12128000 THORNTON CREEK NEAR SEATTLE, WA

Puget Sound Basin
Lake Washington Subbasin

LOCATION.--Lat 47°41′45″, long 122°16′30″ referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.34, T.26 N., R.4 E., King County, WA, Hydrologic Unit 17110012, on left bank, at highway crossing, 1.5 mi north of Seattle city limits, and at mile 0.25.

DRAINAGE AREA.--12.1 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1945 to September 1946, May 1961 to September 1968, March 1996 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 40 ft above NGVD of 1929, from topographic map. June 1945 to September 1946 at datum 0.09 ft higher.

REMARKS.--Records fair except estimated daily discharges and discharges above 100 cfs, which are poor. Intermittent regulation and diversions. Natural flow affected by urbanization and flood-control catchments.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--20 years (water years 1946, 1962-68, 1997-2008), 11.0 ft^3/s, 12.35 in/yr, 7,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 354 ft^3/s, Dec. 3, 2007, gage height, 5.98 ft; minimum daily discharge, 0.31 ft^3/s, Aug. 27, 2006, gage height, .78 ft.

REVISIONS.--Peak discharges for some water years have been revised, as shown in the following table. They supercede figures published in WDR-WA-1 for the years 1997 and 2004.

Water Year	Date	Discharge (ft^3/s)	Gage Height (ft)
1997	Dec. 31, 1996	291	5.21
2004	Oct. 16, 2003	106	2.80
2004	Oct. 20, 2003	140	3.31

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 354 ft^3/s, Dec. 3, gage height, 5.98 ft; minimum discharge, 2.2 ft^3/s, Sept. 18, gage height, 1.20 ft.

12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	11	6.0	7.4	7.5	9.1	6.4	9.5	6.7	4.1	3.4	9.8	4.0
2	e9.5	5.3	38	17	7.8	5.8	7.7	6.1	4.1	4.2	3.9	3.9
3	e7.3	4.1	190	23	7.1	7.0	6.9	7.0	27	9.7	3.6	3.8
4	e7.1	4.6	37	19	6.7	5.9	14	6.5	19	4.3	3.4	3.7
5	e5.7	4.2	24	13	8.9	5.6	15	6.0	12	3.9	3.3	3.5
6	4.5	4.2	17	14	10	5.8	11	5.9	15	3.7	3.2	3.4
7	e7.4	5.4	13	12	15	6.1	11	5.8	8.6	3.6	3.2	3.4
8	5.6	5.4	11	19	15	5.9	15	5.6	6.7	3.4	3.2	3.4
9	3.9	5.9	8.9	13	24	5.7	8.9	5.5	9.8	3.4	4.1	3.2
10	4.5	7.6	7.8	24	16	8.6	8.0	5.1	11	3.4	3.5	3.4
11	e4.7	4.9	7.0	15	10	9.1	7.3	4.9	6.4	3.4	3.3	3.2
12	e4.8	14	6.5	16	9.1	6.2	6.9	4.9	6.2	3.3	3.1	3.9
13	e4.5	8.2	8.0	11	8.5	12	7.3	9.4	5.6	3.3	3.0	3.1
14	4.3	6.3	6.8	21	7.9	13	9.1	5.9	5.2	3.3	3.1	3.1
15	4.9	18	12	18	7.7	13	9.2	5.0	5.0	3.2	3.0	3.2
16	e7.0	17	11	12	7.6	15	7.9	4.7	4.8	3.2	3.0	3.1
17	e8.5	15	22	11	6.9	9.9	6.6	4.5	4.8	3.3	3.0	3.1
18	e10	9.5	22	9.0	6.8	7.4	17	4.4	4.4	3.3	4.1	3.0
19	30	7.7	21	14	6.6	7.6	18	4.4	4.2	3.3	4.4	3.3
20	15	7.1	20	14	6.4	9.0	10	7.8	4.2	3.3	22	9.0
21	8.9	5.6	12	9.0	6.4	9.9	11	5.6	4.1	3.3	9.1	6.7
22	8.5	5.2	19	8.1	6.3	6.5	8.1	5.0	3.9	3.3	4.9	7.1
23	5.4	5.1	20	7.7	6.1	24	8.6	5.0	4.2	3.3	4.4	4.3
24	12	5.0	13	7.5	6.1	12	7.5	5.0	3.9	3.3	13	6.0
25	9.0	4.9	15	7.1	5.8	9.1	6.7	4.8	3.9	3.2	12	4.8
26	5.3	9.5	12	7.9	5.8	20	6.3	4.6	3.8	3.2	8.3	3.8
27	e4.7	8.3	17	7.6	6.5	13	6.6	4.6	3.7	3.3	14	3.6
28	e4.5	8.5	15	9.4	6.0	16	15	4.4	3.6	3.3	6.4	3.5
29	e4.4	7.4	12	16	7.0	15	8.2	4.2	3.5	3.2	5.3	4.9
30	e4.4	5.5	10	9.5	---	12	8.2	4.1	3.5	3.3	4.5	3.8
31	3.8	---	7.8	12	---	9.5	---	4.1	---	4.0	4.4	---
Total	231.1	225.4	643.2	404.3	253.1	312.0	292.5	167.5	206.2	112.6	179.5	122.2
Mean	7.45	7.51	20.7	13.0	8.73	10.1	9.75	5.40	6.87	3.63	5.79	4.07
Max	30	18	190	24	24	24	18	9.4	27	9.7	22	9.0
Min	3.8	4.1	6.5	7.1	5.8	5.6	6.3	4.1	3.5	3.2	3.0	3.0
Ac-ft	458	447	1,280	802	502	619	580	332	409	223	356	242
Cfsm	0.62	0.62	1.71	1.08	0.72	0.83	0.81	0.45	0.57	0.30	0.48	0.34
In.	0.71	0.69	1.98	1.24	0.78	0.96	0.90	0.51	0.63	0.35	0.55	0.38

