

Figure 18. Location of surface-water and water-quality stations in the Skokomish River Basin.

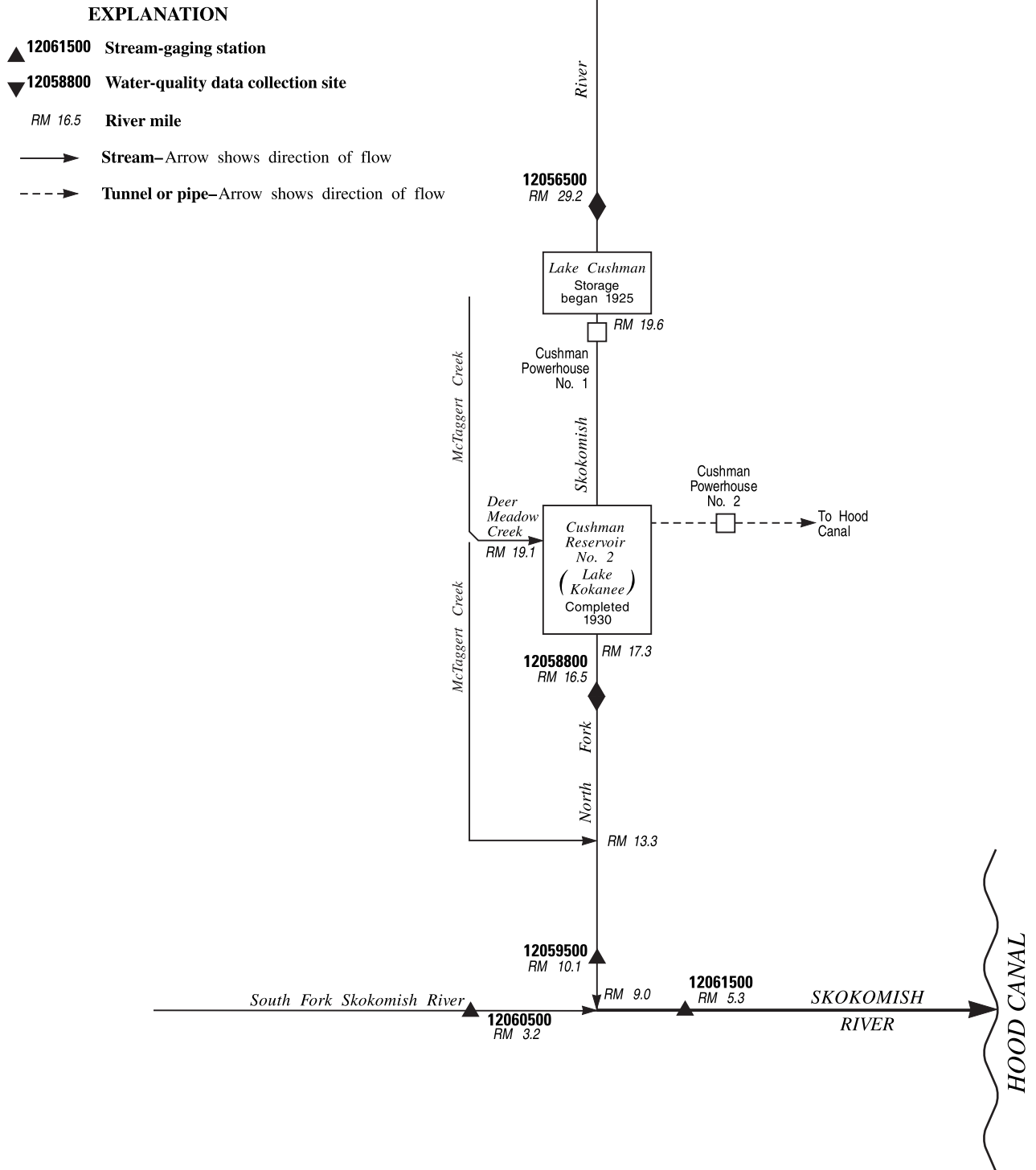


Figure 19. Schematic diagram showing surface-water and water-quality stations in the Skokomish River Basin.

SKOKOMISH RIVER BASIN

12056500 NORTH FORK SKOKOMISH RIVER BELOW STAIRCASE RAPIDS, NEAR HOODSPORT, WA

LOCATION.--Lat 47°30'52", long 123°19'43", in NW ¼ sec.4, T.23 N., R.5 W., Mason County, Hydrologic Unit 17110017, Olympic National Park, on left bank 1.2 mi upstream from Lake Cushman, 2.8 mi upstream from Dry Creek, 11.3 mi northwest of Hoodport, and at mile 29.2.

DRAINAGE AREA.--57.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to current year.

REVISED RECORDS.--WSP 1286: 1932, 1935, 1937(M), 1942(M), 1947(P), 1948(M). WSP 1636: 1940(M). WSP 1736: 1927. WSP 1932: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 762.26 ft above NGVD of 1929. Prior to Nov. 1, 1934, water-stage recorder, and Nov. 1, 1934, to Nov. 10, 1941, nonrecording gages, on right bank at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station. Chemical analyses December 1973 to September 1985.

AVERAGE DISCHARGE.--79 years (water years 1925-2003), 510 ft³/s, 121.22 in/yr, 369,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s Nov. 5, 1934, gage height, 14.4 ft, from high-water mark, from rating curve extended above 9,800 ft³/s on basis of slope-area measurement at gage height 12.2 ft; minimum discharge recorded, 16 ft³/s Sept. 23, 1930, gage height, 1.12 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 12	1030	3,530	5.79	Jan 4	1215	5,760	6.97
Nov 18	2045	3,290	5.65	Jan 23	0030	3,920	5.99
Dec 12	1300	4,890	6.53	Jan 26	0715	5,200	6.69
Dec 14	1430	5,320	6.75	Mar 13	1015	*7,090	*7.60
Jan 2	1030	4,190	6.15	Mar 22	0545	4,370	6.25

