



Water-Data Report 2008

12150800 SNOHOMISH RIVER NEAR MONROE, WA

Puget Sound Basin
Snohomish Subbasin

LOCATION.--Lat 47°49'52", long 122°02'50" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.16, T.27 N., R.6 E., Snohomish County, WA, Hydrologic Unit 17110011, on left bank 150 ft upstream from State Highway 522 bridge, 0.1 mi downstream from confluence of Snoqualmie and Skykomish Rivers, 3.6 mi southwest of Monroe, and 6.0 mi south of Snohomish, at mi 20.4.

DRAINAGE AREA.--1,537 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1963 to current year. Water years 1932, 1934, 1951, 1960, 1962-63 (annual maximum stage only) published in WSP 1932. Approximate annual maximum stages for water years 1921, 1949-50, 1952-59, and 1961 are on file in Washington office.

GAGE.--Water-stage recorder. Datum of gage is 13.25 ft above NGVD of 1929. Prior to February 1963, crest-stage gage only at site about 800 ft downstream and Feb. 8, 1963, to May 27, 1964, water-stage recorder at site 100 ft upstream, at NGVD of 1929.

REMARKS.--Records good except estimated daily discharges, which are fair. Some regulation by powerplant at Snoqualmie Falls, 40 mi upstream, and by Spada Lake, 30 mi upstream.

Minor diversions for irrigation returned to river upstream from gage. During the current water year, City of Seattle Water Department diverted an average daily discharge of about 80 ft³/s upstream from station from South Fork Tolt River for municipal use and the City of Everett diverted an undetermined amount of discharge upstream from the station from Sultan River for municipal use.

Chemical analyses December 1974 to January 1976, July 1979 to September 1986. Unpublished records of water temperature and suspended-sediment concentration are available in the Tacoma office of the U.S. Geological Survey. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--45 years (water years 1964-2008), 9,523 ft³/s, 84.18 in/yr, 6,899,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 35.8 ft, Feb. 10, 1951, datum then in use (discharge not determined); maximum discharge since February 1963, 150,000 ft³/s, Nov. 25, 1990, gage height, 25.30 ft, from rating curve extended above 80,000 ft³/s; minimum discharge, 763 ft³/s, Oct. 30, 31, 1987, gage height, 0.51 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1921 reached a discharge of approximately 180,000 ft³/s. Floods in November or December 1897 and November 1906 are believed to be higher.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 33,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 4	0730	*64,200	*16.32
May 18	0800	43,500	12.05

Minimum discharge, 2,120 ft³/s, Sept. 19, 20, gage height, 1.16 ft.

