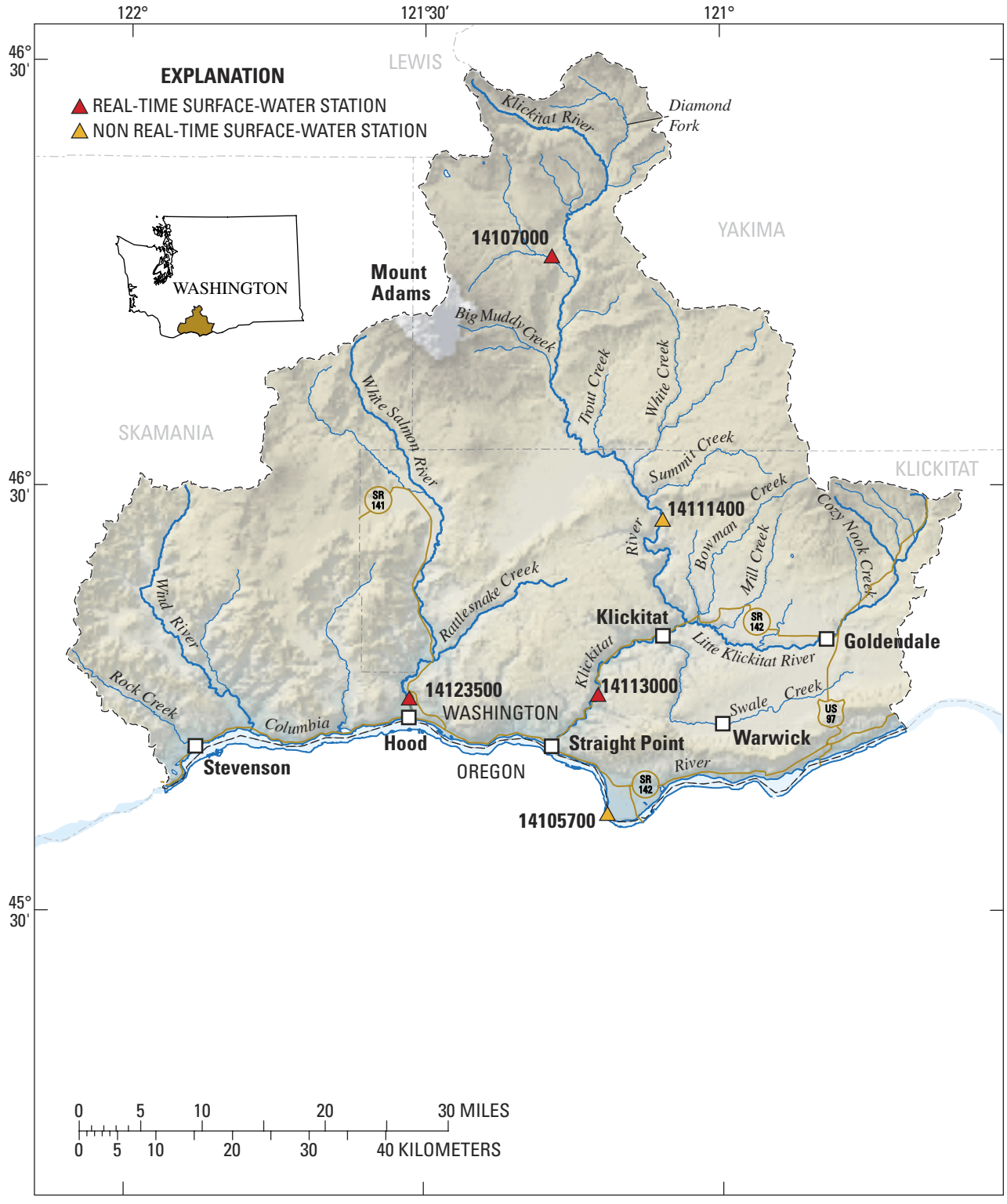

Figure 37. Location of surface-water stations in the Klickitat and White Salmon River Basins and on the Columbia River from John Day Dam to Stevenson.

14105700 COLUMBIA RIVER AT THE DALLES, OR

LOCATION.--Lat 45°36'27", long 121°10'20", in SW¼SW¼, sec.34, T.2 N., R.13 E., Wasco County, Hydrologic Unit 17070105, Corps of Engineers land, on left bank 0.3 mi downstream from Mill Creek, 2.6 mi downstream from The Dalles Dam, and at mile 188.9.

