2	7.2	7.3	7.2	7.2
20	7.4	7.3	7.4	7.3	7.2	7.2	7.3	7.2	7.2	7.3	7.2	7.3
21	7.4	7.3	7.4	7.3	7.2	7.3	7.3	7.2	7.3	7.3	7.2	7.3
22	7.4	7.3	7.4	7.3	7.2	7.3	7.3	7.2	7.3	7.3	7.2	7.3
23	7.4	7.3	7.4	7.3	7.2	7.3	7.4	7.2	7.3	7.4	7.3	7.3
24	7.4	7.4	7.4	7.3	7.3	7.3	7.4	7.2	7.3	7.3	7.3	7.3
25	7.4	7.3	7.3	7.4	7.3	7.3	7.4	7.2	7.3	7.3	7.2	7.3
26	7.4	7.2	7.3	7.3	7.3	7.3	7.4	7.2	7.3	7.3	7.2	7.3
27	7.2	7.2	7.2	7.3	7.3	7.3	7.4	7.3	7.3	7.4	7.3	7.3
28	7.2	7.1	7.2	7.4	7.3	7.3	7.4	7.3	7.3	7.4	7.3	7.3
29	---	---	---	7.3	7.2	7.3	7.4	7.3	7.3	7.4	7.3	7.3
30	---	---	---	7.3	7.2	7.3	7.4	7.3	7.3	7.4	7.3	7.3
31	---	---	---	7.3	7.2	7.3	---	---	---	7.4	7.2	7.3
<b>Max</b>	7.4	7.4	7.4	7.4	7.3	7.3	7.4	7.3	7.3	7.5	7.3	7.4
<b>Min</b>	7.2	7.1	7.2	7.2	7.2	7.2	7.3	7.2	7.2	7.2	7.0	7.1

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	7.4	7.2	7.3	7.5	7.2	7.3	8.2	7.3	7.7	7.3	7.2	7.2
2	7.3	7.2	7.3	7.5	7.3	7.3	8.4	7.4	7.6	7.3	7.2	7.2
3	7.4	7.2	7.3	7.4	7.2	7.3	8.3	7.3	7.5	7.3	7.2	7.2
4	7.4	7.2	7.4	7.3	7.1	7.2	7.9	7.3	7.4	7.3	7.2	7.2
5	7.4	7.3	7.3	7.3	7.1	7.2	7.6	7.2	7.3	7.3	7.2	7.2
6	7.4	7.3	7.3	7.4	7.1	7.2	7.3	7.1	7.2	7.3	7.2	7.3
7	7.3	7.3	7.3	7.3	7.1	7.2	7.1	7.0	7.1	7.3	7.2	7.3
8	7.4	7.2	7.3	7.3	7.2	7.2	7.2	7.0	7.1	7.3	7.2	7.3
9	7.4	7.3	7.3	7.4	7.2	7.3	7.2	7.0	7.1	7.3	7.2	7.3
10	7.4	7.3	7.3	7.5	7.3	7.3	7.3	7.1	7.1	7.3	7.2	7.3
11	7.4	7.3	7.3	7.4	7.3	7.3	7.2	7.1	7.1	7.3	7.2	7.3
12	7.4	7.3	7.3	7.3	7.2	7.3	7.3	7.1	7.2	7.3	7.2	7.2
13	7.3	7.3	7.3	7.4	7.2	7.3	7.2	7.1	7.2	7.3	7.2	7.2
14	7.4	7.3	7.3	7.4	7.3	7.3	7.3	7.1	7.2	7.3	7.2	7.3
15	7.4	7.3	7.3	7.5	7.3	7.3	7.2	7.1	7.2	7.3	7.2	7.2
16	7.4	7.3	7.4	7.6	7.3	7.4	7.2	7.1	7.2	7.3	7.2	7.2
17	7.4	7.3	7.3	7.7	7.3	7.4	7.3	7.1	7.2	7.3	7.2	7.2
18	7.5	7.3	7.3	7.9	7.3	7.5	7.2	7.1	7.2	7.3	7.2	7.2
19	7.5	7.3	7.4	7.8	7.3	7.4	7.2	7.1	7.1	7.3	7.2	7.2
20	7.4	7.3	7.4	8.2	7.3	7.4	7.3	7.1	7.1	7.2	7.2	7.2
21	7.4	7.3	7.3	8.6	7.3	7.6	7.3	7.1	7.2	7.2	7.2	7.2
22	7.4	7.3	7.3	8.5	7.4	7.6	7.2	7.1	7.2	7.3	7.2	7.2
23	7.4	7.3	7.3	8.1	7.4	7.5	7.3	7.1	7.2	7.3	7.2	7.2
24	7.5	7.3	7.4	8.0	7.4	7.5	7.3	7.1	7.2	7.3	7.2	7.2
25	7.4	7.3	7.3	7.9	7.4	7.5	7.2	7.1	7.2	7.3	7.2	7.2
26	7.4	7.3	7.3	8.2	7.3	7.4	7.4	7.1	7.2	7.3	7.2	7.2
27	7.4	7.3	7.3	8.6	7.4	7.6	7.4	7.2	7.2	7.3	7.2	7.2
28	7.4	7.2	7.3	8.6	7.5	8.0	7.3	7.2	7.2	7.3	7.2	7.2
29	7.4	7.2	7.3	8.5	7.6	8.0	7.3	7.2	7.2	7.3	7.2	7.2
30	7.5	7.2	7.3	8.6	7.5	7.9	7.3	7.2	7.2	7.3	7.2	7.2
31	---	---	---	8.3	7.4	7.7	7.3	7.2	7.2	---	---	---
<b>Max</b>	7.5	7.3	7.4	8.6	7.6	8.0	8.4	7.4	7.7	7.3	7.2	7.3
<b>Min</b>	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	7.1	7.2	7.2	7.2

14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	4.7	4.5	4.6