Minimum daily discharge, 39 ft³/s, Nov. 1-4.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e52	e39	247	512	1,230	262	602	414	498	276	115	59
2	e52	e39	235	3,090	918	252	533	429	468	241	109	57
3	e54	e39	226	2,570	764	241	485	418	450	221	104	e56
4	e60	e39	232	3,950	660	232	442	398	474	214	101	e56
5	e56	e40	221	2,090	591	230	415	368	534	218	98	e55
6	e55	252	206	1,260	535	232	394	337	621	215	95	e54
7	e56	711	200	1,020	495	220	603	317	664	215	93	e58
8	e58	1,540	192	920	463	211	1,190	299	627	209	94	e55
9	e58	1,230	225	845	428	324	1,320	294	566	197	93	e56
10	e57	1,130	625	735	403	438	815	317	503	200	89	e55
11	e56	1,260	773	783	382	e664	746	375	440	205	87	e64
12	e53	2,650	3,790	1,200	360	2,830	737	405	421	201	85	e62
13	e52	1,450	1,940	964	348	6,750	793	408	425	212	85	e54
14	e50	1,050	3,500	988	337	4,540	723	413	402	197	81	e52
15	e48	603	3,120	754	435	2,890	638	375	364	186	80	e50
16	e46	1,210	2,190	640	514	1,750	575	331	355	173	83	e49
17	e45	951	1,310	599	448	1,230	524	303	383	159	80	e49
18	e44	1,610	928	633	400	971	473	277	394	155	79	e53
19	e44	2,230	765	633	392	1,090	432	267	344	155	77	e82
20	e44	1,100	655	574	433	1,450	411	266	308	157	74	e65
21	e44	744	574	597	496	1,420	408	278	286	156	71	e57
22	e44	577	511	2,250	473	2,940	410	328	271	152	71	e53
23	e44	475	470	2,760	404	1,450	429	431	268	148	69	e53
24	e43	409	437	2,220	360	985	461	619	262	141	66	e52
25	e43	361	722	1,720	333	797	405	555	264	133	64	e50
26	e41	331	738	3,820	313	711	378	436	295	131	65	e49
27	e41	306	717	1,850	290	621	355	429	318	128	64	e48
28	e40	289	644	1,220	276	559	350	571	313	127	62	e48
29	e40	272	519	1,080	---	530	363	561	303	127	61	e47
30	e40	260	472	1,350	---	604	390	537	323	125	60	e47
31	e40	---	421	2,040	---	746	---	527	---	122	60	---
TOTAL	1,500	23,197	27,805	45,667	13,481	38,170	16,800	12,283	12,144	5,496	2,515	1,645
MEAN	48.4	773	897	1,473	481	1,231	560	396	405	177	81.1	54.8
MAX	60	2,650	3,790	3,950	1,230	6,750	1,320	619	664	276	115	82
MIN	40	39	192	512	276	211	350	266	262	122	60	47
AC-FT	2,980	46,010	55,150	90,580	26,740	75,710	33,320	24,360	24,090	10,900	4,990	3,260
CFSM	0.85	13.5	15.7	25.8	8.42	21.5	9.79	6.93	7.08	3.10	1.42	0.96
IN.	0.98	15.09	18.08	29.70	8.77	24.82	10.93	7.99	7.90	3.57	1.64	1.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2003, BY WATER YEAR (WY)

MEAN	365	713	794	708	633	508	516	656	600	339	156	144
MAX	1,143	1,762	1,778	1,915	1,465	1,325	901	1,304	1,332	1,037	551	624
(WY)	(1998)	(1984)	(1934)	(1953)	(1991)	(1972)	(1943)	(1956)	(1956)	(1999)	(1999)	(1978)
MIN	42.3	40.0	244	124	111	190	268	333	180	88.5	54.9	50.2
(WY)	(1988)	(1937)	(1979)	(1937)	(1929)	(1955)	(1975)	(1930)	(1992)	(1926)	(1926)	(1926)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1924 - 2003

ANNUAL TOTAL	197,820	200,703	
ANNUAL MEAN	542	550	510
HIGHEST ANNUAL MEAN			762
LOWEST ANNUAL MEAN			256
HIGHEST DAILY MEAN	9,660	Jan 7	6,750
LOWEST DAILY MEAN	39	Nov 1	39
ANNUAL SEVEN-DAY MINIMUM	39	Oct 29	39
ANNUAL RUNOFF (AC-FT)	392,400		398,100
ANNUAL RUNOFF (CFSM)	9.48		9.61
ANNUAL RUNOFF (INCHES)	128.65		130.53
10 PERCENT EXCEEDS	1,090		1,230
50 PERCENT EXCEEDS	366		350
90 PERCENT EXCEEDS	57		52
			9,980
			17
			20
			369,700
			8.92
			121.22
			1,020
			374
			91

e Estimated

12056500 NORTH FORK SKOKOMISH RIVER BELOW STAIRCASE RAPIDS, NEAR HOODSPORT, WA

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1996 to April 1998 (discontinued).

WATER TEMPERATURE: April 1965 to September 1982, June 1989 to December 1989, December 1990 to April 1991, June 1992 to April 1998, October 1999 to current year.

INSTRUMENTATION.--Temperature recorder April 1965 to September 1982, June 1989 to April 1998, October 1999 to current year. Water-quality monitor April 1996 to April 1998 (discontinued). Electronic Data Logger with 15-minute recording interval. Prior to June 13, 1997, a 60-minute recording interval.

REMARKS.--Record rated good Oct. 1 to Nov. 2, Feb. 26 to May 20, and July 16 to Aug. 31; Record rated fair Nov. 3-16, Feb. 16-25, May 21-29, and July 4-15; Record rated poor Nov. 17 to Feb. 15, May 30 to July 3, and Sept. 1-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 108 microsiemens September 11, 28, 1996; minimum recorded, 25 microsiemens March 18, 19, 1997.

WATER TEMPERATURE: Maximum recorded, 16.5°C (rounded) Aug. 14, 15, 1992; minimum, 0.0°C Mar. 24, 1976, Jan. 31, 1996, Dec. 29, 1996.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 15.3°C July 31 and Aug. 17; minimum, 1.8°C March 21.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.9	7.9	8.9	6.8	3.2	4.2	6.1	5.7	5.9	4.5	3.4	4.0
2	9.8	8.1	8.9	6.4	3.3	4.1	6.4	6.0	6.2	3.9	2.8	3.5
3	10.1	7.3	8.3	6.5	3.3	4.2	6.2	5.6	5.8	4.7	3.6	4.3
4	10.4	7.5	8.5	6.3	3.5	4.7	6.1	5.4	5.8	4.7	3.6	4.2
5	10.7	8.8	9.8	7.2	5.2	6.3	5.8	5.4	5.5	4.9	4.4	4.7
6	11.1	9.8	10.4	6.8	6.2	6.6	5.6	5.2	5.4	4.9	4.7	4.8
7	11.0	9.8	10.4	7.0	6.1	6.7	5.4	4.9	5.1	4.9	4.7	4.8
8	10.5	9.1	10.1	6.3	5.8	6.0	5.3	4.9	5.1	4.9	4.5	4.7
9	9.7	8.5	9.1	5.9	5.6	5.8	5.3	5.1	5.2	4.7	4.4	4.6
10	9.4	8.2	8.8	5.9	5.5	5.7	5.3	4.4	4.9	4.7	4.4	4.5
11	9.0	7.3	8.0	6.2	5.7	6.0	4.8	3.7	4.2	4.8	4.4	4.6
12	8.5	6.9	7.5	6.0	5.9	6.0	4.7	3.8	4.3	4.7	4.4	4.6
13	8.6	6.8	7.5	6.5	5.9	6.2	5.1	4.6	4.8	5.0	4.6	4.8
14	8.6	6.7	7.5	6.3	5.9	6.1	5.0	4.6	4.8	4.6	4.4	4.5
15	8.8	6.9	7.6	6.1	5.6	5.9	5.1	4.6	4.8	4.7	4.3	4.5
16	9.1	7.4	8.1	6.0	5.7	5.9	5.3	4.8	5.0	5.0	4.5	4.7
17	9.1	7.5	8.2	6.1	5.7	5.9	5.0	4.4	4.7	4.8	4.5	4.7
18	9.0	7.6	8.2	6.7	5.8	5.9	4.7	4.4	4.6	4.8	4.4	4.6
19	9.5	8.1	8.8	6.6	6.1	6.4	4.6	4.0	4.4	4.9	4.5	4.7
20	9.9	8.8	9.3	6.5	6.1	6.4	4.8	4.4	4.6	4.8	4.5	4.6
21	9.9	9.1	9.4	6.9	6.1	6.7	4.9	4.5	4.7	5.0	4.6	4.8
22	9.7	8.4	9.1	6.9	6.5	6.7	5.0	4.5	4.8	4.8	4.1	4.5
23	9.3	7.7	8.3	6.5	5.6	5.9	4.9	4.4	4.7	4.7	4.1	4.4
24	9.0	7.1	7.8	5.8	5.4	5.6	4.6	3.5	4.2	4.9	4.5	4.7
25	8.6	6.4	7.2	5.4	4.9	5.1	3.7	3.1	3.5	5.1	4.6	4.9
26	8.1	6.9	7.4	5.4	5.0	5.2	4.6	3.7	4.3	4.7	4.3	4.5
27	8.8	7.0	7.7	5.8	5.3	5.5	4.4	3.7	4.0	5.0	4.6	4.8
28	8.3	6.3	7.3	6.3	5.7	5.9	4.7	4.1	4.4	4.8	4.6	4.7
29	7.8	5.8	6.7	6.2	6.0	6.0	4.6	3.7	4.4	4.9	4.3	4.6
30	7.3	4.1	5.3	6.2	6.0	6.0	4.4	3.2	3.9	4.9	4.4	4.7
31	6.7	3.7	4.5	---	---	---	4.5	4.3	4.4	4.9	4.4	4.6
MONTH	11.1	3.7	8.2	7.2	3.2	5.8	6.4	3.1	4.8	5.1	2.8	4.6