DRAINAGE AREA.--237,000 mi^2, approximately.

PERIOD OF RECORD.--October 1857 to September 1877 (annual maximum only, at Lower Cascades Landing, published in WSP 1318), June 1878 to current year. Published as "near The Dalles" 1936-56.

REVISED RECORDS.--WSP 534: 1920(m). SP 1094: 1894. WSP 1248: 1866, 1888, 1899, 1909. WSP 1518: 1876(M).

GAGE.--Ultrasonic velocity meter (UVM) with water-stage and velocity-index recorder. Datum of gage is NGVD of 1929. See WSP 1738 for history of changes prior to Mar. 16, 1957. Mar. 16, 1957, to Sept. 30, 1968, water-stage recorder at site 0.4 mi upstream at same datum.

REMARKS.--Records good. Considerable regulation by many large reservoirs. Diurnal fluctuations caused by powerplant and gates at The Dalles Dam. Many diversions for irrigation upstream from station. Continuous water-quality records for the period October 1957 to February 1985 have been collected at this location.

AVERAGE DISCHARGE.--126 years (water years 1879-2004), 190,600 ft^3/s, 138,100,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (since 1858), 1,240,000 ft^3/s, June 6, 1894, elevation, 106.5 ft; minimum discharge (since 1878), 12,100 ft^3/s, Apr. 16, 1968 (due to closure of John Day dam, recorded by UVM).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 291,000 ft^3/s, May 29, maximum elevation, 81.12 ft, May 31; minimum daily discharge, 73,700 ft^3/s, Oct. 5.

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	102,000	127,000	117,000	133,000	127,000	145,000	161,000	179,000	262,000	184,000	114,000	138,000
2	120,000	123,000	122,000	119,000	160,000	148,000	144,000	160,000	268,000	178,000	126,000	161,000
3	95,100	132,000	129,000	145,000	150,000	149,000	151,000	173,000	237,000	135,000	122,000	118,000
4	83,200	131,000	135,000	133,000	144,000	129,000	126,000	204,000	252,000	154,000	130,000	90,500
5	73,700	136,000	123,000	179,000	164,000	124,000	131,000	217,000	269,000	167,000	126,000	98,200
6	83,500	140,000	131,000	182,000	136,000	132,000	141,000	224,000	240,000	173,000	105,000	93,300
7	101,000	140,000	124,000	170,000	130,000	105,000	149,000	217,000	240,000	166,000	109,000	102,000
8	108,000	125,000	131,000	168,000	119,000	128,000	155,000	209,000	244,000	172,000	92,200	107,000
9	112,000	106,000	145,000	155,000	135,000	125,000	156,000	203,000	242,000	172,000	111,000	109,000
10	101,000	129,000	156,000	116,000	131,000	128,000	149,000	208,000	224,000	165,000	132,000	134,000
11	111,000	122,000	166,000	107,000	146,000	144,000	123,000	227,000	261,000	137,000	157,000	117,000
12	85,300	124,000	156,000	145,000	135,000	134,000	171,000	230,000	260,000	164,000	142,000	104,000
13	89,900	140,000	143,000	146,000	152,000	140,000	147,000	217,000	236,000	159,000	132,000	101,000
14	106,000	114,000	125,000	136,000	139,000	103,000	151,000	205,000	245,000	176,000	105,000	106,000
15	112,000	121,000	159,000	129,000	119,000	148,000	188,000	200,000	247,000	147,000	104,000	116,000
16	114,000	108,000	157,000	148,000	132,000	163,000	197,000	185,000	255,000	126,000	141,000	89,800
17	107,000	124,000	163,000	115,000	133,000	128,000	191,000	219,000	197,000	136,000	128,000	112,000
18	92,000	118,000	172,000	110,000	115,000	147,000	149,000	205,000	212,000	109,000	151,000	115,000
19	74,400	122,000	156,000	127,000	125,000	155,000	170,000	219,000	215,000	141,000	142,000	97,200
20	95,000	121,000	147,000	132,000	148,000	149,000	182,000	228,000	177,000	130,000	140,000	120,000
21	94,700	139,000	131,000	148,000	136,000	127,000	213,000	221,000	212,000	120,000	145,000	101,000
22	99,300	146,000	146,000	131,000	93,100	159,000	175,000	217,000	200,000	123,000	104,000	113,000
23	122,000	135,000	141,000	132,000	147,000	138,000	174,000	218,000	216,000	132,000	111,000	132,000
24	137,000	110,000	139,000	132,000	144,000	186,000	168,000	233,000	171,000	118,000	114,000	130,000
25	137,000	120,000	115,000	110,000	160,000	167,000	167,000	227,000	170,000	115,000	116,000	118,000
26	126,000	110,000	117,000	138,000	112,000	174,000	158,000	237,000	179,000	141,000	135,000	114,000
27	115,000	117,000	124,000	151,000	161,000	144,000	136,000	259,000	174,000	133,000	158,000	129,000
28	114,000	110,000	123,000	155,000	123,000	122,000	200,000	260,000	184,000	135,000	148,000	118,000
29	132,000	109,000	166,000	148,000	117,000	164,000	171,000	291,000	181,000	138,000	130,000	127,000
30	132,000	120,000	157,000	145,000	---	140,000	172,000	239,000	202,000	151,000	183,000	112,000
31	134,000	---	175,000	177,000	---	176,000	---	283,000	---	150,000	163,000	---
TOTAL	3,309,100	3,719,000	4,391,000	4,362,000	3,933,100	4,421,000	4,866,000	6,814,000	6,672,000	4,547,000	4,016,200	3,423,000
MEAN	106,700	124,000	141,600	140,700	135,600	142,600	162,200	219,800	222,400	146,700	129,600	114,100
MAX	137,000	146,000	175,000	182,000	164,000	186,000	213,000	291,000	269,000	184,000	183,000	161,000
MIN	73,700	106,000	115,000	107,000	93,100	103,000	123,000	160,000	170,000	109,000	92,200	89,800
AC-FT	6,564,000	7,377,000	8,710,000	8,652,000	7,801,000	8,769,000	9,652,000	13,520,000	13,230,000	9,019,000	7,966,000	6,790,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1879 - 2004, BY WATER YEAR (WY)