23	---	---	---	---	---	---	---	---	---	4.8	4.6	4.7
24	---	---	---	---	---	---	---	---	---	4.9	4.6	4.8
25	---	---	---	---	---	---	---	---	---	5.1	4.8	5.0
26	---	---	---	---	---	---	---	---	---	5.0	4.9	5.0
27	---	---	---	---	---	---	---	---	---	5.0	4.9	5.0
28	---	---	---	---	---	---	---	---	---	5.0	4.9	5.0
29	---	---	---	---	---	---	---	---	---	5.0	4.8	4.9
30	---	---	---	---	---	---	---	---	---	4.8	4.7	4.8
31	---	---	---	---	---	---	---	---	---	4.8	4.6	4.7
Month	---	---	---	---	---	---	---	---	---	---	---	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
<b>1</b>	5.0	4.8	4.9	6.6	6.3	6.5	8.0	7.6	7.8	11.0	10.3	10.6
<b>2</b>	4.9	4.7	4.8	6.6	6.4	6.5	8.0	7.6	7.8	11.3	10.7	11.0
<b>3</b>	5.1	4.8	5.0	7.1	6.5	6.9	8.0	7.7	7.8	11.9	11.1	11.5
<b>4</b>	5.2	4.9	5.0	7.7	7.0	7.4	8.1	7.7	7.9	12.2	11.5	11.9
<b>5</b>	5.0	4.9	5.0	8.1	7.7	8.0	8.4	8.0	8.3	12.2	11.9	12.1
<b>6</b>	5.2	4.9	5.1	8.2	7.6	7.9	9.0	8.2	8.6	11.9	11.0	11.4
<b>7</b>	5.6	5.1	5.3	7.6	7.0	7.4	9.7	8.6	9.3	11.1	10.4	10.7
<b>8</b>	5.8	5.4	5.6	7.4	6.9	7.1	10.4	9.4	10.0	10.6	10.0	10.3
<b>9</b>	5.9	5.7	5.8	7.2	6.8	7.0	10.5	10.0	10.2	10.8	10.4	10.6
<b>10</b>	6.0	5.8	5.8	6.8	6.5	6.7	10.5	10.1	10.3	11.3	10.7	10.9
<b>11</b>	6.0	5.9	6.0	6.5	6.2	6.4	10.1	9.8	10.0	11.6	11.3	11.4
<b>12</b>	5.9	5.8	5.8	6.4	6.1	6.3	10.1	9.7	9.9	12.1	11.6	11.9
<b>13</b>	5.8	5.5	5.7	6.4	6.1	6.2	10.0	9.6	9.8	12.2	11.7	11.9
<b>14</b>	5.5	5.2	5.3	6.5	6.3	6.4	9.6	9.3	9.4	12.3	11.7	12.0
<b>15</b>	5.2	5.0	5.1	6.8	6.4	6.6	9.3	8.9	9.2	11.8	11.2	11.5
<b>16</b>	5.2	4.9	5.1	7.1	6.7	7.0	9.2	8.7	8.9	11.9	11.2	11.7
<b>17</b>	5.5	5.2	5.4	7.6	7.1	7.4	9.4	8.7	9.1	12.7	11.8	12.4
<b>18</b>	5.8	5.5	5.7	7.7	7.3	7.5	9.8	9.1	9.4	---	12.5	---
<b>19</b>	6.1	5.8	5.9	8.1	7.7	7.9	10.5	9.6	10.1	14.4	13.3	14.0
<b>20</b>	6.6	6.0	6.2	8.6	8.1	8.5	11.3	10.4	10.8	14.5	13.8	14.1
<b>21</b>	6.6	6.3	6.4	9.0	8.6	8.9	12.0	11.1	11.5	14.4	13.6	14.0
<b>22</b>	6.8	6.5	6.7	9.0	8.8	8.9	12.3	11.7	12.0	14.1	13.3	13.7
<b>23</b>	7.1	6.8	6.9	9.0	8.8	8.9	12.4	12.1	12.3	14.1	13.0	13.5
<b>24</b>	7.2	7.0	7.2	8.8	8.4	8.7	12.5	12.1	12.3	14.6	13.5	14.0
<b>25</b>	7.2	7.1	---	8.4	8.0	8.3	12.4	12.0	12.2	15.0	14.2	14.6
<b>26</b>	7.4	7.1	7.3	8.0	7.8	7.9	12.1	11.4	11.7	15.2	14.7	14.9
<b>27</b>	7.4	7.3	7.4	8.4	7.8	8.1	11.6	11.3	11.4	15.5	14.8	15.1
<b>28</b>	7.3	6.6	6.8	8.7	8.3	8.5	11.3	10.7	11.0	16.1	15.2	15.6
<b>29</b>	---	---	---	8.4	8.1	8.4	10.7	10.5	10.6	16.7	15.6	16.0
<b>30</b>	---	---	---	8.3	8.1	8.2	10.9	10.3	10.6	17.1	16.0	16.5
<b>31</b>	---	---	---	---	7.9	---	---	---	---	17.8	16.5	17.1
<b>Month</b>	7.4	4.7	---	---	6.1	---	12.5	7.6	10.0	---	10.0	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	18.2	17.0	17.5	20.2	19.5	19.8	25.7	24.8	25.2	20.6	20.0	20.3