12056500 NORTH FORK SKOKOMISH RIVER BELOW STAIRCASE RAPIDS, NEAR HOODSPORT, WA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat fltr inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat fltr incrm. titr., field, mg/L (00453)	Carbonate, wat fltr incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)
NOV 07...	1210	309	729	11.9	102	7.9	83	9.5	6.8	32	38	0.0	1.35
JAN 08...	1320	901	745	12.6	100	7.2	74	2.7	4.5	28	34	0.0	0.72
MAR 06...	1340	233	736	12.3	97	7.4	86	3.3	4.0	35	42	0.0	0.96
MAY 13...	1230	396	745	11.6	96	7.9	71	15.2	6.1	28	34	0.0	0.66
JUN 06...	1220	563	741	11.1	99	7.7	60	25.9	8.9	25	31	0.0	0.51
JUL 14...	1240	200	748	11.0	101	7.9	81	18.1	10.8	31	38	0.0	0.65
SEP 10...	1210	54	746	10.9	102	8.0	103	15.3	11.3	40	48	0.0	1.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sulfate water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV 07...	5.8	E.10	<0.04	0.17	<0.008	<0.02	<0.04	3	2.5
JAN 08...	5.1	E.10	<0.04	E.02	<0.008	<0.02	0.005	2	4.9
MAR 06...	6.7	<0.10	<0.04	<0.06	<0.008	<0.02	E.003	1	0.63
MAY 13...	5.0	E.06	<0.04	<0.06	<0.008	<0.02	0.004	<0.5	--
JUN 06...	3.7	E.07	<0.04	<0.06	<0.008	<0.02	0.004	<0.5	--
JUL 14...	5.7	E.08	<0.04	<0.06	<0.008	<0.02	0.004	2	1.1
SEP 10...	7.8	<0.10	<0.04	<0.06	<0.008	<0.02	0.006	1	0.15

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Biomass periphyton, ashfree drymass g/m2 (49954)	Periphyton biomass ash weight, g/m2 (00572)	Periphyton biomass dry weight, g/m2 (00573)	Biomass chlorophyll ratio, periphyton, number (70950)	Pheophytin a, periphyton, mg/m2 (62359)	Chlorophyll a periphyton, chromofluoro, mg/m2 (70957)
JUL 28...	1000	129	22.7	360	382.6	623	23	36.5

12058800 NORTH FORK SKOKOMISH RIVER BELOW LOWER CUSHMAN DAM, NEAR POTLATCH, WA

LOCATION.--Lat 47°23'27", long 123°12'30", in SE 1/4 SE 1/4 sec.17, T.22 N., R.4 W., Mason County, Hydrologic Unit 17110017, on right bank 1.2 mi downstream from Lower Cushman Dam (Cushman Dam No. 2), 2.8 mi northwest of Potlatch, and at mile 16.5.

DRAINAGE AREA.--102 mi², approximately, includes 99 mi² upstream from Cushman Dam No. 2 which is noncontributing except during spillage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 230 ft above NGVD of 1929, from topographic map. Prior to Sept. 25, 1991, water-stage recorder at site 400 ft downstream at datum 7.66 ft lower.

REMARKS.--No estimated daily discharges. Records good. Upper portion of McTaggart Creek is diverted through Deer Meadow Creek into Cushman Reservoir No. 2. Flow regulated at Lake Cushman and at Cushman Reservoir No. 2 to supply powerplant, which discharges into Hood Canal. Entire flow of river normally diverted at Cushman Dam No. 2 except infrequent releases. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--15 years (water years 1989-2003), 55.5 ft³/s, 40,180 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,680 ft³/s Dec. 19, 1995, gage height, 10.97 ft, from rating curve extended above 370 ft³/s; minimum discharge, 4.7 ft³/s June 13-15, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft³/s, Jan 2, gage height, 4.95 ft; minimum discharge, 60 ft³/s, Nov. 4 and many days in June, July, August, and September.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	66	66	72	70	66	68	66	62	61	61	61
2	67	66	65	83	70	67	68	64	62	62	61	61
3	67	66	65	77	69	67	68	64	62	62	61	61
4	67	65	65	78	68	66	67	64	61	62	62	61
5	67	66	67	73	68	66	67	64	62	61	61	62
6	67	66	68	70	68	66	68	64	62	62	61	62
7	67	65	68	70	68	66	70	64	62	61	61	62
8	67	65	67	69	68	66	72	64	61	61	61	62
9	67	66	67	68	67	68	70	64	62	61	61	62
10	67	66	68	68	67	67	69	64	62	61	61	62
11	67	66	71	69	67	67	69	63	62	61	61	62
12	67	66	74	70	67	71	69	63	61	61	61	61
13	67	66	72	69	66	77	69	62	62	61	62	62
14	67	66	74	69	66	74	69	63	62	61	61	62
15	67	66	72	68	67	72	69	63	62	62	61	62
16	66	67	73	68	67	71	69	63	62	62	62	62
17	67	66	71	68	67	70	68	63	62	62	62	62
18	66	67	70	67	66	69	68	63	62	62	61	62
19	67	69	69	67	67	69	68	62	62	62	61	62
20	67	66	68	67	68	70	68	63	62	62	61	61
21	66	66	68	67	67	72	68	62	62	62	62	62
22	67	66	68	71	67	80	68	62	62	62	61	62
23	67	66	67	72	67	72	69	62	62	62	61	62
24	67	66	68	72	67	71	69	62	61	62	61	62
25	67	66	69	72	67	70	70	62	62	62	61	62
26	67	66	69	78	67	69	66	62	61	61	61	62
27	67	66	70	72	66	69	66	62	62	61	62	62
28	67	66	69	71	67	68	66	62	62	61	61	62
29	67	66	68	70	---	68	67	62	62	61	61	62
30	67	66	69	71	---	67	66	62	61	61	62	62
31	66	---	69	73	---	67	---	62	---	61	62	---
TOTAL	2,073	1,982	2,134	2,199	1,886	2,148	2,048	1,952	1,854	1,906	1,899	1,854
MEAN	66.9	66.1	68.8	70.9	67.4	69.3	68.3	63.0	61.8	61.5	61.3	61.8
MAX	67	69	74	83	70	80	72	66	62	62	62	62
MIN	66	65	65	67	66	66	66	62	61	61	61	61
AC-FT	4,110	3,930	4,230	4,360	3,740	4,260	4,060	3,870	3,680	3,780	3,770	3,680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