MEAN	104,500	108,500	116,300	119,300	129,200	147,100	204,000	336,600	432,700	295,400	171,500	119,600
MAX	174,800	200,800	258,300	275,000	340,400	345,000	386,400	624,400	1,002,000	793,300	385,700	198,200
(WY)	(1960)	(1928)	(1996)	(1997)	(1996)	(1983)	(1881)	(1897)	(1894)	(1880)	(1880)	(1880)
MIN	69,430	57,830	52,380	42,430	51,420	69,820	98,350	136,100	123,700	86,780	91,970	75,760
(WY)	(1930)	(1937)	(1937)	(1937)	(1937)	(1937)	(1944)	(1977)	(1977)	(2001)	(1994)	(1994)

14105700 COLUMBIA RIVER AT THE DALLES, OR—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1879 - 2004	
ANNUAL TOTAL	56,107,200		54,473,400			
ANNUAL MEAN	153,700		148,800		190,600	
HIGHEST ANNUAL MEAN					313,600	1894
LOWEST ANNUAL MEAN					117,600	2001
HIGHEST DAILY MEAN	355,000	May 31	291,000	May 29	1,230,000	Jun 6, 1894
LOWEST DAILY MEAN	68,300	Sep 11	73,700	Oct 5	36,000	Jan 12, 1937
ANNUAL SEVEN-DAY MINIMUM	83,200	Sep 7	93,800	Oct 3	38,200	Jan 7, 1937
ANNUAL RUNOFF (AC-FT)	111,300,000		108,000,000		138,100,000	
10 PERCENT EXCEEDS	239,000		216,000		378,000	
50 PERCENT EXCEEDS	137,000		138,000		142,000	
90 PERCENT EXCEEDS	101,000		107,000		81,000	

14107000 KLICKITAT RIVER ABOVE WEST FORK, NEAR GLENWOOD, WA

LOCATION.--Lat 46°15'54", long 121°14'38", in NW¼SW¼, sec.18, T.9 N., R.13 E., Yakima County, Hydrologic Unit 17070106, Yakama Nation Reservation, on right bank 0.8 mi upstream from Swamp Creek, 1.9 mi upstream from West Fork, 17.0 mi north of Glenwood, and at mile 64.7.

DRAINAGE AREA.--151 mi^2.

PERIOD OF RECORD.--October 1944 to September 1977, July 1991 to current year. Monthly discharge only for October 1944, published in WSP 1318.

GAGE.--Water-stage recorder. Elevation of gage is 2,720 ft above NGVD of 1929, from river-profile map.

REMARKS.--Records fair. No regulation or diversion upstream from station.