2	18.5	17.7	18.0	20.9	19.7	20.2	25.9	25.0	25.4	20.9	20.1	20.4
3	18.6	17.8	18.2	21.3	20.3	20.7	26.3	25.2	---	20.8	20.3	20.5
4	18.5	17.8	18.1	21.7	20.7	21.1	26.2	25.4	25.7	20.6	20.1	20.3
5	18.4	17.7	18.0	21.8	21.1	21.5	26.2	25.6	25.8	20.3	20.1	20.2
6	17.8	17.1	17.4	21.6	21.2	21.4	25.8	25.3	25.6	20.2	19.9	20.0
7	17.3	16.9	17.1	21.9	21.2	21.4	25.3	24.6	25.0	19.9	19.8	19.9
8	17.2	16.7	16.9	21.4	21.0	21.2	24.6	24.0	24.3	20.0	19.7	19.8
9	16.9	16.2	16.5	21.8	20.9	21.2	24.0	23.2	23.6	19.9	19.6	19.7
10	16.2	15.8	15.9	21.9	21.3	21.5	23.7	23.0	23.2	19.7	19.3	19.5
11	16.3	15.8	16.0	21.7	21.4	21.5	23.0	22.6	22.8	19.6	19.0	19.3
12	16.9	15.9	16.4	21.5	20.9	21.2	22.6	22.1	22.3	19.5	18.8	19.2
13	17.2	16.9	17.1	20.9	20.5	20.7	22.1	21.3	21.7	19.1	18.8	19.0
14	17.3	16.8	17.0	20.5	20.0	20.2	21.3	20.7	20.9	19.5	18.8	19.0
15	17.7	16.7	17.0	20.6	19.4	20.0	20.7	20.4	20.5	19.8	19.1	19.3
16	17.6	17.0	17.2	21.1	19.8	20.4	20.8	20.1	20.4	19.7	19.4	19.5
17	17.9	17.3	17.6	22.0	20.5	21.1	21.2	20.2	20.5	20.0	19.6	19.8
18	18.3	17.4	17.8	22.0	21.0	21.4	21.4	20.5	20.8	20.2	19.8	19.9
19	18.3	17.7	18.0	21.7	20.9	21.3	22.2	20.9	21.4	20.0	19.6	19.8
20	18.8	18.3	18.5	22.0	21.0	21.3	22.4	21.4	21.7	19.6	19.3	19.5
21	18.9	18.5	18.7	22.8	21.2	21.8	21.6	21.1	21.4	19.3	18.9	19.1
22	18.7	18.3	18.5	23.1	21.7	22.2	21.4	21.0	21.1	19.1	18.6	---
23	19.1	18.4	---	23.2	22.2	22.5	21.4	20.8	21.0	18.8	18.4	18.5
24	19.6	18.6	19.0	23.5	22.7	23.0	21.6	20.6	20.9	18.4	18.1	18.2
25	19.1	18.8	18.9	23.9	23.1	23.4	21.4	20.9	21.1	18.4	18.0	18.1
26	19.3	18.6	18.9	24.1	23.4	23.6	22.1	21.1	---	18.1	17.7	17.9
27	19.1	18.4	18.8	24.9	23.6	24.1	22.3	21.5	21.8	17.7	17.2	17.4
28	19.3	18.4	18.8	25.4	23.9	24.5	21.8	21.3	21.5	17.3	17.1	17.2
29	19.8	18.8	19.2	25.9	24.5	25.0	21.6	21.1	21.3	17.2	17.0	17.1
30	20.1	19.4	19.7	26.4	24.7	25.4	21.4	20.7	21.0	17.0	16.7	16.8
31	---	---	---	25.8	24.7	25.1	21.1	20.4	20.6	---	---	---
Month	20.1	15.8	---	26.4	19.4	21.9	26.3	20.1	---	20.9	16.7	---

14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	14.2	14.1	14.2
23	---	---	---	---	---	---	---	---	---	14.2	13.9	14.0
24	---	---	---	---	---	---	---	---	---	13.9	13.6	13.8
25	---	---	---	---	---	---	---	---	---	13.7	13.4	13.5
26	---	---	---	---	---	---	---	---	---	13.5	13.4	13.4
27	---	---	---	---	---	---	---	---	---	13.5	13.4	13.5
28	---	---	---	---	---	---	---	---	---	14.2	13.5	14.0
29	---	---	---	---	---	---	---	---	---	14.1	14.0	14.0
30	---	---	---	---	---	---	---	---	---	14.2	13.6	14.0
31	---	---	---	---	---	---	---	---	---	13.6	13.5	13.6
