

14242580 TOUTLE RIVER AT TOWER ROAD, NEAR SILVER LAKE, WA

LOCATION.--Lat 46°20'02", long 122°50'20", in NW ¼ SW ¼ sec.20, T.10 N., R.1 W., Cowlitz County, Hydrologic Unit 17080005, on right bank 10.7 mi downstream from confluence of North and South Forks, 2.9 mi northwest of Silver Lake, and at mile 6.5.

DRAINAGE AREA.--496 mi². A large debris avalanche generated by the eruption of Mount St. Helens on May 18, 1980 blocked tributaries in the upper North Fork Toutle River valley. As a result, from May 19, 1980 to July 7, 1981, approximately 40 mi² was noncontributing. From July 7, 1981 to October 1981, the Coldwater Lake release, approximately 21 mi², was noncontributing. From October 1981 to November 1982, the Castle Lake release, approximately 19.7 mi², was noncontributing. Since November 1982, all areas, including the Spirit Lake release, are effectively contributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1981 to current year.

REVISED RECORDS.--WDR WA-86-1: 1982 (M)(P), 1983 (M)(P), 1984 (M)(P), 1985 (M).

GAGE.--Water-stage recorder. Elevation of gage is 160 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good. No regulation or diversion upstream from station. Some quality of water data available from Washington Office for this station.

AVERAGE DISCHARGE.--23 years (water years 1982-2004), 2,075 ft³/s, 56.83 in/yr, 1,503,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s, Feb. 8, 1996, gage height, 24.91 ft; maximum gage height, 28.03 ft Dec. 3, 1982; minimum daily, 243 ft³/s Oct. 14, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods occurred on May 18, 1980, from mudflows caused by the eruption of Mount St. Helens. A flood about 1200 hours was due to mudflow from South Fork Toutle River and a larger flood about 2100 hours was due to mudflow from North Fork Toutle River.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan 30	0830	*17,000	*12.19	No other peak greater than base discharge.			

Minimum discharge, 242 ft³/s, Oct. 4, 5, 6, gage height, 3.25 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	529	3,110	1,660	6,300	2,180	1,890	1,330	2,660	880	531	888
2	253	518	2,980	1,540	4,890	1,970	1,710	1,410	2,310	857	521	870
3	255	494	4,400	1,460	3,940	1,920	1,620	1,470	2,070	856	516	851
4	248	465	3,430	1,360	3,520	2,160	1,610	1,470	1,890	834	520	775
5	248	439	4,050	1,150	3,070	2,320	1,590	1,560	1,830	801	522	739
6	252	420	5,680	1,160	2,960	2,500	1,530	1,380	2,460	784	559	700
7	324	411	4,300	1,990	3,180	2,330	1,490	1,300	2,980	842	711	675
8	338	408	3,270	2,830	2,920	2,330	1,460	1,360	2,500	796	591	656
9	446	400	2,650	3,440	2,640	2,410	1,440	1,480	2,880	757	543	663
10	394	396	2,410	3,730	2,420	2,390	1,420	1,300	2,710	744	516	649
11	373	1,240	2,290	3,380	2,250	2,190	1,470	e1,550	2,580	732	502	921
12	586	1,080	2,700	3,020	2,070	2,040	1,560	e1,500	2,400	706	495	846
13	830	838	3,660	2,870	1,910	1,890	1,570	1,320	2,340	689	488	925
14	609	724	5,040	3,060	2,000	1,790	1,690	1,210	2,220	682	483	1,290
15	522	682	4,110	3,940	2,050	1,690	1,730	1,180	2,010	672	482	1,480
16	651	894	3,400	4,000	2,100	1,590	1,560	1,210	1,790	661	479	1,510
17	699	1,700	3,150	3,340	2,350	1,550	1,460	1,190	1,660	649	472	1,680
18	576	2,260	2,720	3,120	2,980	1,650	1,370	1,230	1,550	647	461	2,290
19	525	3,830	2,510	2,990	3,190	1,780	1,320	1,180	1,480	637	456	2,770
20	581	2,960	2,510	2,710	2,800	1,590	1,580	1,140	1,370	632	449	2,190
21	743	2,060	2,570	2,390	2,520	1,480	1,720	1,120	1,260	623	475	1,760
22	669	1,510	2,330	2,140	2,270	1,490	1,580	1,230	1,210	606	1,460	1,500
23	743	1,360	2,150	2,780	2,060	1,580	1,470	1,960	1,200	594	979	1,320
24	643	1,470	2,240	3,980	2,050	1,850	1,440	1,640	1,180	580	939	1,180
25	572	1,730	2,610	3,750	2,020	2,100	1,350	1,430	1,130	565	1,930	1,080
26	520	2,090	2,280	3,330	2,080	2,390	1,320	1,760	1,060	560	3,220	1,010
27	484	1,620	2,220	2,990	2,530	2,570	1,460	3,090	1,010	557	3,010	958
28	473	1,510	2,380	3,480	2,570	2,310	1,520	4,480	973	549	1,860	904
29	693	4,350	2,140	11,100	2,350	2,110	1,400	3,990	940	542	1,370	865
30	700	3,720	1,850	13,900	---	2,170	1,310	3,470	907	534	1,110	837
31	583	---	1,750	8,830	---	2,140	---	3,120	---	535	969	---
TOTAL	15,793	42,108	92,890	111,420	79,990	62,460	45,640	54,060	54,560	21,103	27,619	34,782
MEAN	509	1,404	2,996	3,594	2,758	2,015	1,521	1,744	1,819	681	891	1,159
MAX	830	4,350	5,680	13,900	6,300	2,570	1,890	4,480	2,980	880	3,220	2,770
MIN	248	396	1,750	1,150	1,910	1,480	1,310	1,120	907	534	449	649
AC-FT	31,330	83,520	184,200	221,000	158,700	123,900	90,530	107,200	108,200	41,860	54,780	68,990
CFSM	1.03	2.83	6.04	7.25	5.56	4.06	3.07	3.52	3.67	1.37	1.80	2.34
IN.	1.18	3.16	6.97	8.36	6.00	4.68	3.42	4.05	4.09	1.58	2.07	2.61