AVERAGE DISCHARGE.--46 years (water years 1945-77, 1992-2004), 324 ft^3/s, 29.16 in/yr, 234,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,500 ft^3/s, Feb. 8, 1996, gage height, 5.70 ft, from high-water mark, from rating curve extended above 2,600 ft^3/s; minimum discharge, 4.4 ft^3/s, Feb. 1, 1957 (result of freezeup, discharge measurement).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 4,850 ft^3/s, Dec. 2, 1977, from high-water mark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 3	2245	*935	*2.32	No other peak greater than base discharge.			

Minimum discharge, 81 ft^3/s, part of all of each day Oct. 1-7.

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	81	108	175	e125	266	131	336	678	485	261	134	96
2	82	114	165	e125	238	129	328	782	459	248	132	98
3	82	109	198	e120	217	129	348	893	460	240	132	98
4	81	102	189	e120	203	133	400	898	501	233	130	95
5	81	106	189	e110	190	130	436	817	529	221	131	92
6	81	99	215	e115	184	128	457	705	532	215	136	91
7	84	100	187	e120	175	134	519	650	483	220	149	88
8	85	103	173	e125	168	154	557	638	535	214	134	88
9	89	103	163	e135	164	179	565	614	460	207	130	88
10	88	105	163	e130	165	205	580	596	452	200	126	86
11	89	144	156	e125	160	206	609	557	426	195	126	97
12	102	117	155	e120	166	215	664	524	386	191	122	96
13	106	98	153	e115	182	224	752	504	386	189	122	99
14	95	90	149	e115	153	226	708	491	398	187	120	147
15	96	88	143	131	145	247	628	500	356	184	121	124
16	114	94	140	146	144	249	568	499	337	178	122	122
17	123	103	137	143	144	293	519	502	337	174	138	125
18	113	128	134	138	145	337	477	529	351	170	120	135
19	105	228	135	134	141	329	444	552	349	183	118	128
20	114	194	136	133	137	302	444	632	331	169	115	124
21	150	159	134	129	135	296	423	643	328	163	115	118
22	126	e155	130	129	134	324	405	647	334	158	133	114
23	119	147	129	138	134	391	412	598	345	153	129	111
24	112	152	133	147	134	426	408	547	354	151	132	107
25	107	147	128	140	134	427	428	515	347	148	203	106
26	106	143	118	138	135	414	490	594	328	146	161	103
27	103	137	123	134	136	387	603	746	304	143	128	99
28	112	139	121	141	134	359	661	679	283	142	111	97
29	142	200	120	217	132	358	632	568	276	139	106	95
30	127	188	e115	331	---	374	636	545	268	138	102	93
31	112	---	e120	304	---	353	---	535	---	135	99	---
TOTAL	3,207	3,900	4,626	4,473	4,695	8,189	15,437	19,178	11,720	5,695	3,977	3,160
MEAN	103	130	149	144	162	264	515	619	391	184	128	105
MAX	150	228	215	331	266	427	752	898	535	261	203	147
MIN	81	88	115	110	132	128	328	491	268	135	99	86
AC-FT	6,360	7,740	9,180	8,870	9,310	16,240	30,620	38,040	23,250	11,300	7,890	6,270
CFSM	0.69	0.86	0.99	0.96	1.07	1.75	3.41	4.10	2.59	1.22	0.85	0.70
IN.	0.79	0.96	1.14	1.10	1.16	2.02	3.80	4.72	2.89	1.40	0.98	0.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

MEAN	125	188	234	219	260	240	462	909	719	289	138	104
MAX	291	464	983	615	1,470	713	990	1,714	1,730	637	257	174
(WY)	(1998)	(1996)	(1996)	(1974)	(1996)	(1972)	(1997)	(1956)	(1974)	(1974)	(1974)	(1997)
MIN	58.1	61.3	71.1	69.3	78.3	98.1	170	224	170	89.8	61.7	56.8
(WY)	(1994)	(1994)	(1993)	(1993)	(1994)	(1977)	(1955)	(1977)	(1992)	(1977)	(1994)	(2001)