Month	---	---	---	---	---	---	---	---	---	---	---	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	13.5	13.4	13.5	13.2	13.0	13.1	13.0	12.9	13.0	12.3	11.9	12.1
2	13.5	13.4	13.4	13.0	12.8	12.9	13.0	12.6	12.8	12.0	11.7	11.9
3	13.4	13.3	13.4	12.8	12.6	12.7	12.9	12.6	12.7	11.7	11.6	11.6
4	13.3	13.1	13.2	12.8	12.6	12.7	13.1	12.9	13.0	11.7	11.3	11.6
5	13.2	13.1	13.2	12.7	12.3	12.5	13.1	12.8	12.9	11.4	11.2	11.3
6	13.1	12.9	13.0	12.5	12.4	12.4	13.0	12.7	12.8	12.1	11.4	11.8
7	12.9	12.9	12.9	12.6	12.5	12.6	12.8	12.3	12.5	12.7	12.1	12.4
8	12.9	12.8	12.8	12.7	12.6	12.6	12.3	11.9	12.1	12.8	12.7	12.8
9	12.8	12.6	12.6	12.7	12.5	12.6	12.0	11.8	11.9	12.8	12.6	12.7
10	12.6	12.5	12.5	12.9	12.6	12.8	12.0	11.8	11.8	12.6	12.3	12.5
11	12.5	12.4	12.4	13.0	12.8	12.9	12.1	11.9	12.0	12.3	12.1	12.2
12	12.5	12.3	12.4	13.0	12.8	12.9	12.2	11.9	12.1	12.1	11.8	11.9
13	12.6	12.4	12.5	13.0	12.8	12.9	12.1	12.0	12.0	11.9	11.8	11.8
14	12.6	12.5	12.6	13.0	12.8	12.9	12.3	12.0	12.2	11.8	11.7	11.8
15	12.8	12.6	12.7	12.9	12.6	12.7	12.4	12.3	12.4	12.2	11.8	12.0
16	12.8	12.5	12.7	12.8	12.5	12.6	12.5	12.4	12.5	12.3	12.0	12.1
17	12.6	12.4	12.5	13.2	12.8	13.0	12.7	12.4	12.6	12.1	11.8	11.9
18	12.5	12.4	12.5	13.2	13.2	13.2	12.5	12.3	12.4	11.8	11.6	11.7
19	12.5	12.4	12.5	13.2	12.9	13.0	12.4	12.1	12.3	11.6	11.3	11.4
20	12.5	12.4	12.4	12.9	12.5	12.7	12.2	11.9	12.1	11.4	11.2	11.3
21	12.4	12.3	12.3	12.6	12.4	12.4	12.0	11.7	11.9	11.3	11.3	11.3
22	12.3	12.1	12.2	12.4	12.2	12.3	11.8	11.4	11.7	11.5	11.3	11.5
23	12.1	12.0	12.0	12.4	12.2	12.3	11.6	11.4	11.5	11.6	11.3	11.5
24	12.0	11.8	11.9	12.6	12.4	12.5	11.6	11.4	11.5	11.4	11.1	11.3
25	12.4	11.9	12.1	12.7	12.5	12.6	11.6	11.4	11.5	11.2	11.0	11.1
26	12.9	12.4	12.7	12.7	12.6	12.6	11.7	11.4	11.6	11.1	10.9	11.0
27	13.2	12.9	13.1	12.8	12.6	12.7	11.8	11.6	11.7	11.0	10.8	10.9
28	13.3	13.2	13.3	12.6	12.4	12.5	11.9	11.6	11.7	11.0	10.8	10.9
29	---	---	---	12.5	12.3	12.4	12.2	11.8	12.0	10.9	10.6	10.7
30	---	---	---	12.9	12.5	12.7	12.3	12.0	12.1	10.7	10.5	10.6
31	---	---	---	13.0	12.8	12.9	---	---	---	10.5	10.2	10.4
Month	13.5	11.8	12.7	13.2	12.2	12.7	13.1	11.4	12.2	12.8	10.2	11.6

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	10.4	10.1	10.2	10.0	9.2	9.5	11.2	8.8	9.8	9.2	8.7	8.8
2	10.1	9.9	10	10.0	9.1	9.5	11.6	8.9	9.9	9.1	8.7	8.8
3	10.2	9.8	10	10.0	9.1	9.5	11.4	8.8	9.7	9.1	8.7	8.8
4	10.3	9.9	10.1	9.9	9.1	9.4	10.4	8.6	9.2	9.2	8.7	8.9
5	10.1	9.8	9.9	9.4	8.8	9.1	9.6	8.3	8.7	8.9	8.7	8.8
6	10.1	9.8	9.9	9.4	8.6	8.8	8.5	7.6	7.9	8.9	8.7	8.8
7	10.1	9.9	10.0	9.2	8.4	8.7	7.8	7.5	7.6	8.8	8.6	8.7
8	10.3	9.9	10.1	8.9	8.3	8.6	7.9	7.2	7.5	8.9	8.6	8.7
9	10.3	10.0	10.2	9.3	8.6	8.9	8.3	7.4	7.7	9.0	8.7	8.9
10	10.3	10.1	10.2	9.4	8.5	8.8	8.9	7.6	8.0	9.2	8.8	8.9
