Water-Data Report 2011

12175500 THUNDER CREEK NEAR NEWHALEM, WA

Puget Sound Basin
Upper Skagit Subbasin

LOCATION.--Lat 48°40′22″, long 121°04′18″ referenced to North American Datum of 1927, in SE ¼ sec.23, T.37 N., R.13 E., Whatcom County, WA, Hydrologic Unit 17110005, (unsurveyed) Ross Lake National Recreation Area, on right bank 0.4 mi upstream from high-water line of Diablo Reservoir, 9.0 mi east of Newhalem, and at mile 3.4.

DRAINAGE AREA.--105 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1930 to current year. Published as "above Colonial Creek, near Marblemount" 1930-31.

REVISED RECORDS.--WSP 1012: 1943. WSP 1286: 1931(M), 1932, 1933(M), 1935(M), 1938-39(M), 1941-42(M), 1944-46(M), 1950(M), 1952 (annual runoff in acre-ft). WSP 1932: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,220 ft above NGVD of 1929, from river-profile map.

REMARKS.--Records fair, except for discharges above 4,000 ft^3/s, and estimated daily discharges, which are poor. No regulation or diversion upstream from station. Large diurnal fluctuations caused by snowmelt during summer months. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--81 years (water years 1931-2011), 618 ft^3/s, 79.99 in/yr, 447,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft^3/s, Oct. 20, 2003, gage height, 15.90 ft, from rating curve extended above 3,500 ft^3/s and slope-area measurement at gage height of 15.90 ft; minimum discharge not determined, probably less than 50 ft^3/s during period of ice effect or no gage-height record in February 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Records for floods, prior to establishment of station, are given in WSP 1527.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 10	1030	*4,390	*10.16
Dec 12	1900	2,570	8.58
Jan 17	0000	3,660	9.58

Minimum discharge, 139 ft^3/s, Dec. 6, 7, gage height, 4.44 ft.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 12175500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/12175500.2011.pdf