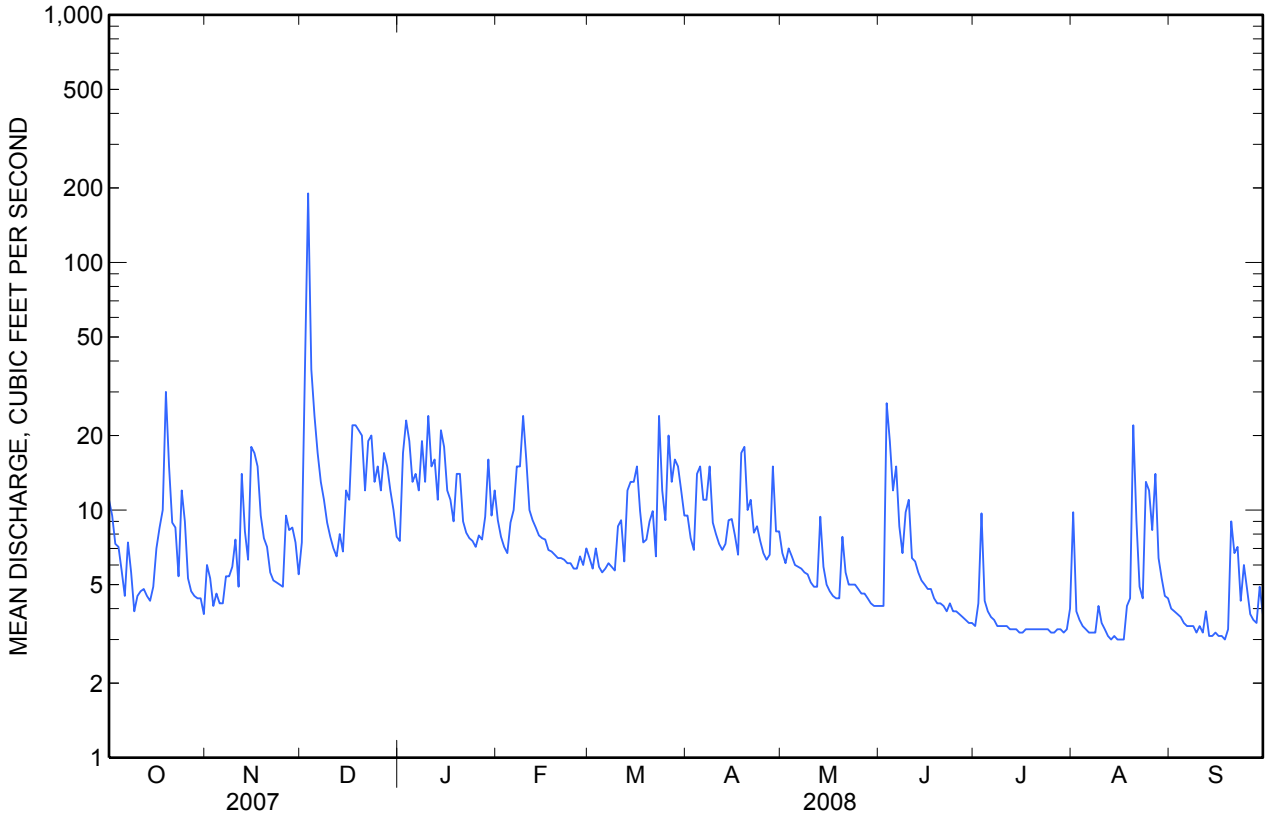
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9.33	14.4	17.2	18.3	15.3	14.3	11.2	8.30	7.25	5.42	5.26	6.76
Max	18.0	29.8	30.7	36.2	45.0	34.4	25.8	13.8	15.1	10.1	10.1	17.3
(WY)	(1946)	(1946)	(1946)	(1946)	(1946)	(1946)	(1946)	(1946)	(1964)	(1946)	(1945)	(1945)
Min	4.18	7.31	9.78	10.1	7.44	8.27	5.95	5.40	3.62	3.15	1.79	1.27
(WY)	(2003)	(2003)	(2001)	(2005)	(2005)	(2004)	(2004)	(2008)	(1997)	(2006)	(1999)	(1999)