MEAN	44.2	49.9	105	63.3	56.4	46.8	61.8	44.3	45.9	44.8	49.9	49.4
MAX	67.5	95.4	872	309	183	69.3	232	66.9	66.1	66.0	131	99.3
(WY)	(2001)	(1991)	(1996)	(2002)	(1992)	(2003)	(1999)	(1999)	(2000)	(2002)	(1991)	(1990)
MIN	33.0	33.6	32.4	33.9	30.7	30.4	31.3	29.2	30.1	29.6	28.4	31.5
(WY)	(1990)	(1990)	(1989)	(1991)	(1993)	(1993)	(1993)	(1989)	(1989)	(1988)	(1988)	(1989)

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
ANNUAL TOTAL	31,961		23,935			
ANNUAL MEAN	87.6		65.6		55.5	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					33.1	
HIGHEST DAILY MEAN	1,930	Jan 11	83	Jan 2	3,570	Dec 19, 1995
LOWEST DAILY MEAN	65	Jan 4	61	Jun 4	4.9	Jun 14, 1988
ANNUAL SEVEN-DAY MINIMUM	66	Nov 2	61	Jul 7	5.1	Jun 8, 1988
ANNUAL RUNOFF (AC-FT)	63,390		47,480		40,180	
10 PERCENT EXCEEDS	70		70		67	
50 PERCENT EXCEEDS	67		66		38	
90 PERCENT EXCEEDS	66		61		32	

12058800 NORTH FORK SKOKOMISH RIVER BELOW LOWER CUSHMAN DAM, NEAR POTLATCH, WA—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1989 to August 1990, December 1990 to April 1991, August 1993 to current year.

INSTRUMENTATION.--Temperature recorder.

REMARKS.--Record rated excellent.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 13.0°C (rounded) July 4, 5, Oct. 6, 8-10, 1989, June 3, 4, 2000; minimum, 3.5°C (rounded) Feb. 15, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 12.0°C Aug. 18, 20, 21, 22, 25; minimum, 5.3°C Feb. 25.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.3	8.7	9.0	9.5	8.9	9.2	8.7	8.2	8.5	7.1	6.9	7.0
2	9.4	8.8	9.1	9.6	8.9	9.2	8.9	8.6	8.7	7.4	7.0	7.2
3	9.6	9.2	9.4	9.5	9.0	9.2	8.7	8.5	8.6	7.3	7.2	7.3
4	9.6	9.2	9.4	9.3	7.2	8.4	8.8	8.6	8.7	7.5	7.1	7.4
5	9.5	9.2	9.3	7.7	7.2	7.5	9.0	8.5	8.7	7.3	6.9	7.1
6	9.5	9.0	9.2	7.7	7.4	7.6	8.9	8.6	8.7	7.0	6.7	6.9
7	9.4	9.2	9.3	7.9	7.6	7.7	8.8	8.4	8.6	6.9	6.6	6.8
8	9.5	9.2	9.3	8.2	7.8	8.0	8.8	8.4	8.6	6.9	6.5	6.7
9	9.4	9.2	9.3	8.5	8.1	8.4	8.7	8.4	8.5	6.8	6.4	6.6
10	9.4	9.0	9.2	9.0	8.5	8.7	8.8	8.5	8.6	6.7	6.3	6.5
11	9.3	8.7	9.0	9.2	9.0	9.1	8.6	8.4	8.5	6.8	6.4	6.6
12	9.2	8.6	8.9	9.3	9.1	9.2	8.7	8.5	8.7	7.0	6.8	6.9
13	9.2	8.6	8.9	9.3	9.0	9.1	8.6	8.5	8.5	7.0	6.8	6.9
14	9.2	8.5	8.8	9.3	8.8	9.0	8.6	8.4	8.6	6.9	6.4	6.7
15	9.2	8.6	8.9	9.2	8.7	8.9	8.6	8.4	8.5	6.7	6.4	6.5
16	9.3	8.7	9.0	9.3	8.9	9.1	8.5	8.1	8.3	6.7	6.3	6.5
17	9.3	8.7	9.0	9.2	8.8	9.0	8.2	7.9	8.1	6.6	6.2	6.4
18	9.2	8.9	9.0	9.2	9.0	9.1	8.0	7.8	7.9	6.5	6.1	6.3
19	9.3	9.1	9.2	9.5	9.1	9.3	7.9	7.8	7.8	6.6	6.2	6.4
20	9.6	9.1	9.4	9.4	9.1	9.2	7.9	7.7	7.8	6.6	6.3	6.5
21	9.4	9.3	9.4	9.3	8.9	9.1	8.0	7.7	7.8	6.6	6.4	6.5
22	9.5	9.1	9.3	9.4	9.2	9.3	7.9	7.5	7.7	6.8	6.5	6.6
23	9.3	8.8	9.1	9.3	8.8	9.0	7.8	7.4	7.6	6.8	6.6	6.7
24	9.2	8.7	9.0	8.9	8.5	8.7	7.5	7.3	7.4	6.8	6.6	6.7
25	9.1	8.9	9.0	8.6	8.3	8.4	7.6	7.4	7.5	6.8	6.6	6.7
26	9.2	9.0	9.1	8.7	8.2	8.4	7.5	7.3	7.4	7.0	6.6	6.8
27	9.4	9.1	9.2	8.7	8.3	8.5	7.5	7.2	7.3	6.9	6.6	6.8
28	9.5	9.1	9.3	8.9	8.4	8.6	7.3	7.1	7.2	6.7	6.3	6.5
29	9.5	9.1	9.3	8.8	8.4	8.5	7.2	6.7	7.1	6.6	6.3	6.4
30	9.3	8.9	9.1	8.7	8.3	8.5	7.1	6.7	6.9	6.7	6.4	6.6
31	9.4	8.8	9.1	---	---	---	7.1	6.8	7.0	6.7	6.4	6.6
MONTH	9.6	8.5	9.1	9.6	7.2	8.7	9.0	6.7	8.1	7.5	6.1	6.7
	FEBRUARY			MARCH			APRIL			MAY		
1	6.6	6.3	6.4	6.5	5.9	6.2	6.6	6.3	6.5	9.3	8.5	8.9
2	6.6	6.2	6.4	6.4	5.8	6.1	6.5	6.1	6.3	10.0	8.8	9.2
3	6.5	6.2	6.3	6.5	6.1	6.3	6.6	6.0	6.3	9.9	9.3	9.6
4	6.4	6.0	6.2	6.4	5.9	6.1	6.7	5.9	6.3	10.0	9.5	9.7
5	6.3	5.9	6.1	6.4	6.0	6.2	6.4	6.0	6.2	10.2	9.2	9.6
6	6.2	5.8	6.0	6.3	5.8	6.0	7.0	6.1	6.4	10.4	9.3	9.8
7	6.1	5.7	5.9	6.2	5.7	5.9	6.7	6.4	6.6	10.3	9.4	9.8
8	6.1	5.9	6.0	5.9	5.7	5.8	7.0	6.6	6.8	10.6	9.5	10.0
9	6.0	5.9	5.9	6.2	5.7	6.0	7.3	6.5	6.8	10.9	9.6	10.2
10	6.1	5.7	5.9	6.6	6.0	6.3	7.2	6.5	6.9	10.8	10.0	10.4
11	6.1	5.6	5.8	6.5	6.1	6.3	7.4	6.9	7.1	11.1	10.0	10.4
12	6.1	5.5	5.8	6.5	6.0	6.2	7.6	7.0	7.2	11.2	10.2	10.6
13	6.2	5.6	5.9	6.6	6.4	6.5	7.6	7.1	7.3	11.5	10.4	10.8
14	6.4	6.0	6.2	6.9	6.5	6.6	7.7	7.1	7.4	11.5	10.5	10.9
15	6.3	6.0	6.2	6.8	6.4	6.6	8.0	7.4	7.6	11.1	10.3	10.7
16	6.3	6.0	6.2	6.8	6.2	6.5	8.0	7.3	7.6	11.1	10.2	10.7
17	6.3	5.9	6.1	6.8	6.0	6.3	8.2	7.4	7.7	11.1	10.2	10.7
18	6.3	5.8	6.1	6.6	6.1	6.3	8.2	7.2	7.7	11.2	10.3	10.8
19	6.3	6.1	6.2	6.4	6.2	6.3	8.4	7.7	8.0	11.5	10.4	10.9
20	6.4	6.1	6.2	6.8	6.3	6.5	8.5	7.9	8.2	11.4	10.8	11.1
21	6.4	6.0	6.2	6.7	6.3	6.5	8.4	8.1	8.3	11.7	10.9	11.2
22	6.3	5.8	6.0	7.0	6.5	6.7	8.9	8.2	8.4	11.5	10.3	11.0
23	6.2	5.7	6.0	7.0	6.3	6.6	8.7	8.1	8.4	10.4	9.1	9.7
24	6.0	5.5	5.7	6.6	6.1	6.3	8.6	8.3	8.4	9.1	8.5	8.9
25	6.0	5.3	5.6	7.1	6.3	6.6	9.0	7.9	8.4	8.9	8.3	8.6
26	6.1	5.5	5.8	7.0	6.3	6.6	8.5	7.9	8.2	9.0	8.2	8.5
27	6.2	5.6	5.9	7.2	6.3	6.6	9.0	8.0	8.4	9.4	8.4	8.8
28	6.4	5.9	6.1	6.9	6.4	6.7	9.0	7.9	8.5	9.4	8.6	8.9
29	---	---	---	7.3	6.6	6.9	9.1	8.3	8.6	9.4	8.6	8.9
30	---	---	---	7.2	6.6	6.9	9.1	8.4	8.7	8.9	8.5	8.7
31	---	---	---	7.2	6.5	6.8	---	---	---	9.3	8.5	8.9
MONTH	6.6	5.3	6.0	7.3	5.7	6.4	9.1	5.9	7.5	11.7	8.2	9.9