11	10.4	10.1	10.2	9.1	8.4	8.7	8.4	8.0	8.1	9.3	8.9	9.0
12	10.4	10.1	10.2	8.8	8.1	8.4	8.8	8.0	8.4	9.4	9.0	9.2
13	10.2	9.9	10	8.9	8.1	8.5	8.9	8.2	8.5	9.4	9.1	9.2
14	10.1	9.7	9.9	9.2	8.4	8.8	9.2	8.4	8.7	9.5	9.0	9.1
15	10.2	9.9	10.0	9.8	8.7	9.1	9.0	8.5	8.7	9.3	8.9	9.0
16	10.1	9.8	10	10.0	8.8	9.4	9.2	8.6	8.8	9.1	8.9	9.0
17	10.0	9.8	9.9	10.4	8.8	9.6	9.2	8.6	8.8	9.0	8.8	8.9
18	10.1	9.7	9.9	10.7	8.9	9.7	9.0	8.5	8.7	9.1	8.8	8.9
19	10.0	9.6	9.8	10.6	9.0	9.6	9.2	8.5	8.7	9.0	8.7	8.8
20	9.6	9.3	9.5	11.3	9.1	9.8	9.4	8.5	8.7	9.0	8.8	8.9
21	9.6	9.2	9.4	12.2	9.3	10.2	9.1	8.5	8.7	9.0	8.8	8.9
22	9.6	8.9	9.4	11.9	9.5	10.2	9.2	8.5	8.8	9.3	8.8	9.0
23	9.8	9.1	9.5	11.1	9.3	9.7	9.5	8.6	8.9	9.4	8.9	9.1
24	10.1	9.4	9.7	10.6	9.1	9.5	9.5	8.5	8.9	9.2	9.0	9.1
25	9.9	9.6	9.8	10.6	9.0	9.5	9.0	8.5	8.8	9.4	9.0	9.1
26	9.9	9.4	9.6	11.2	8.9	9.7	9.2	8.3	8.8	9.4	9.0	9.2
27	10.1	9.4	9.7	12.0	8.8	10.3	9.4	8.3	8.7	9.4	9.1	9.2
28	10.1	9.7	9.9	11.8	9.5	10.6	9.1	8.5	8.7	9.4	9.2	9.3
29	10.0	9.6	9.8	11.5	9.7	10.6	9.1	8.5	8.7	9.4	9.2	9.3
30	10.1	9.4	9.7	11.9	9.3	10.4	9.0	8.6	8.8	9.3	9.1	9.2
31	---	---	---	11.0	9.0	9.9	9.2	8.6	8.8	---	---	---
Month	10.4	8.9	9.9	12.2	8.1	9.5	11.6	7.2	8.7	9.5	8.6	9.0



14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	9.7	8.1	8.6
23	---	---	---	---	---	---	---	---	---	8.5	7.6	7.9
24	---	---	---	---	---	---	---	---	---	8.1	7.2	7.6
25	---	---	---	---	---	---	---	---	---	7.7	6.5	7.0
26	---	---	---	---	---	---	---	---	---	7.2	6.1	6.7
27	---	---	---	---	---	---	---	---	---	7.1	5.5	6.1
28	---	---	---	---	---	---	---	---	---	6.4	5.4	5.8
29	---	---	---	---	---	---	---	---	---	6.1	5.2	5.6
30	---	---	---	---	---	---	---	---	---	5.9	4.9	5.4
31	---	---	---	---	---	---	---	---	---	5.7	5.0	5.2
<b>Max</b>	---	---	---	---	---	---	---	---	---	---	---	---
<b>Min</b>	---	---	---	---	---	---	---	---	---	---	---	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
<b>1</b>	5.5	4.8	5.1	33	24	28	7.9	5.7	6.6	3.0	2.2	2.3
<b>2</b>	6.1	4.6	5.0	24	17	21	6.3	5.2	5.8	3.7	2.2	2.4
<b>3</b>	5.0	4.5	4.7	18	13	15	6.6	4.8	5.3	3.6	2.5	3.0
<b>4</b>	4.8	4.1	4.4	16	12	14	6.6	4.8	5.3	4.3	2.8	3.0
<b>5</b>	4.7	3.9	4.3	19	15	18	7.2	5.3	6.4	5.2	2.9	4.5
<b>6</b>	4.5	3.7	4.1	18	13	16	6.7	4.9	5.6	8.2	4.7	6.9
<b>7</b>	4.8	3.8	4.1	14	10	12	6.2	4.2	4.8	16	7.8	13
<b>8</b>	4.8	3.8	4.0	11	8.5	9.8	4.9	3.8	4.3	20	16	18
<b>9</b>	4.9	3.7	4.1	10	8.0	9.1	4.9	3.3	3.9	19	13	17
<b>10</b>	4.6	3.7	4.1	8.5	6.9	7.6	6.6	3.2	3.6	16	9.5	12
<b>11</b>	4.7	3.7	4.2	7.6	5.8	6.7	5.1	3.1	3.4	9.8	7.4	8.9
<b>12</b>	4.7	3.8	4.3	7.5	5.7	6.3	4.5	2.9	3.2	8.1	6.0	6.9
<b>13</b>	4.6	3.6	4.0	7.0	5.4	6.1	4.0	3.0	3.4	6.4	4.9	5.8