12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1945 - 2008	
Annual total	3,205.7		3,149.6			
Annual mean	8.78		8.61		11.0	
Highest annual mean					23.0	1946
Lowest annual mean					7.29	2005
Highest daily mean	190	Dec 3	190	Dec 3	190	Dec 3, 2007
Lowest daily mean	2.3	Jul 28	3.0	Aug 13	0.39	Sep 22, 1999
Annual seven-day minimum	2.9	Aug 28	3.1	Aug 11	0.52	Sep 9, 1999
Annual runoff (ac-ft)	6,360		6,250		7,970	
Annual runoff (cfsm)	0.726		0.711		0.909	
Annual runoff (inches)	9.86		9.68		12.35	
10 percent exceeds	16		15		22	
50 percent exceeds	6.8		6.5		8.2	
90 percent exceeds	3.4		3.3		3.8	



12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1995 to December 2007 (discontinued).
CHEMICAL DATA: September 1995 to September 1999, January 2001 to September 2007.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1996 to April 2000.
WATER TEMPERATURE: March 1996 to September 2004; December 2006 to December 2007 (discontinued).
DISSOLVED OXYGEN: March to September 1996.

INSTRUMENTATION.--Temperature recorder with 15-minute recording interval March 1996 to September 2004, and 1-hour recording interval from December 2006 to December 2007.