12059500 NORTH FORK SKOKOMISH RIVER NEAR POTLATCH, WA

LOCATION.--Lat 47°19'42", long 123°14'33", in NE ¼ NW ¼ sec.7, T.21 N., R.4 W., Mason County, Hydrologic Unit 17110017, on left bank 1.1 mi upstream from South Fork Skokomish River, 5.4 mi southwest of Potlatch, 7.2 mi downstream from City of Tacoma Cushman Dam No. 2, and at mile 10.1.

DRAINAGE AREA.--117 mi², includes 99 mi² upstream from Cushman Dam No. 2, which is noncontributing except during spillage.

PERIOD OF RECORD.--March 1944 to November 1949 (destroyed by flood of Nov. 27, 1949), March 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 63.49 ft above NGVD of 1929 (levels by City of Tacoma). Prior to Nov. 27, 1949, and Mar. 18 to May 9, 1950, water-stage recorder at site 200 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Upper portion of McTaggart Creek is diverted through Deer Meadow Creek into Cushman Reservoir No.2. Flow regulated at Lake Cushman and at Cushman Reservoir No.2 to supply powerplant, which discharges into Hood Canal. Entire flow of river normally diverted at Cushman Dam No.2 except infrequent releases. Water temperatures March 1965 to September 1982.

AVERAGE DISCHARGE.--53 years (water years 1951-2003), 118 ft³/s, 85,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,740 ft³/s Nov. 4, 1955, gage height, 10.45 ft; minimum recorded discharge, 1.3 ft³/s Sept. 5, 14, 16, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft³/s Jan. 2, gage height, 5.17 ft; minimum discharge 60 ft³/s, September 24, 25, 26.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	77	88	301	348	115	159	116	77	68	64	65
2	69	77	86	984	274	113	156	113	77	68	64	64
3	69	77	85	776	234	112	153	110	75	68	64	65
4	69	75	89	752	206	108	146	113	75	67	64	64
5	69	74	88	536	189	108	149	108	75	67	64	65
6	70	84	88	365	174	110	152	105	75	68	64	65
7	70	83	85	279	165	107	203	103	74	68	64	66
8	70	92	84	232	156	107	256	102	74	66	65	65
9	70	94	86	204	148	158	221	101	74	66	65	66
10	70	101	120	186	142	155	194	100	74	66	64	66
11	71	115	247	192	137	157	178	100	74	66	64	66
12	71	147	476	239	133	331	174	96	73	66	64	66
13	73	147	375	222	129	854	183	91	73	67	64	65
14	72	148	539	215	125	665	178	91	73	67	63	65
15	72	119	502	196	130	491	170	90	73	66	64	65
16	72	155	465	181	146	357	162	89	72	66	65	65
17	73	158	333	170	146	275	153	88	71	66	65	65
18	72	198	260	160	138	238	147	87	72	65	64	67
19	74	379	231	152	138	237	139	86	72	65	64	66
20	74	231	200	146	149	265	135	86	72	66	64	65
21	73	174	176	153	151	359	134	85	71	66	65	65
22	74	145	159	309	145	865	131	84	71	65	65	65
23	74	127	145	419	137	501	138	84	71	65	65	64
24	75	115	146	403	132	340	146	83	70	65	65	63
25	75	108	208	359	127	275	137	83	69	65	64	62
26	75	102	288	763	123	242	130	81	69	64	65	62
27	76	98	298	506	119	211	126	81	69	65	65	63
28	76	95	269	348	117	192	121	80	69	64	65	63
29	77	93	222	312	---	178	121	78	68	64	64	63
30	77	91	230	334	---	168	118	78	69	64	65	64
31	77	---	208	489	---	163	---	78	---	64	65	---
TOTAL	2,248	3,779	6,876	10,883	4,458	8,557	4,710	2,870	2,171	2,043	1,996	1,940
MEAN	72.5	126	222	351	159	276	157	92.6	72.4	65.9	64.4	64.7
MAX	77	379	539	984	348	865	256	116	77	68	65	67
MIN	69	74	84	146	117	107	118	78	68	64	63	62
AC-FT	4,460	7,500	13,640	21,590	8,840	16,970	9,340	5,690	4,310	4,050	3,960	3,850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