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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	4,910	4,770	4,550	7,330	5,300	10,500	6,400	10,400	19,200	24,500	5,910	5,740
2	10,100	4,170	4,770	7,060	5,340	10,600	6,290	8,860	17,900	22,600	6,450	5,190
3	18,300	3,720	27,800	7,390	4,960	8,680	5,790	8,130	16,600	22,900	5,430	4,680
4	13,400	3,630	62,200	8,170	4,710	9,070	5,120	8,040	23,000	21,200	4,900	4,250
5	8,600	3,690	46,600	8,370	4,960	8,290	5,480	9,900	20,700	17,000	4,920	3,640
6	6,300	3,530	30,800	7,990	5,710	7,270	5,520	12,900	20,300	16,700	4,960	3,210
7	8,090	3,370	21,600	7,290	6,230	6,630	6,010	13,400	22,600	14,700	4,820	3,070
8	15,500	3,270	16,900	6,680	7,630	6,710	6,830	12,600	21,400	13,300	4,550	2,960
9	10,200	3,320	13,800	6,700	12,500	7,120	6,710	11,100	19,100	13,200	4,240	2,880
10	7,240	4,990	11,600	7,040	14,800	6,880	6,020	9,990	21,300	13,200	4,200	3,060
11	7,020	6,740	9,990	10,900	16,100	8,770	e5,600	11,400	21,500	11,500	4,310	2,960
12	6,080	5,860	9,030	11,900	14,200	10,700	e5,480	12,500	19,600	10,200	4,180	2,800
13	5,090	10,500	8,290	11,300	14,000	8,990	e8,870	10,600	17,800	10,200	3,980	2,690
14	4,430	8,230	7,950	10,400	12,100	8,690	e10,700	13,200	17,700	10,200	3,880	2,590
15	4,010	8,360	7,630	12,100	9,780	9,060	e9,950	21,800	17,500	9,700	3,790	2,330
16	3,750	18,200	7,820	10,300	8,810	8,580	9,410	27,300	17,800	8,970	3,680	2,260
17	3,710	17,100	7,780	8,770	8,370	8,220	8,110	36,200	18,100	8,550	3,660	2,200
18	3,900	17,000	7,950	7,750	7,650	8,050	7,760	41,700	16,200	8,010	3,620	2,150
19	6,730	13,000	9,750	7,240	7,210	7,550	7,960	38,500	14,300	7,440	3,580	2,130
20	11,900	10,600	12,400	7,550	6,880	7,110	7,610	37,100	14,000	7,090	4,620	2,130
21	13,000	8,680	11,700	6,940	6,490	6,710	7,260	36,600	17,700	7,020	8,210	2,340
22	14,900	7,510	9,780	6,390	6,270	6,160	6,960	29,500	19,000	6,980	9,000	2,960
23	14,400	6,710	10,400	6,160	6,170	6,070	6,640	22,500	17,200	6,560	6,230	3,330
24	12,600	6,120	18,100	5,820	6,100	7,720	6,650	19,200	15,700	6,000	4,870	2,920
25	12,100	5,680	14,100	5,410	5,960	6,910	6,610	22,000	15,100	5,820	4,730	2,720
26	9,310	5,290	11,500	4,820	5,840	6,450	6,030	25,800	15,300	5,900	4,920	3,980
27	7,610	5,390	10,100	4,860	5,780	6,130	5,910	27,000	14,800	5,710	5,980	3,850
28	7,310	5,390	9,160	4,710	6,370	5,670	7,360	27,500	16,600	5,790	8,680	3,200
29	6,570	5,130	8,790	4,680	7,680	5,670	12,700	26,500	21,500	5,500	7,530	2,810
30	6,030	4,780	8,200	4,770	---	6,030	12,700	22,500	24,400	5,970	7,130	2,560
31	5,480	---	7,730	4,870	---	6,130	---	19,700	---	6,110	6,440	---
Total	268,570	214,730	448,770	231,660	233,900	237,120	220,440	634,420	553,900	338,520	163,400	93,590
Mean	8,664	7,158	14,480	7,473	8,066	7,649	7,348	20,470	18,460	10,920	5,271	3,120
Max	18,300	18,200	62,200	12,100	16,100	10,700	12,700	41,700	24,400	24,500	9,000	5,740
Min	3,710	3,270	4,550	4,680	4,710	5,670	5,120	8,040	14,000	5,500	3,580	2,130
Ac-ft	532,700	425,900	890,100	459,500	463,900	470,300	437,200	1,258,000	1,099,000	671,500	324,100	185,600
Cfsm	5.64	4.66	9.42	4.86	5.25	4.98	4.78	13.3	12.0	7.10	3.43	2.03
In.	6.50	5.20	10.86	5.61	5.66	5.74	5.34	15.35	13.41	8.19	3.95	2.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6,117	12,590	13,170	13,030	10,840	9,436	10,270	13,060	12,510	6,736	3,030	3,346
Max	13,340	34,800	29,580	22,000	24,300	25,700	16,050	20,470	24,730	15,290	7,885	7,646
(WY)	(1996)	(1991)	(1976)	(1984)	(1982)	(1972)	(1989)	(2008)	(1974)	(1964)	(1964)	(1978)
Min	894	2,624	3,966	4,401	4,606	4,859	5,340	7,625	4,070	2,683	1,388	1,133
(WY)	(1988)	(1988)	(1986)	(1979)	(1973)	(1985)	(1975)	(2005)	(1992)	(1987)	(2003)	(1987)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1963 - 2008	
Annual total	3,511,720		3,639,020			
Annual mean	9,621		9,943		9,523	
Highest annual mean					13,670	1972
Lowest annual mean					6,308	2001
Highest daily mean	62,200	Dec 4	62,200	Dec 4	132,000	Nov 25, 1990
Lowest daily mean	1,450	Sep 14	2,130	Sep 19	777	Oct 30, 1987
Annual seven-day minimum	1,520	Sep 11	2,220	Sep 15	796	Oct 25, 1987
Annual runoff (ac-ft)	6,965,000		7,218,000		6,899,000	
Annual runoff (cfsm)	6.26		6.47		6.20	
Annual runoff (inches)	84.99		88.08		84.18	
10 percent exceeds	17,400		19,200		18,200	
50 percent exceeds	8,290		7,550		7,600	
90 percent exceeds	2,210		3,740		2,250	