14242580 TOUTLE RIVER AT TOWER ROAD, NEAR SILVER LAKE, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND—CONTINUED
 WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2004, BY WATER YEAR (WY)												
MEAN	914	2,796	3,429	3,449	3,422	2,946	2,633	2,074	1,555	800	495	477
MAX	2,931	5,290	6,954	5,939	7,754	5,500	4,697	3,192	2,643	1,653	891	1,159
(WY)	(1998)	(1996)	(1997)	(1997)	(1996)	(1997)	(1991)	(1999)	(1990)	(1983)	(2004)	(2004)
MIN	310	418	1,350	1,167	1,185	1,315	1,521	1,226	539	412	306	277
(WY)	(1988)	(1994)	(2001)	(2001)	(1993)	(1992)	(2004)	(1992)	(1992)	(1992)	(1992)	(1989)
SUMMARY STATISTICS												
	FOR 2003 CALENDAR YEAR				FOR 2004 WATER YEAR				WATER YEARS 1981 - 2004			
ANNUAL TOTAL	700,783				642,425				2,075			
ANNUAL MEAN	1,920				1,755				3,118			
HIGHEST ANNUAL MEAN									1,997			
LOWEST ANNUAL MEAN									2001			
HIGHEST DAILY MEAN	24,100				13,900				48,300			
	Jan 31				Jan 30				Feb 8, 1996			
LOWEST DAILY MEAN	248				248				243			
	Oct 4				Oct 4				Oct 14, 1987			
ANNUAL SEVEN-DAY MINIMUM	255				263				248			
	Sep 30				Oct 1				Oct 10, 1987			
ANNUAL RUNOFF (AC-FT)	1,390,000				1,274,000				1,503,000			
ANNUAL RUNOFF (CFSM)	3.87				3.54				4.18			
ANNUAL RUNOFF (INCHES)	52.56				48.18				56.83			
10 PERCENT EXCEEDS	4,100				3,160				4,110			
50 PERCENT EXCEEDS	1,470				1,500				1,610			
90 PERCENT EXCEEDS	327				520				396			

e Estimated