	71.1	194	271	245	216	152	98.1	53.9	41.8	28.8	26.1	24.6
MEAN	71.1	194	271	245	216	152	98.1	53.9	41.8	28.8	26.1	24.6
MAX	943	1,005	1,262	938	982	570	272	136	300	102	155	82.5
(WY)	(1952)	(1976)	(1951)	(1974)	(1951)	(1961)	(1999)	(1959)	(1969)	(1971)	(1991)	(1997)
MIN	5.38	12.6	32.9	41.3	63.6	58.7	32.7	22.2	9.99	5.30	2.83	4.93
(WY)	(1953)	(1977)	(1977)	(1979)	(1988)	(1981)	(1973)	(1964)	(1951)	(1951)	(1951)	(1952)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1950 - 2003

ANNUAL TOTAL	60,534		52,531		118
ANNUAL MEAN	166		144		311
HIGHEST ANNUAL MEAN					1951
LOWEST ANNUAL MEAN					1977
HIGHEST DAILY MEAN	2,600	Jan 12	984	Jan 2	6,630
LOWEST DAILY MEAN	64	Sep 24	62	Sep 25	1.4
ANNUAL SEVEN-DAY MINIMUM	65	Sep 18	63	Sep 23	1.8
ANNUAL RUNOFF (AC-FT)	120,100		104,200		85,600
10 PERCENT EXCEEDS	258		277		240
50 PERCENT EXCEEDS	91		88		60
90 PERCENT EXCEEDS	67		65		11

SKOKOMISH RIVER BASIN

12060500 SOUTH FORK SKOKOMISH RIVER NEAR UNION, WA

LOCATION.--Lat 47°20'26", long 123°16'44", in SW 1/4 NE 1/4 sec.2, T.21 N., R.5 W., Mason County, Hydrologic Unit 17110017, on right bank 3.0 mi upstream from Vance Creek, 2.3 mi upstream from confluence with North Fork, and 8.5 mi west of Union.

DRAINAGE AREA.--76.3 mi².

PERIOD OF RECORD.--August 1931 to September 1984, October 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 103.35 ft above NGVD of 1929.

REMARKS.--Records good except for discharges above 2,500 ft³/s, which are poor. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--61 years (water years 1932-84, 1996-2003), 746 ft³/s, 132.76 in/yr, 540,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,400 ft³/s Mar. 19, 1997, gage height, 8.98 ft, on basis of slope area measurement; maximum gage height, 11.0 ft Jan. 22, 1935, Nov. 26, 1949; minimum discharge, 57 ft³/s Sept. 27-30, 2003; minimum gage height, 0.19 ft several days, Oct. 26-Nov. 5, 2002.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 2	1200	8,200	5.13	Mar 13	0615	*10,900	*5.98
Jan 4	1315	7,450	4.94	Mar 22	0800	6,810	4.71
Jan 26	1015	6,280	4.51				

Minimum discharge, 57 ft³/s, Sept. 27, 28, 29, 30, gage height, 0.37 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	68	313	1,300	1,480	380	704	432	229	140	79	65
2	73	68	297	5,730	1,110	353	681	414	222	128	77	63
3	76	68	285	3,820	934	337	668	399	215	127	77	62
4	76	68	294	4,950	820	317	631	405	206	118	76	62
5	76	69	288	2,620	741	314	616	388	205	116	76	62
6	76	116	269	1,530	675	347	604	360	206	116	76	62
7	75	303	249	1,200	624	341	877	342	211	113	74	64
8	73	1,170	237	1,030	585	323	1,590	327	207	111	76	64
9	73	1,430	247	923	550	721	1,380	316	202	109	76	64
10	73	1,680	711	819	519	1,020	967	316	193	109	74	65
11	73	1,880	1,250	811	497	1,140	859	336	185	108	73	73
12	73	2,720	3,950	1,370	469	3,400	824	349	178	104	73	74
13	73	2,160	2,270	1,070	453	8,470	845	330	180	112	73	71
14	73	1,790	3,580	1,100	430	4,890	848	316	177	114	73	65
15	73	1,090	3,850	896	459	2,850	802	314	175	112	73	65
16	73	1,330	3,300	767	607	1,880	733	299	164	106	73	64
17	73	1,530	1,950	692	632	1,480	685	283	162	99	73	62
18	73	1,950	1,480	660	586	1,220	631	270	158	98	68	67
19	73	3,700	1,260	639	575	1,290	584	264	158	97	67	88
20	73	1,540	1,110	591	669	1,870	550	252	152	95	65	79
21	73	1,030	971	599	828	1,920	532	247	148	93	65	72
22	72	808	868	1,950	809	4,370	512	247	145	90	65	65
23	71	685	793	3,050	651	1,910	519	252	140	89	65	65
24	71	603	753	2,150	565	1,280	603	274	140	89	65	65
25	71	544	1,500	1,670	511	1,060	561	282	138	88	65	62
26	70	500	1,910	e4,390	472	952	525	260	131	87	65	62
27	71	456	1,630	1,950	441	862	495	245	128	84	65	62
28	70	410	1,510	1,340	406	789	468	246	128	81	65	57
29	69	371	1,150	1,180	---	730	455	247	128	79	65	57
30	68	341	1,040	1,390	---	706	443	244	140	79	65	57
31	68	---	938	2,650	---	746	---	238	---	79	65	---
TOTAL	2,249	30,478	40,253	54,837	18,098	48,268	21,192	9,494	5,151	3,170	2,187	1,965
MEAN	72.5	1,016	1,298	1,769	646	1,557	706	306	172	102	70.5	65.5
MAX	76	3,700	3,950	5,730	1,480	8,470	1,590	432	229	140	79	88
MIN	68	68	237	591	406	314	443	238	128	79	65	57
AC-FT	4,460	60,450	79,840	108,800	35,900	95,740	42,030	18,830	10,220	6,290	4,340	3,900
CFSM	0.95	13.3	17.0	23.2	8.47	20.4	9.26	4.01	2.25	1.34	0.92	0.86
IN.	1.10	14.86	19.63	26.74	8.82	23.53	10.33	4.63	2.51	1.55	1.07	0.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	531	1,168	1,496	1,345	1,199	942	752	594	384	223	141	194
MAX	1,727	2,952	3,330	4,030	2,594	2,138	1,397	1,259	909	479	294	795
(WY)	(1968)	(1984)	(1967)	(1953)	(1961)	(1972)	(1937)	(1948)	(1956)	(1974)	(2001)	(1978)
MIN	72.5	76.8	538	243	414	446	343	298	161	102	70.5	65.5
(WY)	(2003)	(1937)	(1979)	(1949)	(1956)	(1942)	(1973)	(1947)	(1934)	(2003)	(2003)	(2003)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1931 - 2003

ANNUAL TOTAL	258,132		237,342	
ANNUAL MEAN	707		650	746
HIGHEST ANNUAL MEAN				1,058
LOWEST ANNUAL MEAN				423
HIGHEST DAILY MEAN	12,400	Jan 7	8,470	Mar 13
LOWEST DAILY MEAN	68	Oct 30	57	Sep 28
ANNUAL SEVEN-DAY MINIMUM	68	Oct 29	60	Sep 24
ANNUAL RUNOFF (AC-FT)	512,000		470,800	540,100
ANNUAL RUNOFF (CFSM)	9.27		8.52	9.77
ANNUAL RUNOFF (INCHES)	125.85		115.72	132.76
10 PERCENT EXCEEDS	1,680		1,560	1,620
50 PERCENT EXCEEDS	392		299	465
90 PERCENT EXCEEDS	76		67	112

e Estimated

12061500 SKOKOMISH RIVER NEAR POTLATCH, WA

LOCATION.--Lat 47°18'36", long 123°10'33", in SE 1/4 NW 1/4 sec.15, T.21 N., R.4 W., Mason County, Hydrologic Unit 17110017, on upstream side of right pier of bridge on U.S. Highway 101, 3.7 mi downstream from confluence of North and South Forks, 4.7 mi southwest of Potlatch, and at mile 5.3.