14107000 KLICKITAT RIVER ABOVE WEST FORK, NEAR GLENWOOD, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1945 - 2004	
ANNUAL TOTAL	107,493		88,257			
ANNUAL MEAN	295		241		324	
HIGHEST ANNUAL MEAN					539	1996
LOWEST ANNUAL MEAN					126	1977
HIGHEST DAILY MEAN	2,330	Jan 31	898	May 4	5,000	Feb 8, 1996
LOWEST DAILY MEAN	81	Oct 1	81	Oct 1	4.5	Feb 1, 1957
ANNUAL SEVEN-DAY MINIMUM	82	Sep 30	82	Oct 1	5.6	Jan 30, 1957
ANNUAL RUNOFF (AC-FT)	213,200		175,100		234,700	
ANNUAL RUNOFF (CFSM)	1.95		1.60		2.15	
ANNUAL RUNOFF (INCHES)	26.48		21.74		29.16	
10 PERCENT EXCEEDS	609		535		764	
50 PERCENT EXCEEDS	181		147		187	
90 PERCENT EXCEEDS	91		100		90	

e Estimated

14111400 KLICKITAT RIVER BELOW SUMMIT CREEK, NEAR GLENWOOD, WA

LOCATION.--Lat 45°57'45", long 121°06'04", in NW¼SE¼, sec.31, T.6 N., R.14 E., Klickitat County, Bureau of Land Management lands, Hydrologic Unit 17070106, on right bank, 3 mi downstream from Summit Creek, 10 mi southeast of Glenwood, and at mile 34.3.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above NGVD of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. No regulation. Some upstream diversions for irrigation.

AVERAGE DISCHARGE.--8 years (water years 1997-2004), 1,423 ft^3/s, 1,031,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Jan. 31, 2003, gage height, 10.09 ft; minimum discharge, 502 ft^3/s, Oct. 2, 5-10, 2001.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, about 21,000 ft^3/s, Feb. 8, 1996, gage height, 14.4 ft, from high-water mark, from rating extended above 4,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 4	0330	*2,420	*5.35				

Minimum discharge, 509 ft^3/s, Jan. 5.

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	657	661	747	649	1,160	833	1,500	1,960	1,550	983	664	697
2	659	677	731	632	1,090	824	1,430	2,100	1,470	949	688	668
3	656	662	789	637	1,010	823	1,430	2,290	1,430	936	681	661
4	655	644	766	610	966	834	1,520	2,350	1,480	913	667	668
5	659	650	783	537	908	847	1,590	2,280	1,550	890	713	664
6	656	638	854	579	887	852	1,610	2,110	1,600	884	680	642
7	652	639	800	600	844	850	1,700	1,990	1,540	876	708	647
8	643	644	760	619	814	948	1,790	1,920	1,720	838	671	635
9	647	641	731	675	781	1,030	1,790	1,850	1,550	817	660	608
10	637	640	733	675	770	1,140	1,800	1,790	1,450	785	653	606
11	636	691	714	657	761	1,140	1,860	1,710	1,390	767	641	753
12	661	687	716	642	731	1,150	1,960	1,630	1,310	765	632	717
13	667	652	763	635	725	1,180	2,140	1,550	1,280	772	635	669
14	651	644	758	642	754	1,160	2,120	1,500	1,290	767	637	712
15	654	646	732	669	744	1,220	1,990	1,500	1,220	778	640	703
16	693	665	715	693	757	1,210	1,830	1,510	1,170	779	653	691
17	735	690	701	685	788	1,290	1,710	1,520	1,160	773	675	682
18	708	711	678	682	908	1,400	1,620	1,570	1,170	767	650	697
19	689	827	674	679	923	1,430	1,530	1,600	1,170	813	641	681
20	828	793	685	678	868	1,310	1,580	1,710	1,140	779	638	667
21	1,180	718	677	671	830	1,260	1,500	1,750	1,130	739	630	653
22	849	679	671	665	801	1,300	1,470	1,760	1,150	731	724	647
23	736	698	662	703	786	1,470	1,450	1,740	1,180	726	659	643
24	700	700	686	736	785	1,590	1,440	1,660	1,200	762	695	638
25	686	692	678	725	793	1,660	1,450	1,570	1,190	743	966	636
26	679	723	656	726	805	1,790	1,540	1,630	1,140	682	889	633
27	675	709	654	723	830	1,810	1,740	1,960	1,090	679	778	630
28	730	672	658	743	860	1,720	1,930	1,950	1,040	676	735	626
29	781	765	651	979	841	1,650	1,880	1,790	1,020	673	728	613
30	709	769	568	1,390	---	1,670	1,880	1,670	1,000	665	721	606
31	674	---	633	1,270	---	1,610	---	1,650	---	660	709	---
TOTAL	21,842	20,627	22,024	22,206	24,520	39,001	50,780	55,570	38,780	24,367	21,461	19,793
MEAN	705	688	710	716	846	1,258	1,693	1,793	1,293	786	692	660
MAX	1,180	827	854	1,390	1,160	1,810	2,140	2,350	1,720	983	966	753
MIN	636	638	568	537	725	823	1,430	1,500	1,000	660	630	606
AC-FT	43,320	40,910	43,680	44,050	48,640	77,360	100,700	110,200	76,920	48,330	42,570	39,260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