<b>14</b>	4.1	3.5	3.8	6.7	5.1	5.9	4.3	3.1	3.5	6.0	4.8	5.1
<b>15</b>	4.1	3.3	3.6	8.3	5.1	5.8	4.2	3.4	3.6	5.9	4.5	4.9
<b>16</b>	4.3	3.4	3.8	7.7	5.6	6.7	6.6	3.5	3.9	6.5	4.6	5.3
<b>17</b>	4.7	3.7	4.0	23	7.3	14	4.2	3.3	3.7	7.1	5.6	6.1
<b>18</b>	4.6	3.6	4.1	26	21	23	4.7	3.1	3.4	5.9	4.2	5.6
<b>19</b>	4.5	3.8	4.1	25	18	23	5.5	3.0	3.2	5.5	3.7	4.3
<b>20</b>	5.3	3.7	4.1	19	14	16	3.7	3.0	3.3	5.1	3.2	3.8
<b>21</b>	4.4	3.4	3.8	14	11	13	4.2	2.7	3.2	4.3	3.0	3.4
<b>22</b>	4.3	3.2	3.6	12	9.0	10	4.3	2.6	3.0	4.0	2.9	3.2
<b>23</b>	3.8	3.0	3.4	10	7.8	8.9	3.3	2.5	2.9	4.2	2.8	3.1
<b>24</b>	4.1	3.1	3.4	8.5	6.8	7.7	3.4	2.2	2.5	3.7	2.6	3.0
<b>25</b>	6.7	3.4	4.2	7.8	6.6	7.2	3.3	2.1	2.3	3.4	2.6	2.9
<b>26</b>	34	7.2	13	8.4	6.7	7.3	3.0	2.1	2.2	5.6	2.5	2.8
<b>27</b>	44	33	39	8.0	6.2	6.8	2.7	2.1	2.3	3.8	2.4	2.7
<b>28</b>	39	31	36	7.5	6.2	6.7	3.0	2.2	2.4	3.4	2.0	2.5
<b>29</b>	---	---	---	9.2	6.8	7.9	3.4	2.2	2.4	3.1	2.1	2.3
<b>30</b>	---	---	---	8.4	6.7	7.4	3.1	2.2	2.4	3.1	2.1	2.3
<b>31</b>	---	---	---	9.0	6.8	7.5	---	---	---	2.8	2.1	2.3
<b>Max</b>	44	33	39	33	24	28	7.9	5.7	6.6	20	16	18
<b>Min</b>	3.8	3.0	3.4	6.7	5.1	5.8	2.7	2.1	2.2	2.8	2.0	2.3

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	3.3	2.1	2.4	3.8	2.1	2.7	2.0	1.3	1.5	2.9	1.5	2.1
2	3.6	2.0	2.2	3.6	2.0	2.6	4.3	1.4	1.8	3.2	1.6	2.0
3	2.6	1.8	2.1	3.4	1.9	2.3	2.6	1.5	1.9	3.8	1.6	2.3
4	2.5	1.8	2.2	3.5	1.8	2.3	3.2	1.3	1.7	9.3	1.6	2.1
5	4.0	2.0	2.3	3.2	1.9	2.4	3.3	1.2	1.8	6.3	1.6	2.3
6	3.7	2.3	2.6	3.3	1.9	2.4	2.9	1.4	1.9	11	2.1	2.5
7	3.8	2.2	2.6	3.8	1.4	2.3	2.9	1.5	2.1	3.2	1.4	2.2
8	5.6	2.2	3.3	3.1	1.5	2.2	4.5	1.8	2.5	2.8	1.6	2.1
9	7.5	2.2	3.3	2.9	1.3	2.0	5.4	2.1	2.6	2.6	1.4	2.0
10	5.8	2.5	3.0	2.4	1.0	1.5	6.0	2.0	2.5	2.4	1.3	1.8
11	3.3	2.5	2.8	2.7	1.4	1.9	3.0	2.0	2.6	3.3	1.1	1.6
12	3.8	2.4	2.8	7.8	1.7	2.1	3.6	1.8	2.5	3.4	1.1	1.6
13	3.4	2.4	2.8	3.0	1.7	2.2	3.2	1.9	2.4	3.0	1.1	1.6
14	3.6	2.2	2.7	3.0	1.2	1.7	3.4	1.8	2.4	2.8	1.1	1.7
15	3.2	2.1	2.4	2.2	1.2	1.6	3.0	1.9	2.3	2.7	1.0	1.6
16	3.4	2.0	2.6	1.9	1.1	1.4	3.6	1.7	2.4	3.9	1.3	1.7
17	3.3	2.1	2.6	2.1	1.1	1.4	3.6	2.1	2.8	2.9	1.3	1.9
18	4.1	2.2	2.6	2.0	1.1	1.4	4.2	2.2	3.0	5.1	1.1	1.9
19	5.4	2.3	2.8	2.7	1.3	1.7	5.5	2.3	3.7	5.2	1.4	2.1
20	3.7	2.2	2.5	4.0	1.3	1.8	---	---	---	4.7	1.4	2.2
21	4.1	2.2	2.8	2.5	1.3	1.6	---	---	---	6.2	1.4	2.3
22	6.0	2.3	2.8	2.2	1.2	1.6	---	---	---	4.9	1.3	2.0
23	4.4	1.6	2.5	2.5	1.2	1.9	---	---	---	2.7	1.2	1.6
24	2.5	1.6	2.1	2.4	1.5	1.8	---	---	---	3.3	1.1	1.5
25	2.5	1.7	2.1	2.6	1.4	1.7	---	---	---	2.4	1.0	1.4
26	3.0	1.8	2.2	2.4	1.4	1.7	3.1	1.3	1.7	2.0	1.0	1.3
27	5.1	1.8	2.1	1.9	1.2	1.6	2.9	1.4	1.8	1.8	1.2	1.5
28	2.8	1.4	2.2	2.2	1.2	1.5	2.9	1.3	2.0	2.3	1.3	1.7
29	3.1	1.8	2.1	1.9	1.2	1.5	2.8	1.5	1.9	2.5	1.3	1.8
