

**12208000 MIDDLE FORK NOOKSACK RIVER NEAR DEMING, WA**

Puget Sound Basin  
Nooksack Subbasin

LOCATION.--Lat 48°46'46", long 122°06'19" referenced to North American Datum of 1927, in SW ¼ sec.13, T.38 N., R.5 E., Whatcom County, WA, Hydrologic Unit 17110004, on left bank 0.5 mi upstream from Heislars Creek, 6.0 mi southeast of Deming, and at mile 5.6.

DRAINAGE AREA.--73.3 mi<sup>2</sup>, Area at site 1910-11, 1920-21, 1954, 75.4 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1910 to March 1911 (fragmentary gage heights and discharge measurements only), August 1920 to September 1921, February 1934 to September 1935, June to October 1954, October 1964 to November 1968, July 1969 to July 1970, January 1992 to current year.

REVISED RECORDS.--WSP 1932: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 580 ft above NGVD of 1929, from river-profile map. Oct. 11, 1910, to Mar. 14, 1911, Aug. 28, 1920, to Sept. 30, 1921, June 3 to Oct. 31, 1954, nonrecording gages at site 0.8 mi downstream at different datums. Feb. 18 to Apr. 6, 1934, Nov. 16, 1934, to Sept. 30, 1935, nonrecording gage at present site and datum. Prior to January 1992 at same site, different datum.

COOPERATION.--Records for the 1992-97 water years were provided by the City of Bellingham and were reviewed by the U.S. Geological Survey.

REMARKS.--Records fair except for discharges above 6,000 ft<sup>3</sup>/s, and estimated daily discharges which are poor. Since February 1962, the City of Bellingham sometimes diverts up to about 100 ft<sup>3</sup>/s for municipal use at dam 1.8 mi upstream. Some regulation. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--24 years (water years 1921, 1935, 1965-68, 1993-2011), 522 ft<sup>3</sup>/s, 96.77 in/yr, 378,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, probably occurred Nov. 5, 1934, gage height, 15.0 ft, from floodmarks, present site at different datum; minimum discharge, 30 ft<sup>3</sup>/s, Oct. 3, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,800 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec 12	1230	12,000	7.85
Jan 17	0415	*12,200	*7.89

Minimum daily discharge, 160 ft<sup>3</sup>/s (e), Dec. 12.

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**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	404	1,770	421	297	403	e160	1,120	271	796	905	579	271
2	345	1,170	292	282	359	193	729	382	776	897	556	251
3	319	551	258	269	459	184	514	428	835	1,110	563	250
4	294	461	226	260	1,280	172	508	377	921	901	574	258
5	262	407	210	289	815	194	510	435	1,130	847	589	263
6	255	558	217	830	595	181	408	453	1,150	990	559	271
7	247	1,660	279	1,520	768	168	351	636	1,230	1,040	530	274
8	235	899	1,270	775	518	165	305	571	1,000	827	506	306
9	514	567	1,420	499	421	304	281	431	885	631	484	331
10	1,530	417	799	401	368	523	297	400	878	584	433	329
11	523	352	582	351	346	440	537	e800	826	589	401	345
12	377	345	8,210	445	471	459	360	e1,100	743	626	423	342
13	306	315	4,370	1,010	527	566	320	662	862	974	430	311
14	276	459	1,510	1,980	562	763	316	867	866	1,310	402	275
15	247	1,390	894	1,130	506	741	292	1,290	819	1,040	362	244
16	228	1,680	658	3,890	361	759	331	1,270	689	1,000	343	220
17	217	957	538	6,680	324	450	307	878	632	933	338	198
18	206	643	473	1,480	302	360	274	656	781	822	331	233
19	201	468	420	843	269	317	252	644	833	742	323	229
20	196	387	383	626	246	281	234	768	823	699	372	203
21	188	329	355	1,050	238	272	231	901	826	1,010	441	205
22	189	292	342	867	230	292	219	793	1,040	797	564	536
23	193	259	374	610	216	254	227	717	1,060	612	616	516
24	876	265	550	1,070	e200	240	250	615	771	682	491	419
25	825	249	1,080	1,030	e175	249	331	664	620	743	477	462
26	626	286	674	720	e180	243	370	966	575	629	449	698
27	346	275	505	593	e175	237	383	711	779	535	410	862
28	334	235	478	589	e200	243	378	639	994	518	385	385
29	336	216	410	814	---	266	318	583	1,390	584	357	281
30	296	415	339	674	---	1,230	285	620	1,320	580	337	265
31	984	---	311	486	---	2,370	---	692	---	653	302	---
<b>Total</b>	12,375	18,277	28,848	32,360	11,514	13,276	11,238	21,220	26,850	24,810	13,927	10,033
<b>Mean</b>	399	609	931	1,044	411	428	375	685	895	800	449	334
<b>Max</b>	1,530	1,770	8,210	6,680	1,280	2,370	1,120	1,290	1,390	1,310	616	862
<b>Min</b>	188	216	210	260	175	160	219	271	575	518	302	198
<b>Ac-ft</b>	24,550	36,250	57,220	64,190	22,840	26,330	22,290	42,090	53,260	49,210	27,620	19,900
<b>Cfsm</b>	5.45	8.31	12.7	14.2	5.61	5.84	5.11	9.34	12.2	10.9	6.13	4.56
<b>In.</b>	6.28	9.28	14.64	16.42	5.84	6.74	5.70	10.77	13.63	12.59	7.07	5.09