MEAN	806	955	1,078	1,449	1,571	1,877	2,158	2,405	1,955	1,196	876	769
MAX	1,274	1,521	1,711	2,343	2,189	2,800	3,374	3,843	3,177	1,952	1,274	1,043
(WY)	(1998)	(2000)	(1999)	(1997)	(2003)	(1997)	(1997)	(1997)	(1999)	(1999)	(1999)	(1997)
MIN	539	643	642	619	615	701	840	1,279	790	618	601	553
(WY)	(2002)	(2003)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)

14111400 KLICKITAT RIVER BELOW SUMMIT CREEK, NEAR GLENWOOD, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	483,464		360,971			
ANNUAL MEAN	1,325		986		1,423	
HIGHEST ANNUAL MEAN					1,988	1997
LOWEST ANNUAL MEAN					731	2001
HIGHEST DAILY MEAN	7,310	Feb 1	2,350	May 4	7,310	Feb 1, 2003
LOWEST DAILY MEAN	568	Dec 30	537	Jan 5	506	Oct 7, 2001
ANNUAL SEVEN-DAY MINIMUM	642	Nov 4	602	Jan 2	510	Oct 4, 2001
ANNUAL RUNOFF (AC-FT)	959,000		716,000		1,031,000	
10 PERCENT EXCEEDS	2,380		1,700		2,510	
50 PERCENT EXCEEDS	992		765		1,150	
90 PERCENT EXCEEDS	658		642		634	

14113000 KLICKITAT RIVER NEAR PITT, WA

LOCATION.--Lat 45°45'24", long 121°12'32", in SW¼, sec.8, T.3 N., R.13 E., Klickitat County, Hydrologic Unit 17070106, on left bank 2.8 mi south of Pitt, 4.8 mi southwest of Klickitat, 5.3 mi upstream from Silvias Creek, and at mile 7.0.

DRAINAGE AREA.--1,297 mi^2.

PERIOD OF RECORD.--July 1909 to January 1912, October 1928 to current year. Published as "at Klickitat" 1909-12 and as "at Pitt" 1928-35.

REVISED RECORDS.--WSP 1348: 1910(M), 1929-33(M), 1934, 1935-38(M), 1940(M), 1942-43(M), 1946(M), 1948(M). WSP 1935: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 288.9 ft above NGVD of 1929 (river-profile survey). July 3, 1909, to Jan. 31, 1912, nonrecording gage at site 7 mi upstream at different datum. Oct. 1, 1928, to Sept. 30, 1935, nonrecording gage at site 3.5 mi upstream at different datum.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Several small diversions upstream from station for irrigation of about 7,500 acres, mostly in vicinity of Glenwood. The largest of these is Hellroaring Irrigation Canal, which at times diverts the entire flow of Hellroaring Creek (tributary to Big Muddy Creek). No regulation. Water temperatures October 1950 to September 1970. Chemical analyses October 1950 to Sepember 1970, October 1975 to September 1986. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--78 years (water years 1909-11, 1929-2004), 1,582 ft^3/s, 1,146,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft^3/s, Feb. 8, 1996, gage height, 17.90 ft from high-water mark in well, from rating curve extended above 16,000 ft^3/s on basis of slope-area measurement at gage height 14.34 ft; minimum discharge, 412 ft^3/s, Jan. 16, 1979, gage height, 3.81 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 30	0700	*3,410	*6.34				