30	5.0	1.9	2.5	2.0	1.3	1.6	3.1	1.5	1.9	2.8	1.4	1.9
31	---	---	---	1.8	1.3	1.5	3.3	1.5	1.9	---	---	---
<b>Max</b>	7.5	2.5	3.3	7.8	2.1	2.7	---	---	---	11	2.1	2.5
<b>Min</b>	2.5	1.4	2.1	1.8	1.0	1.4	---	---	---	1.8	1.0	1.3

14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

CHLOROPHYLL, TOTAL, WATER, FLUOROMETRIC, 650-700 NANOMETERS, IN SITU SENSOR, MICROGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	1.8	1.0	1.4
23	---	---	---	---	---	---	---	---	---	1.7	0.4	1.3
24	---	---	---	---	---	---	---	---	---	1.7	0.8	1.3
25	---	---	---	---	---	---	---	---	---	1.9	0.8	1.3
26	---	---	---	---	---	---	---	---	---	1.7	0.9	1.3
27	---	---	---	---	---	---	---	---	---	2.0	0.5	1.4
28	---	---	---	---	---	---	---	---	---	1.7	0.8	1.3
29	---	---	---	---	---	---	---	---	---	1.7	0.8	1.3
30	---	---	---	---	---	---	---	---	---	2.1	0.9	1.3
31	---	---	---	---	---	---	---	---	---	1.8	0.7	1.3
Month	---	---	---	---	---	---	---	---	---	---	---	---

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**CHLOROPHYLL, TOTAL, WATER, FLUOROMETRIC, 650-700 NANOMETERS, IN SITU SENSOR, MICROGRAMS PER LITER**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
	<b>February</b>			<b>March</b>			<b>April</b>			<b>May</b>		
<b>1</b>	1.9	0.8	1.3	4.7	3.2	3.9	3.5	2.1	2.7	3.4	1.6	2.6
<b>2</b>	1.9	1.0	1.4	4.0	2.8	3.4	3.3	1.7	2.6	3.5	2.2	2.8
<b>3</b>	1.7	1.0	1.4	3.7	2.4	3.2	3.5	1.8	2.6	3.7	2.3	2.9
<b>4</b>	1.9	0.9	1.4	3.7	2.3	3.0	3.1	1.4	2.4	3.6	2.5	2.9
<b>5</b>	1.8	1.0	1.4	3.7	2.6	3.1	3.0	1.6	2.3	3.5	2.2	2.8
<b>6</b>	2.0	0.9	1.4	3.8	2.3	3.2	3.0	1.7	2.3	3.6	2.1	2.9
<b>7</b>	2.0	1.0	1.4	3.8	2.5	3.0	2.9	1.8	2.4	3.8	2.5	3.1
<b>8</b>	2.1	1.1	1.5	3.6	2.3	2.9	3.1	1.7	2.4	3.9	2.7	3.3
<b>9</b>	1.9	1.1	1.5	3.6	2.2	2.8	2.8	1.6	2.3	3.3	2.1	2.8
<b>10</b>	2.2	0.9	1.5	3.4	2.3	2.8	3.3	1.9	2.5	3.2	1.8	2.6
<b>11</b>	2.1	0.9	1.5	3.1	2.1	2.6	3.4	1.8	2.5	3.2	1.8	2.5
<b>12</b>	2.4	1.0	1.7	3.0	2.0	2.5	3.1	1.8	2.4	3.0	1.5	2.4
<b>13</b>	2.3	1.2	1.7	3.3	2.0	2.6	3.0	2.1	2.5	3.3	1.7	2.3
<b>14</b>	2.3	1.2	1.7	3.1	2.1	2.6	3.1	1.6	2.4	3.0	1.3	2.2
<b>15</b>	2.2	1.2	1.7	3.2	2.1	2.7	3.0	1.7	2.3	2.7	1.5	2.1
<b>16</b>	2.3	1.3	1.8	3.1	2.0	2.6	3.0	1.7	2.3	2.8	1.5	2.3
<b>17</b>	2.4	1.4	1.8	3.7	2.4	3.0	3.0	1.8	2.4	3.0	1.7	2.5
<b>18</b>	2.5	1.4	1.9	3.7	2.5	3.3	2.8	1.6	2.3	3.4	1.9	2.6
<b>19</b>	2.6	1.3	2.0	4.2	2.7	3.4	3.1	1.8	2.4	3.7	2.1	2.9
<b>20</b>	2.7	1.5	2.0	4.3	2.5	3.3	3.2	1.3	2.4	4.1	1.9	3.0
<b>21</b>	2.8	1.4	2.0	4.1	2.6	3.4	3.2	1.9	2.4	3.7	2.0	2.8
<b>22</b>	2.9	1.7	2.2	4.0	2.6	3.3	3.6	1.7	2.6	3.9	2.4	2.9
<b>23</b>	3.0	1.9	2.4	3.8	2.7	3.2	3.2	1.7	2.5	3.4	2.1	2.8
<b>24</b>	2.8	1.5	2.3	3.9	2.6	3.1	3.1	1.7	2.5	3.5	1.8	2.8