12175500 THUNDER CREEK NEAR NEWHALEM, WA—Continued

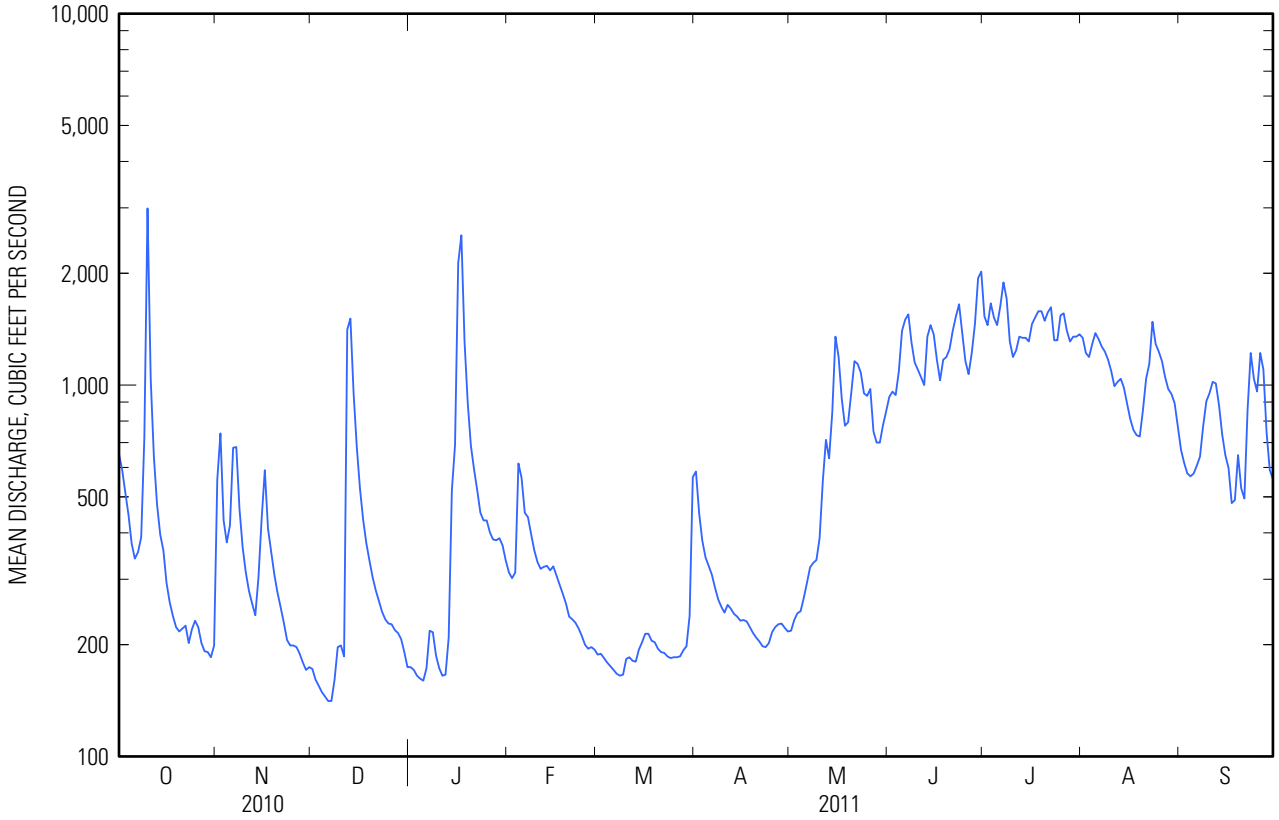
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	651	556	172	174	313	188	585	218	e930	1,530	1,340	670
2	591	741	161	171	302	189	452	233	e960	1,450	1,220	617
3	513	432	155	165	313	184	381	243	940	1,660	1,190	578
4	447	377	149	162	615	179	344	246	1,090	1,520	1,290	568
5	374	419	145	160	562	175	326	267	e1,400	1,450	1,380	578
6	341	678	141	173	453	171	309	293	e1,500	1,630	1,330	607
7	355	681	141	218	441	167	285	323	e1,550	1,890	1,270	642
8	389	465	161	216	397	165	265	332	e1,300	1,710	1,230	775
9	724	366	197	187	359	166	253	338	e1,150	1,310	1,170	904
10	2,990	313	199	173	334	183	244	387	e1,100	1,190	1,090	951
11	1,040	279	186	165	320	185	256	549	e1,050	1,240	993	1,020
12	642	258	1,410	166	324	181	250	712	e1,000	1,350	1,020	1,010
13	477	240	1,510	209	326	180	242	635	e1,350	1,340	1,040	882
14	396	304	952	520	317	194	238	844	e1,450	1,340	983	736
15	359	437	683	690	325	203	232	1,350	1,370	1,310	891	647
16	293	590	528	2,130	307	214	233	1,190	1,170	1,460	810	598
17	260	411	435	2,530	290	214	231	917	1,030	1,520	757	481
18	239	356	376	1,310	274	205	223	777	1,170	1,580	733	490
19	223	309	337	898	258	203	215	794	1,190	1,580	727	648
20	217	276	304	687	238	195	209	955	1,250	1,490	856	527
21	221	252	280	593	234	191	204	1,160	1,400	1,570	1,040	495
22	225	229	262	521	229	190	198	1,140	1,530	1,620	1,140	856
23	202	206	245	453	221	186	197	1,080	1,650	1,320	1,480	1,220
24	220	199	234	432	211	184	202	950	1,380	1,320	1,290	1,040
25	232	199	228	432	200	185	216	935	1,160	1,540	1,230	961
26	223	197	227	401	195	185	223	976	1,070	1,560	1,160	1,220
27	202	189	219	384	197	186	227	e750	1,220	1,400	1,050	e1,100
28	192	179	215	382	194	193	228	e700	1,460	1,310	975	746
29	191	171	207	387	---	198	222	e700	1,940	1,350	946	591
30	185	174	191	370	---	239	217	e780	2,020	1,350	893	558
31	199	---	174	337	---	565	---	e850	---	1,370	774	---
Total	13,813	10,483	10,824	15,796	8,749	6,243	7,907	21,624	38,780	45,260	33,298	22,716
Mean	446	349	349	510	312	201	264	698	1,293	1,460	1,074	757
Max	2,990	741	1,510	2,530	615	565	585	1,350	2,020	1,890	1,480	1,220
Min	185	171	141	160	194	165	197	218	930	1,190	727	481
Ac-ft	27,400	20,790	21,470	31,330	17,350	12,380	15,680	42,890	76,920	89,770	66,050	45,060
Cfsm	4.24	3.33	3.33	4.85	2.98	1.92	2.51	6.64	12.3	13.9	10.2	7.21
In.	4.89	3.71	3.83	5.60	3.10	2.21	2.80	7.66	13.74	16.03	11.80	8.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	449	411	313	270	230	220	377	883	1,309	1,321	988	618
Max	1,564	1,652	1,023	842	683	663	1,057	1,601	2,072	1,935	1,502	906
(WY)	(2004)	(1996)	(1981)	(1984)	(1991)	(1972)	(1934)	(1993)	(1948)	(1975)	(1999)	(1997)
Min	192	110	95.2	78.4	57.3	91.1	172	432	706	784	704	361
(WY)	(2003)	(1936)	(1931)	(1979)	(1936)	(1956)	(1975)	(1977)	(2005)	(1993)	(1993)	(2007)

12175500 THUNDER CREEK NEAR NEWHALEM, WA—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1931 - 2011	
Annual total	198,779		235,493			
Annual mean	545		645		618	
Highest annual mean					863	1934
Lowest annual mean					452	1944
Highest daily mean	2,990	Oct 10	2,990	Oct 10	9,030	Oct 21, 2003
Lowest daily mean	115	Mar 10	141	Dec 6	50	Feb 7, 1936
Annual seven-day minimum	117	Feb 21	150	Dec 2	52	Feb 15, 1936
Annual runoff (ac-ft)	394,300		467,100		447,800	
Annual runoff (cfsm)	5.19		6.14		5.89	
Annual runoff (inches)	70.42		83.43		79.98	
10 percent exceeds	1,200		1,370		1,350	
50 percent exceeds	371		432		421	
90 percent exceeds	130		186		136