REMARKS.--Temperature record is good. Unpublished dissolved oxygen data for portions of the 1997 water year and temperature data for the 2005 and 2006 water years are available in the files of the Washington Water Science Center.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 330 microsiemens, Aug. 13, 1996, but may have been higher during periods of missing record; minimum recorded, 46 microsiemens, Mar. 18, 1997, but may have been lower during periods of missing record.
WATER TEMPERATURE: Maximum recorded, 23.0°C (rounded), July 27, 1998; minimum recorded, 0.0°C (rounded), Dec. 29, 1996.
DISSOLVED OXYGEN: Maximum recorded, 12.7 mg/L, Mar. 20, 1996, but may have been higher during periods of missing record; minimum recorded, 5.0 mg/L, Apr. 7, 1996, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 13.7°C October 2; minimum recorded, 3.6°C December 2.

12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	13.6	12.8	13.1	9.2	8.3	8.7	5.8	4.7	5.4	---	---	---
2	13.7	12.8	13.2	8.3	6.6	7.6	6.0	3.6	4.7	---	---	---
3	12.8	11.6	12.3	9.9	8.0	8.9	10.2	6.0	8.6	---	---	---
4	12.2	11.1	11.5	11.1	9.7	10.4	9.7	8.9	9.5	---	---	---
5	11.7	10.9	11.3	9.7	8.6	9.0	8.9	7.9	8.7	---	---	---
6	11.7	10.8	11.1	9.9	8.5	9.2	8.0	7.5	7.8	---	---	---
7	13.3	11.7	12.5	10.8	9.9	10.4	7.9	6.9	7.5	---	---	---
8	13.0	11.6	12.1	11.4	10.8	11.1	6.9	5.2	6.0	---	---	---
9	12.8	11.6	12.1	11.6	11.1	11.3	6.0	4.9	5.4	---	---	---
10	13.3	12.5	12.8	11.4	10.0	11.1	6.1	5.8	6.0	---	---	---
11	12.7	11.4	12.0	10.0	9.6	9.8	6.5	5.5	5.9	---	---	---
12	12.7	11.7	12.1	9.9	8.9	9.5	6.6	5.7	6.2	---	---	---
13	11.7	10.5	11.1	8.9	7.7	8.3	7.1	6.3	6.5	---	---	---
14	12.0	10.0	11.1	9.1	6.9	7.8	7.9	6.8	7.4	---	---	---
15	12.3	11.6	11.9	10.6	8.9	9.8	7.9	6.9	7.3	---	---	---
16	12.2	11.1	11.6	10.6	10.2	10.4	7.5	6.9	7.3	---	---	---
17	11.6	10.3	10.9	10.2	9.7	10.0	7.1	6.3	6.6	---	---	---
18	11.6	10.6	11.1	9.9	8.9	9.3	7.1	6.3	6.7	---	---	---
19	11.6	8.8	10.8	9.1	8.5	8.9	7.2	6.9	7.1	---	---	---
20	10.9	10.2	10.5	8.5	7.4	8.1	7.2	6.1	7.0	---	---	---
21	11.4	10.8	11.1	7.4	6.3	6.9	6.3	5.5	5.9	---	---	---
22	12.8	11.1	11.9	6.3	5.2	5.8	6.5	5.8	6.2	---	---	---
23	12.8	11.4	12.2	5.8	4.7	5.3	7.4	6.5	6.9	---	---	---
24	12.7	11.6	12.2	6.8	4.9	5.8	7.2	6.0	6.7	---	---	---
25	11.6	9.7	10.7	6.8	5.5	6.3	---	---	---	---	---	---
26	9.7	8.2	9.0	6.0	5.1	5.5	---	---	---	---	---	---
27	9.9	7.9	8.9	6.8	5.5	6.1	---	---	---	---	---	---
28	10.2	8.5	9.3	7.2	6.6	6.9	---	---	---	---	---	---
29	10.6	9.6	10.0	7.1	6.1	6.7	---	---	---	---	---	---
30	9.7	8.8	9.3	6.5	5.8	6.1	---	---	---	---	---	---
31	8.8	7.5	8.2	---	---	---	---	---	---	---	---	---
Month	13.7	7.5	11.2	11.6	4.7	8.4	---	---	---	---	---	---

12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12128000 THORNTON CREEK NEAR SEATTLE, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---