DRAINAGE AREA.--227 mi², includes 99 mi² upstream from Cushman Dam No. 2, which is noncontributing except during spillage.

PERIOD OF RECORD.--July 1943 to current year.

REVISED RECORDS.--WSP 1716: 1950(M), 1956. WSP 1932: Drainage area. WDR WA-72: 1968(M), 1971(M). WDR WA-75: 1974.

GAGE.--Water-stage recorder. Datum of gage is 10.67 ft above NGVD of 1929. Prior to May 27, 1964, water-stage recorders or nonrecording gage at several sites about 0.6 mi upstream at different datums. Supplementary water-stage recorder on right bank at site 0.6 mi upstream at datum 16.47 ft above NGVD of 1929 used Nov. 16 to Dec. 10, 1964, June 11 to July 7, and Nov. 2-24, 1965.

REMARKS.--Records good except for estimated daily discharges and discharges above 10,000 cfs which are fair. Above stages of about 15 ft, the river flows out of the main channel upstream from the gage into three channels that bypass the gage. Flow partly regulated at Lake Cushman and Cushman Reservoir No. 2. In normal years, practically entire flow of North Fork is diverted at Cushman Dam No. 2 and is discharged into Puget Sound through Cushman powerplant No. 2. Chemical analyses August 1960 to September 1961, October 1961 to September 1970 (partial-record station), October 1971 to September 1974. Water temperatures May 1955 to September 1962, October 1963 to September 1982. Water temperatures and specific conductance July 1996 to April 1998. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--60 years (water years 1944-2003), 1,213 ft³/s, 128.76 in/yr, 878,800 acre-ft.yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,600 ft³/s, Nov. 23, 1990, gage height, 16.80 ft (floodmark), from rating curve extended above 14,000 ft³/s; maximum gage height, 17.75 ft, Mar. 19, 1997; minimum discharge, 99 ft³/s, Oct. 27, 28, Nov. 6-9, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1933 reached an elevation of 30.8 ft NGVD of 1929 at site on left bank 150 ft upstream from old highway bridge, discharge, 18,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,400 ft³/s Mar. 13, gage height, 16.79 ft; minimum discharge, 159 ft³/s Sept. 25, 28-30.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	167	547	1,920	3,050	663	1,220	687	386	279	209	192
2	185	166	523	e12,200	2,190	632	1,180	664	378	270	208	189
3	187	165	503	e11,600	1,780	603	1,170	643	370	264	208	186
4	189	163	516	e11,300	1,510	574	1,090	655	363	259	208	183
5	188	163	513	7,130	1,320	559	1,080	636	359	257	207	179
6	186	189	486	3,160	1,180	589	1,080	603	358	255	206	178
7	185	317	467	2,340	1,070	587	1,440	575	357	253	204	181
8	185	999	452	1,940	984	566	3,000	551	355	250	207	181
9	183	1,380	452	1,690	913	1,070	2,540	533	351	247	211	183
10	181	1,630	913	1,490	856	1,640	1,870	527	343	243	207	185
11	181	2,160	1,980	1,410	808	1,740	1,600	529	333	241	204	188
12	180	3,050	8,180	2,270	766	4,590	1,520	548	329	240	205	190
13	178	2,810	4,090	1,870	731	e16,900	1,560	524	329	250	203	185
14	177	2,220	6,870	1,920	696	e13,900	1,580	515	327	253	200	182
15	176	1,370	8,030	1,610	719	7,450	1,470	508	321	249	199	180
16	176	1,520	6,740	1,390	931	3,750	1,330	496	314	242	198	179
17	176	1,880	3,270	1,240	1,020	2,780	1,240	480	306	237	196	178
18	174	2,080	2,390	1,160	949	2,230	1,120	463	304	233	194	180
19	176	8,950	1,980	1,100	933	2,200	1,020	451	305	230	193	193
20	176	2,980	1,670	1,020	1,080	3,370	944	439	300	227	192	196
21	175	1,820	1,420	1,020	1,330	3,760	900	429	295	226	191	186
22	174	1,360	1,230	2,880	1,330	e12,000	852	424	291	223	190	178
23	172	1,110	1,100	6,070	1,100	5,000	870	425	287	222	192	175
24	172	945	1,030	3,830	944	2,880	1,030	438	285	221	195	168
25	172	833	1,880	3,040	847	2,230	957	447	278	220	195	167
26	172	759	3,210	e11,700	784	1,940	878	429	274	217	198	166
27	170	700	2,570	5,220	733	1,690	813	410	271	216	200	165
28	170	651	2,440	2,840	695	1,500	767	407	269	213	201	164
29	169	610	1,770	2,380	---	1,340	734	408	268	211	198	163
30	168	575	1,590	2,620	---	1,250	708	402	274	209	197	163
31	168	---	1,380	5,990	---	1,280	---	394	---	209	195	---
TOTAL	5,506	43,722	70,192	117,350	31,249	101,263	37,563	15,640	9,580	7,366	6,211	5,383
MEAN	178	1,457	2,264	3,785	1,116	3,267	1,252	505	319	238	200	179
MAX	189	8,950	8,180	12,200	3,050	16,900	3,000	687	386	279	211	196
MIN	168	163	452	1,020	695	559	708	394	268	209	190	163
AC-FT	10,920	86,720	139,200	232,800	61,980	200,900	74,510	31,020	19,000	14,610	12,320	10,680
CFSM	1.39	11.4	17.7	29.6	8.72	25.5	9.78	3.94	2.49	1.86	1.57	1.40
IN.	1.60	12.71	20.40	34.10	9.08	29.43	10.92	4.55	2.78	2.14	1.81	1.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2003, BY WATER YEAR (WY)

MEAN	792	1,963	2,398	2,217	2,113	1,617	1,202	842	562	351	251	298
MAX	2,570	5,582	5,169	5,540	4,067	3,432	2,005	1,675	1,213	783	690	1,039
(WY)	(1976)	(1991)	(1995)	(1953)	(1995)	(1972)	(1969)	(1948)	(1956)	(1974)	(1991)	(1978)
MIN	115	286	772	524	709	704	487	473	261	189	144	147
(WY)	(1988)	(1994)	(1986)	(1949)	(1985)	(2001)	(1973)	(1980)	(1992)	(1944)	(1944)	(1987)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1943 - 2003

ANNUAL TOTAL	465,334	451,025	1,213
ANNUAL MEAN	1,275	1,236	1,213
HIGHEST ANNUAL MEAN			1,993
LOWEST ANNUAL MEAN			635
HIGHEST DAILY MEAN	20,100	Jan 7	16,900
LOWEST DAILY MEAN	163	Nov 4	163
ANNUAL SEVEN-DAY MINIMUM	166	Oct 30	165
ANNUAL RUNOFF (AC-FT)	923,000		894,600
ANNUAL RUNOFF (CFSM)	9.96		9.65
ANNUAL RUNOFF (INCHES)	135.24		131.08
10 PERCENT EXCEEDS	2,640		2,790
50 PERCENT EXCEEDS	651		513
90 PERCENT EXCEEDS	187		179
			2,600
			730
			204

e Estimated

12069550 BIG BEEF CREEK NEAR SEABECK, WA

LOCATION.--Lat 47°38'27", long 122°47'02", in NW ¼ SE ¼ sec.22, T.25 N., R.1 W., Kitsap County, Hydrologic Unit 17110018, on left bank 1.1 mi upstream from county road bridge across Big Beef Harbor, and 1.9 mi east of Seabeck.