<b>25</b>	4.1	1.5	2.4	3.9	2.2	2.9	3.3	2.0	2.7	4.3	2.3	3.0
<b>26</b>	4.7	2.8	3.5	3.4	2.2	2.9	3.3	1.8	2.5	3.9	1.9	3.1
<b>27</b>	4.9	3.6	4.4	3.5	2.3	3.0	3.4	1.6	2.6	3.6	2.3	3.0
<b>28</b>	4.9	3.6	4.1	3.5	2.2	3.0	3.4	2.0	2.7	4.1	1.9	3.0
<b>29</b>	---	---	---	3.3	2.3	2.7	3.4	2.0	2.7	4.2	2.4	3.1
<b>30</b>	---	---	---	3.3	2.2	2.7	3.2	1.7	2.5	4.4	2.5	3.3
<b>31</b>	---	---	---	3.6	2.3	2.8	---	---	---	6.9	2.2	3.6
<b>Month</b>	4.9	0.8	2.0	4.7	2.0	3.0	3.6	1.3	2.5	6.9	1.3	2.8

## 14211720 WILLAMETTE RIVER AT PORTLAND, OR—Continued

**CHLOROPHYLL, TOTAL, WATER, FLUOROMETRIC, 650-700 NANOMETERS, IN SITU SENSOR, MICROGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

<b>Day</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>
	<b>June</b>			<b>July</b>			<b>August</b>			<b>September</b>		
<b>1</b>	5.0	2.7	3.6	6.6	3.7	4.8	32	10	19	6.4	2.9	4.3
<b>2</b>	4.5	2.7	3.5	6.7	2.9	4.7	32	16	23	6.0	3.2	4.2
<b>3</b>	4.5	2.2	3.3	7.5	3.4	5.0	27	10	15	5.3	3.1	4.3
<b>4</b>	4.5	2.3	3.4	7.3	3.7	5.0	16	7.7	10	6.3	3.4	4.4
<b>5</b>	4.2	2.5	3.3	7.7	3.6	5.4	12	6.9	9.0	10	3.3	4.5
<b>6</b>	3.9	2.1	3.0	7.1	4.1	5.2	8.8	4.9	6.3	7.4	2.8	4.3
<b>7</b>	3.6	2.2	2.9	6.4	3.3	4.7	6.1	3.6	4.7	7.4	2.7	3.9
<b>8</b>	4.2	2.0	2.8	5.3	3.1	4.2	5.5	3.2	4.3	4.5	2.5	3.4
<b>9</b>	4.1	2.3	3.3	6.6	3.3	4.3	9.6	3.0	4.9	4.7	2.6	3.4
<b>10</b>	4.3	2.3	3.3	6.5	3.0	4.3	7.8	3.0	4.5	4.8	2.5	3.4
<b>11</b>	4.7	2.9	3.5	6.7	3.1	4.7	6.2	2.9	4.3	4.6	2.3	3.3
<b>12</b>	4.3	2.9	3.6	5.5	3.1	4.1	6.1	3.3	4.4	4.4	2.6	3.6
<b>13</b>	4.5	2.7	3.5	4.7	2.9	3.7	5.8	2.7	4.5	5.0	2.8	3.9
<b>14</b>	4.0	2.3	3.2	5.0	2.6	3.8	7.6	3.2	4.9	5.1	2.6	3.9
<b>15</b>	3.9	2.0	3.1	6.4	2.6	4.3	5.6	3.1	4.2	5.4	2.7	3.7
<b>16</b>	4.7	2.1	3.4	7.1	3.1	4.8	5.6	3.0	4.2	5.4	2.7	3.9
<b>17</b>	4.2	2.3	3.5	11	3.1	6.0	5.9	3.0	4.1	4.9	3.0	3.7
<b>18</b>	5.2	3.1	4.0	12	3.8	7.2	5.9	3.0	4.1	5.4	2.6	3.8
<b>19</b>	5.2	3.3	4.2	13	4.9	7.4	6.6	3.5	4.7	4.9	2.8	3.7
<b>20</b>	4.9	2.8	3.9	27	5.0	8.8	8.0	3.7	5.1	4.6	2.6	3.6
<b>21</b>	4.9	2.8	3.8	21	5.9	9.7	7.2	3.8	5.0	4.2	2.6	3.4
<b>22</b>	4.9	3.1	3.8	18	7.3	10	6.6	4.1	5.1	4.3	2.5	3.5
<b>23</b>	5.1	2.9	3.9	24	8.0	10	7.6	4.2	5.3	5.4	2.4	3.6
<b>24</b>	5.8	3.2	4.2	16	7.9	10	7.0	4.5	5.3	4.6	2.8	3.4
<b>25</b>	5.1	3.2	4.1	16	7.0	9.9	6.6	4.2	5.3	4.9	2.5	3.4
<b>26</b>	4.9	3.0	3.8	22	6.6	11	6.2	3.6	5.2	4.2	2.3	3.3
<b>27</b>	4.9	2.9	4.0	20	8.7	12	7.6	3.2	5.1	4.6	2.3	3.1
<b>28</b>	5.2	3.0	4.1	28	9.2	15	7.8	4.1	5.3	4.0	2.1	3.2
<b>29</b>	5.5	2.9	4.5	21	9.7	14	7.7	3.4	5.0	4.6	2.4	3.3
<b>30</b>	6.1	3.4	5.0	20	7.8	14	6.1	3.3	4.6	4.0	2.1	3.1
<b>31</b>	---	---	---	22	10	15	6.5	3.1	4.5	---	---	---
<b>Month</b>	6.1	2.0	3.6	28	2.6	7.5	32	2.7	6.5	10	2.1	3.7