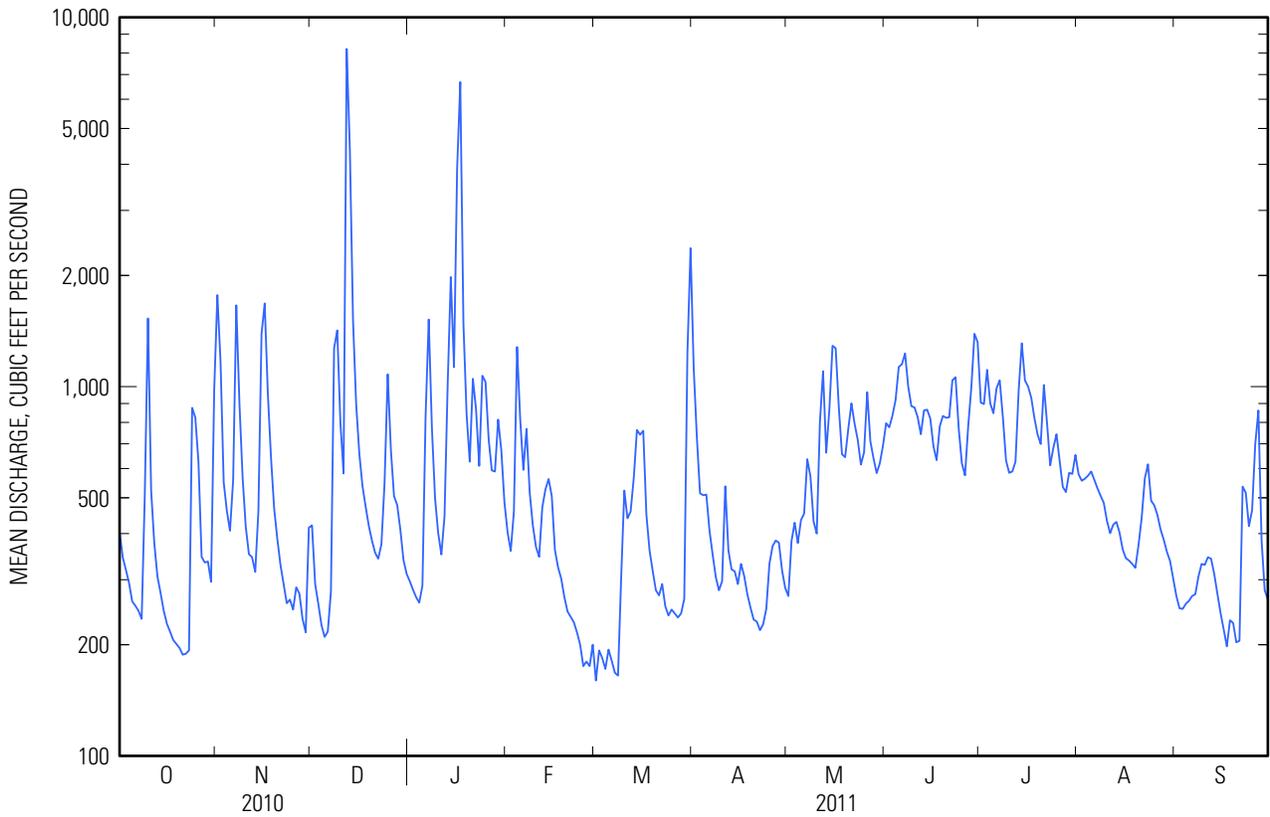
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2011, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	531	673	569	627	426	403	441	652	696	504	337	345
<b>Max</b>	1,379	1,417	940	1,044	855	998	739	1,253	1,202	839	686	796
<b>(WY)</b>	(2004)	(2010)	(1999)	(2011)	(1921)	(2007)	(1966)	(2008)	(1921)	(1954)	(2008)	(1920)
<b>Min</b>	156	215	237	240	175	218	127	385	327	311	174	120
<b>(WY)</b>	(2003)	(1994)	(1993)	(2008)	(2001)	(2006)	(1967)	(1992)	(1996)	(1970)	(1994)	(1965)