DRAINAGE AREA.--13.8 mi².

PERIOD OF RECORD.--August 1969 to October 1981, June 1983 to September 1995 (seasonal records), October 1995 to current year.

REVISED RECORDS.--WDR WA-76-1: 1975(M).

GAGE.--Water-stage recorder. Elevation of gage is 40 ft above NGVD of 1929, from topographic map. Prior to July 7, 1978, at site 110 ft downstream at datum 2.03 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Lake Symington, 4.6 mi upstream. No diversions upstream from station.

AVERAGE DISCHARGE.--20 years (water years 1970-81, 1996-2003), 41.8 ft³/s, 41.16 in/yr, 30,290 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s Jan. 1, 1997, gage height, 6.97 ft, from rating curve extended above 700 ft³/s on basis of slope-area measurement at gage height of 6.97 ft; minimum discharge, 2.2 ft³/s Aug. 12-17, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 648 ft³/s Mar. 13; gage height, 4.67 ft; minimum discharge, 2.7 ft³/s Sept. 4-7, 28-30.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.8	5.8	97	87	24	36	20	9.7	5.6	3.6	2.8
2	3.0	3.9	5.7	421	71	23	36	20	9.5	5.3	3.5	2.8
3	3.3	3.9	5.6	436	61	23	34	19	9.2	5.1	3.4	2.8
4	3.4	3.9	5.8	340	55	22	31	19	8.9	4.9	3.4	2.8
5	3.4	3.9	5.7	235	49	22	31	20	9.0	4.9	3.3	2.7
6	3.3	5.4	5.7	138	44	21	33	20	e8.7	4.8	3.6	2.8
7	3.3	6.4	5.7	100	40	21	37	19	e8.3	4.8	3.5	2.8
8	3.3	7.6	5.7	77	38	21	49	18	e7.8	4.6	3.4	2.8
9	3.4	7.1	5.9	63	35	45	48	17	e7.3	4.3	3.6	2.9
10	3.5	8.5	12	54	33	45	42	16	7.1	4.2	3.6	2.8
11	3.4	9.1	30	52	32	37	38	15	7.1	4.1	3.5	2.9
12	3.3	17	66	89	30	98	37	15	6.9	4.0	3.4	2.9
13	3.2	15	65	85	29	512	48	16	6.8	4.0	3.4	2.9
14	3.2	11	170	76	28	419	52	14	6.6	4.8	3.3	2.8
15	3.2	8.3	207	64	30	232	45	14	6.5	4.6	3.2	2.9
16	3.1	14	216	55	40	138	39	14	6.4	4.2	3.2	2.9
17	3.1	14	118	49	44	93	35	13	6.2	3.8	3.1	2.9
18	3.1	12	74	45	39	74	32	13	e6.2	3.7	3.1	2.9
19	3.2	16	55	41	36	72	29	13	6.3	3.6	3.1	3.1
20	3.3	14	44	38	34	89	27	12	6.4	3.5	3.1	3.2
21	3.4	11	35	40	32	106	29	13	6.5	4.0	3.0	3.0
22	3.3	9.6	29	88	30	313	29	12	6.5	3.8	3.1	2.9
23	3.3	8.5	26	160	29	186	31	11	6.6	3.5	3.2	2.9
24	3.3	7.7	24	173	27	110	36	11	6.4	3.5	3.1	2.9
25	3.4	7.1	47	149	26	83	33	12	6.1	3.7	3.1	2.9
26	3.4	6.7	93	264	25	68	29	11	5.9	3.7	3.0	2.8
27	3.4	6.5	96	195	25	54	26	11	5.8	3.6	3.0	2.8
28	3.6	6.2	84	123	24	48	25	10	5.7	3.5	3.0	2.8
29	3.8	6.0	59	104	---	42	23	10	5.6	3.4	3.0	2.8
30	3.7	5.9	66	103	---	39	21	10	6.3	3.8	2.9	2.8
31	3.7	---	58	107	---	38	---	9.7	---	3.7	2.8	---
TOTAL	103.3	260.0	1,725.6	4,061	1,073	3,118	1,041	447.7	212.3	129.0	100.5	86.0
MEAN	3.33	8.67	55.7	131	38.3	101	34.7	14.4	7.08	4.16	3.24	2.87
MAX	3.8	17	216	436	87	512	52	20	9.7	5.6	3.6	3.2
MIN	3.0	3.8	5.6	38	24	21	21	9.7	5.6	3.4	2.8	2.7
AC-FT	205	516	3,420	8,050	2,130	6,180	2,060	888	421	256	199	171
CFSM	0.24	0.63	4.03	9.49	2.78	7.29	2.51	1.05	0.51	0.30	0.23	0.21
IN.	0.28	0.70	4.65	10.95	2.89	8.41	2.81	1.21	0.57	0.35	0.27	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	12.8	49.1	103	97.2	85.0	70.9	34.4	17.1	9.85	5.72	4.26	5.40
MAX	77.4	136	205	178	300	144	67.6	37.8	17.9	10.5	8.41	21.0
(WY)	(1998)	(1976)	(1999)	(1999)	(1999)	(1997)	(1996)	(1996)	(2000)	(1997)	(1975)	(1978)
MIN	3.33	4.23	8.03	9.65	15.0	27.5	11.1	9.32	5.05	3.57	2.48	2.56
(WY)	(2003)	(1994)	(1977)	(1977)	(1977)	(1996)	(1977)	(1977)	(1989)	(1991)	(1994)	(1994)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1969 - 2003

ANNUAL TOTAL	11,649.2	12,357.4		
ANNUAL MEAN	31.9	33.9	41.8	
HIGHEST ANNUAL MEAN			82.1	1999
LOWEST ANNUAL MEAN			14.9	1977
HIGHEST DAILY MEAN	1,020	Jan 7	512	Mar 13
LOWEST DAILY MEAN	2.8	Aug 16	2.7	Sep 5
ANNUAL SEVEN-DAY MINIMUM	2.8	Aug 14	2.8	Aug 31
ANNUAL RUNOFF (AC-FT)	23,110		24,510	30,290
ANNUAL RUNOFF (CFSM)	2.31		2.45	3.03
ANNUAL RUNOFF (INCHES)	31.40		33.31	41.16
10 PERCENT EXCEEDS	70		86	102
50 PERCENT EXCEEDS	11		9.7	16
90 PERCENT EXCEEDS	3.1		3.0	4.0

e Estimated

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