Minimum discharge, 559 ft^3/s, Jan. 5, gage height, 3.64 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	697	705	865	754	2,050	1,340	1,680	1,830	1,580	1,060	651	702
2	697	733	833	716	1,810	1,310	1,600	1,930	1,510	1,030	656	668
3	698	723	878	723	1,640	1,300	1,580	2,140	1,470	1,010	693	654
4	693	e700	884	702	1,570	1,320	1,630	2,240	1,500	988	652	658
5	699	e700	898	603	1,510	1,320	1,680	2,230	1,570	947	702	663
6	700	e700	960	636	1,410	1,340	1,700	2,070	1,610	932	676	639
7	697	e700	949	675	1,350	1,290	1,750	1,920	1,610	921	711	636
8	685	e700	878	724	1,330	1,380	1,820	1,860	1,820	884	671	637
9	697	e700	834	797	1,240	1,470	1,840	1,820	1,680	852	649	597
10	685	e700	841	773	1,190	1,580	1,840	1,780	1,550	810	639	596
11	681	e713	815	735	1,140	1,560	1,870	1,720	1,490	776	629	698
12	709	e755	816	712	1,090	1,530	1,940	1,650	1,420	764	614	763
13	721	706	936	695	1,060	1,540	2,100	1,590	1,360	771	610	672
14	709	698	983	701	1,080	1,500	2,140	1,550	1,380	766	619	699
15	708	698	884	764	1,120	1,530	2,020	1,540	1,330	773	612	721
16	746	724	840	840	1,280	1,500	1,860	1,540	1,270	783	636	708
17	804	774	818	861	1,820	1,550	1,740	1,550	1,250	781	648	689
18	800	765	782	862	2,270	1,640	1,660	1,590	1,250	767	637	709
19	752	896	762	877	1,990	1,690	1,580	1,610	1,260	812	618	698
20	777	932	772	894	1,740	1,570	1,630	1,710	1,220	816	616	680
21	1,220	821	766	890	1,580	1,500	1,570	1,780	1,210	747	612	662
22	1,020	752	758	882	1,460	1,500	1,530	1,780	1,220	728	693	652
23	828	761	744	941	1,370	1,630	1,490	1,800	1,250	718	688	648
24	769	778	783	1,130	1,310	1,720	1,480	1,720	1,260	749	643	640
25	741	769	784	1,130	1,310	1,790	1,470	1,630	1,260	765	939	637
26	733	755	755	1,090	1,370	1,990	1,520	1,600	1,230	676	989	632
27	728	839	740	1,080	1,360	2,010	1,650	1,960	1,180	663	824	629
28	752	737	757	1,240	1,430	1,920	1,820	2,000	1,120	664	753	628
29	881	813	758	2,250	1,380	1,830	1,800	1,880	1,100	658	734	619
30	794	899	656	3,190	---	1,830	1,790	1,690	1,080	657	727	606
31	735	---	674	2,450	---	1,780	---	1,670	---	646	710	---
TOTAL	23,556	22,646	25,403	31,317	42,260	48,760	51,780	55,380	41,040	24,914	21,251	19,840
MEAN	760	755	819	1,010	1,457	1,573	1,726	1,786	1,368	804	686	661
MAX	1,220	932	983	3,190	2,270	2,010	2,140	2,240	1,820	1,060	989	763
MIN	681	698	656	603	1,060	1,290	1,470	1,540	1,080	646	610	596
AC-FT	46,720	44,920	50,390	62,120	83,820	96,720	102,700	109,800	81,400	49,420	42,150	39,350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2004, BY WATER YEAR (WY)

MEAN	762	976	1,459	1,844	2,243	2,275	2,330	2,467	1,936	1,156	830	743
MAX	1,299	2,763	6,160	7,325	8,225	6,111	4,942	5,235	4,161	2,250	1,387	1,082
(WY)	(1998)	(1910)	(1934)	(1974)	(1996)	(1910)	(1943)	(1956)	(1974)	(1974)	(1999)	(1997)
MIN	501	501	521	524	610	742	866	900	784	603	473	448
(WY)	(1945)	(1994)	(1931)	(1979)	(1994)	(1977)	(1977)	(1977)	(1992)	(1994)	(1994)	(1994)

14113000 KLICKITAT RIVER NEAR PITT, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1909 - 2004	
ANNUAL TOTAL	560,339		408,147			
ANNUAL MEAN	1,535		1,115		1,582	
HIGHEST ANNUAL MEAN					2,876	1974
LOWEST ANNUAL MEAN					751	1994
HIGHEST DAILY MEAN	11,000	Feb 1	3,190	Jan 30	40,000	Feb 8, 1996
LOWEST DAILY MEAN	656	Dec 30	596	Sep 10	360	Dec 29, 1993
ANNUAL SEVEN-DAY MINIMUM	672	Sep 15	623	Aug 10	395	Dec 24, 1993
ANNUAL RUNOFF (AC-FT)	1,111,000		809,600		1,146,000	
10 PERCENT EXCEEDS	2,800		1,800		3,010	
50 PERCENT EXCEEDS	1,150		884		1,150	
90 PERCENT EXCEEDS	700		657		641	