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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1920 - 2011	
<b>Annual total</b>	203,052		224,728			
<b>Annual mean</b>	556		616		522	
<b>Highest annual mean</b>					665 1921	
<b>Lowest annual mean</b>					362 1994	
<b>Highest daily mean</b>	8,210	Dec 12	8,210	Dec 12	8,650	Nov 6, 2006
<b>Lowest daily mean</b>	162	Aug 30	160	Mar 1	32	Sep 29, 1965
<b>Annual seven-day minimum</b>	197	Sep 5	179	Mar 1	36	Sep 27, 1965
<b>Annual runoff (ac-ft)</b>	402,800		445,700		378,200	
<b>Annual runoff (cfsm)</b>	7.59		8.40		7.12	
<b>Annual runoff (inches)</b>	103.05		114.05		96.77	
<b>10 percent exceeds</b>	981		1,040		989	
<b>50 percent exceeds</b>	401		461		380	
<b>90 percent exceeds</b>	220		234		176	



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**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--

WATER TEMPERATURE: July 2006 to current year (seasonal record only, April to September).

INSTRUMENTATION.--Water-temperature sensor with a 15-minute logging interval.

REMARKS.--Temperature records are excellent.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum recorded, 14.6 °C, Aug. 2, 2009; no winter record.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 12.2°C, August 4; no winter record.

**TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

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	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

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TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	4.8	3.8	4.3	8.3	3.6	5.8
2	---	---	---	---	---	---	4.3	3.7	4.0	6.7	4.8	5.4
3	---	---	---	---	---	---	5.2	3.7	4.3	5.7	4.4	5.0
4	---	---	---	---	---	---	4.5	3.6	3.9	8.2	4.1	5.9
5	---	---	---	---	---	---	4.4	3.6	3.9	6.5	5.0	5.4
6	---	---	---	---	---	---	4.7	2.8	3.8	6.3	4.8	5.5
7	---	---	---	---	---	---	5.0	2.7	3.7	5.5	4.7	5.1
8	---	---	---	---	---	---	5.9	2.8	4.2	6.3	4.4	5.3
9	---	---	---	---	---	---	5.6	3.8	4.7	6.6	4.7	5.6
10	---	---	---	---	---	---	5.2	4.5	4.8	---	4.6	---
11	---	---	---	---	---	---	5.0	3.5	4.3	---	---	---
12	---	---	---	---	---	---	6.2	3.4	4.6	6.8	---	---
13	---	---	---	---	---	---	5.6	4.1	4.8	8.4	4.0	5.9
14	---	---	---	---	---	---	4.4	3.2	3.8	7.2	5.3	6.1
15	---	---	---	---	---	---	5.2	3.0	4.0	5.5	4.6	5.0
16	---	---	---	---	---	---	5.1	4.2	4.5	5.3	4.5	4.8
17	---	---	---	---	---	---	5.1	3.4	4.2	8.1	4.5	5.9
18	---	---	---	---	---	---	5.2	2.0	3.7	8.8	4.1	6.2
19	---	---	---	---	---	---	4.8	3.2	3.9	9.2	4.4	6.5
20	---	---	---	---	---	---	5.4	2.9	4.2	9.7	4.7	6.8
21	---	---	---	---	---	---	4.7	2.5	3.4	6.4	5.2	5.7
22	---	---	---	---	---	---	6.6	2.8	4.4	6.4	5.1	5.6
23	---	---	---	---	---	---	7.5	3.1	5.1	6.2	5.0	5.6
24	---	---	---	---	---	---	6.3	3.8	5.1	6.8	5.2	5.9
25	---	---	---	---	---	---	5.6	4.6	5.1	7.0	5.0	5.9
26	---	---	---	---	---	---	6.3	4.3	5.1	6.5	4.7	5.5
27	---	---	---	---	---	---	5.9	4.6	5.2	6.9	5.0	5.8
28	---	---	---	---	---	---	5.7	3.3	4.3	6.8	5.2	6.0
29	---	---	---	---	---	---	6.2	3.6	4.7	7.7	5.2	6.3
30	---	---	---	---	---	---	6.8	4.1	5.3	6.8	5.6	6.2
31	---	---	---	---	---	---	---	---	---	8.1	4.9	6.2
Month	---	---	---	---	---	---	7.5	2.0	4.4	---	---	---

