

SNOHOMISH RIVER BASIN

12147600 SOUTH FORK TOLT RIVER NEAR INDEX, WA

LOCATION.--Lat 47°42'25", long 121°35'56", in NE 1/4 SW 1/4 sec.25, T.26 N., R.9 E., King County, Hydrologic Unit 17110010, on left bank 0.6 mi upstream from Phelps Creek, 8.1 mi south of Index, and at mile 12.9.

DRAINAGE AREA.--5.34 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1959 to December 1963, November 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,850 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1961, at datum 0.85 ft higher. Oct. 1, 1961 to Sept. 30, 1992, at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair except for those above 900 ft³/s and below 15 ft³/s, which are poor. No regulation or diversion upstream from station. A portion of flow is within the gravel streambed and is unmeasurable. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--37 years (water years 1961-63, 1969-2002), 54.8 ft³/s, 139.49 in/yr, 39,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,240 ft³/s Dec. 15, 1999; gage height 4.54 ft Possible result from debris dam breakup; maximum gage height, 8.13 ft, present datum, Dec. 14, 1959; minimum discharge, 2.2 ft³/s Oct. 9, 10, 1989, Sept. 9, 10, 1997, Sept. 14-17, 1998.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	0930	924	3.58	Feb. 22	1000	*1,210	*3.84
Dec. 13	0830	799	3.44	Apr. 12	0600	615	3.19
Dec. 16	0930	833	3.48	Apr. 14	0400	825	3.46
Jan. 07	2200	1,190	3.83	Jun. 29	0545	718	3.33

Minimum discharge, 4.6 ft³/s Oct. 5-7.

REVISIONS.--The peak discharges greater than base discharge and annual maximum (*) reported for water years 1999 and 2000 have been revised as shown in the following table. They supersede figures published in WDR WA-99-1 and WDR WA-00-1.

Water Year 1999

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 13	1600	914	3.56	Dec. 29	1415	1,390	3.99
Nov. 20	1930	1,060	3.71	Jan. 10	1245	651	3.24
Nov. 25	2145	672	3.27	Jan. 14	1345	*1,550	*4.11
Dec. 27	2130	982	3.63				

Water Year 2000

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8	0730	1,080	3.73	Dec. 15	1445	(a) *2,240	*4.54
Dec. 12	0115	629	3.21				

(a) Possible result from debris dam breakup.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	142	43	21	17	23	39	95	99	96	15	5.1
2	5.6	129	57	36	15	20	39	105	101	69	13	8.7
3	5.2	68	29	35	16	19	32	107	98	59	12	22
4	5.0	52	23	37	14	19	38	68	105	50	11	11
5	4.7	72	20	31	13	23	58	56	200	48	12	7.5
6	4.6	44	30	76	17	19	111	45	169	53	19	6.3
7	4.7	32	29	801	24	17	129	36	89	63	17	6.6
8	7.7	25	29	553	19	16	68	32	72	87	13	7.0
9	19	21	32	183	17	15	83	31	64	57	12	7.0
10	58	19	22	77	17	16	168	30	83	67	11	6.4
11	166	17	18	58	17	222	192	33	107	65	11	5.7
12	136	17	33	96	15	113	448	59	140	58	11	5.5
13	144	65	548	68	13	55	529	96	182	55	9.9	5.4
14	153	694	208	44	12	37	497	129	175	44	9.8	5.0
15	65	250	68	34	13	30	127	85	132	34	9.2	4.9
16	40	129	621	28	14	25	78	69	103	33	8.6	36
17	38	66	306	24	15	21	57	97	82	34	7.8	25
18	34	43	81	22	24	19	46	94	157	33	7.3	12
19	248	43	52	22	36	19	40	86	103	32	6.9	9.4
20	97	67	38	25	30	18	39	115	86	27	7.7	9.6
21	88	98	31	21	415	16	38	109	111	26	7.2	7.9
22	200	124	25	18	806	16	63	161	112	28	6.7	6.8
23	131	98	22	18	255	16	65	109	94	27	6.5	6.3
24	91	57	20	104	100	17	47	87	78	26	6.5	5.8
25	208	39	18	103	56	21	41	91	87	23	6.5	5.6
26	119	34	16	35	39	23	40	103	106	21	6.4	5.5
27	94	30	15	24	31	25	38	123	99	19	5.9	5.3
28	58	26	26	19	27	42	37	285	152	16	5.8	5.0
29	40	30	25	17	---	34	50	357	368	26	5.8	9.5
30	57	25	20	16	---	36	73	171	94	23	5.6	13
31	173	---	21	21	---	33	---	120	---	19	5.3	---
TOTAL	2500.5	2556	2526	2667	2087	1025	3310	3184	3648	1318	292.4	276.8
MEAN	80.66	85.20	81.48	86.03	74.54	33.06	110.3	102.7	121.6	42.52	9.432	9.227
MAX	248	694	621	801	806	222	529	357	368	96	19	36
MIN	4.6	17	15	16	12	15	32	30	64	16	5.3	4.9
AC-FT	4960	5070	5010	5290	4140	2030	6570	6320	7240	2610	580	549
CFSM	15.1	16.0	15.3	16.1	14.0	6.19	20.7	19.2	22.8	7.96	1.77	1.73
IN.	17.42	17.81	17.60	18.58	14.54	7.14	23.06	22.18	25.41	9.18	2.04	1.93

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44.45	79.20	75.16	71.75	62.22	46.30	64.51	80.46	68.76	31.86	13.77	24.27
MAX	107	181	165	154	150	93.4	116	140	160	81.3	37.4	56.9
(WY)	1986	1991	1976	1990	1982	1972	1988	1972	1974	1974	1975	1969
MIN	6.24	14.0	20.0	19.8	9.41	18.6	28.6	26.0	13.1	13.3	3.89	3.56
(WY)	1988	1980	1986	1981	1969	1962	1975	1992	1992	1961	1998	1998

SUMMARY STATISTICS

	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1960 - 2002	
ANNUAL TOTAL	17333.8		25390.7			
ANNUAL MEAN	47.49		69.56		54.82	
HIGHEST ANNUAL MEAN					77.8	
LOWEST ANNUAL MEAN					34.3	
HIGHEST DAILY MEAN	694	Nov 14	806	Feb 22	1160	Nov 23 1986
LOWEST DAILY MEAN	4.5	Sep 23	4.6	Oct 6	2.2	Sep 9 1997
ANNUAL SEVEN-DAY MINIMUM	4.6	Sep 19	5.1	Oct 1	2.2	Sep 11 1998
ANNUAL RUNOFF (AC-FT)	34380		50360		39720	
ANNUAL RUNOFF (CFSM)	8.89		13.0		10.3	
ANNUAL RUNOFF (INCHES)	120.75		176.88		139.49	
10 PERCENT EXCEEDS	97		143		115	
50 PERCENT EXCEEDS	28		34		33	
90 PERCENT EXCEEDS	6.7		7.1		7.9	