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**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	6.9	5.2	5.9	9.2	5.8	7.2	11.5	6.8	8.9	9.8	7.3	8.6
2	6.1	5.3	5.7	11.2	6.1	8.1	11.5	7.6	9.3	10.7	7.9	9.1
3	8.8	5.1	6.6	8.3	6.7	7.3	11.5	7.6	9.4	10.8	7.4	9.0
4	10.2	5.0	7.1	10.3	5.5	7.5	12.2	7.8	9.7	11.0	7.8	9.3
5	10.0	5.0	7.0	11.0	6.0	8.2	11.6	7.8	9.5	11.0	7.8	9.4
6	9.6	5.1	6.9	11.4	6.6	8.6	11.8	8.2	9.8	11.1	7.9	9.4
7	6.9	5.7	6.2	8.2	6.8	7.4	11.9	7.6	9.5	11.1	7.9	9.4
8	6.9	5.4	6.1	7.8	6.1	6.8	12.1	7.9	9.7	11.3	8.3	9.7
9	7.5	5.7	6.4	9.9	5.8	7.6	11.4	8.2	9.6	10.9	8.1	9.4
10	8.1	5.7	6.7	9.5	6.4	8.0	9.6	8.1	8.6	10.9	8.0	9.3
11	7.1	5.7	6.3	9.8	6.8	8.1	11.1	8.0	9.3	11.1	8.3	9.5
12	8.6	5.2	6.8	8.8	7.2	7.9	11.8	7.5	9.4	11.1	8.2	9.5
13	7.4	6.1	6.6	8.1	7.0	7.5	11.5	7.4	9.3	10.8	8.5	9.4
14	7.4	5.5	6.3	7.8	6.8	7.3	9.8	8.1	8.8	9.9	8.7	9.3
15	7.1	5.7	6.2	9.2	6.8	7.7	9.9	7.8	8.7	9.1	8.5	8.7
16	7.9	5.7	6.6	8.1	7.1	7.6	11.1	7.1	8.9	9.4	7.8	8.5
17	7.9	6.0	6.9	8.4	6.7	7.6	11.1	7.2	9.1	9.2	7.6	8.4
18	7.0	6.2	6.6	9.9	7.1	8.2	11.2	7.2	9.0	9.8	8.3	8.9
19	7.2	5.9	6.4	8.3	6.9	7.7	11.5	7.5	9.4	9.9	8.2	9.0
20	7.4	5.9	6.6	9.0	7.2	7.9	12.0	7.9	9.8	9.8	7.2	8.5
21	10.2	5.9	7.7	9.0	7.3	7.9	11.9	8.5	9.9	10.6	8.2	9.3
22	10.3	6.0	7.8	8.9	6.5	7.5	9.9	8.5	9.1	10.3	9.4	9.7
23	7.3	6.0	6.6	11.2	6.5	8.5	11.0	8.4	9.4	11.0	9.2	10
24	7.3	5.8	6.5	11.8	7.1	9.2	11.9	7.9	9.5	10.1	8.0	9.0
25	7.6	5.8	6.6	9.2	7.5	8.1	12.1	8.4	10.0	9.4	8.2	9.0
26	10.8	5.4	7.8	8.5	7.2	7.9	11.9	8.3	9.9	8.8	7.9	8.2
27	8.8	6.8	7.7	9.8	7.4	8.3	11.8	8.2	9.8	9.2	8.3	8.8
28	8.2	6.4	7.3	11.7	6.9	9.0	11.7	8.2	9.8	8.4	7.1	7.8
29	7.1	6.2	6.7	11.1	7.9	9.3	11.0	8.2	9.5	8.8	6.4	7.6
30	7.0	5.6	6.2	11.9	7.4	9.3	10.3	8.6	9.4	---	---	---
31	---	---	---	9.9	8.2	8.8	10.1	8.2	9.0	---	---	---
Month	10.8	5.0	6.7	11.9	5.5	8.0	12.2	6.8	9.4	---	---	---