e Estimated

14123500 WHITE SALMON RIVER NEAR UNDERWOOD, WA

LOCATION.--Lat 45°45'08", long 121°31'33", in NW ¼ NW ¼ sec.14, T.3 N., R.10 E., Skamania County, Hydrologic Unit 17070105, on right bank 300 ft downstream from bridge, 1,000 ft downstream from Pacific Power & Light Co.'s Condit powerplant, 1.7 mi north of Underwood, and at mile 1.9.

DRAINAGE AREA.--386 mi^2.

PERIOD OF RECORD.--October 1912 to February 1913 (published as "at Condit Dam, near Underwood"), March 1915 to September 1930, September 1935 to current year.

REVISED RECORDS.--WSP 484: 1915-17. WSP: 1348 1936-41(M). WSP 1638: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 112.96 ft above NGVD of 1929. Prior to March 1913, reference point at dam 1 mi upstream at different datum. March 1915 to July 16, 1918, water-stage recorder at site 200 ft upstream at datum 3.24 ft higher, and July 17, 1918, to Sept. 30, 1930, at datum 2.24 ft higher than present datum.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation of about 4,000 acres in Trout Lake area. Low and medium flows regulated by powerplant of Pacific Power & Light Co. Chemical analyses August 1960 to August 1961, water years 1964-68 (miscellaneous), October 1967 to September 1970 (monthly), November 1975 to June 1980. Water temperatures July 1968 to August 1970. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--84 years (water years 1916-30, 1936-2004), 1,119 ft^3/s, 810,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft^3/s Feb. 8, 1996, result of flashboard failure on Condit Dam, gage height, 19.16 ft, from rating curve extended above 8,030 ft^3/s, on basis of theoretical weir computation of peak flow; minimum discharge, practically no flow at times when powerplant is shut down; minimum daily discharge, 158 ft^3/s Jan. 17, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,900 ft^3/s, Jan. 30, gage height, 6.40 ft; minimum discharge, 245 ft^3/s, Jan. 6, gage height, 3.00 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	526	552	709	601	1,650	1,030	1,320	1,340	1,300	827	659	630
2	517	543	643	607	1,440	1,020	1,240	1,320	1,200	818	658	626
3	523	522	720	574	1,240	997	1,220	1,400	1,180	813	657	633
4	508	542	756	577	1,140	1,030	1,300	1,410	1,170	803	628	612
5	536	526	721	501	1,030	1,050	1,300	1,440	1,160	798	646	603
6	523	523	874	532	1,020	1,090	1,290	1,360	1,220	791	638	619
7	531	521	821	528	959	1,030	1,330	1,310	1,360	796	689	590
8	523	534	757	535	917	1,110	1,360	1,260	1,470	749	623	586
9	531	512	692	562	896	1,170	1,360	1,310	1,360	768	642	603
10	550	520	653	612	849	1,190	1,360	1,260	1,230	762	647	569
11	533	575	648	632	832	1,190	1,410	1,190	1,230	753	621	608
12	578	597	690	579	826	1,180	1,450	1,180	1,120	708	628	613
13	597	558	808	587	814	1,160	1,490	1,190	1,140	754	633	638
14	563	544	837	582	807	1,150	1,510	1,130	1,160	701	608	679
15	570	540	730	668	830	1,160	1,510	1,100	1,080	736	625	662
16	574	557	688	716	889	1,150	1,450	1,120	1,010	729	605	660
17	625	660	665	707	1,040	1,190	1,330	1,080	999	724	623	674
18	589	677	659	687	1,290	1,230	1,290	1,110	950	708	594	698
19	552	860	626	675	1,280	1,240	1,310	1,310	941	729	605	724
20	548	831	627	673	1,170	1,130	1,330	1,270	919	729	589	682
21	773	710	633	678	1,090	1,130	1,340	1,240	897	729	588	650
22	654	629	639	654	1,040	1,130	1,300	1,240	900	710	647	621
23	600	583	633	692	995	1,190	1,280	1,400	882	735	669	625
24	582	595	664	842	988	1,240	1,230	1,300	922	700	650	598
25	581	596	676	846	988	1,360	1,240	1,200	892	688	830	610
26	555	588	624	785	1,000	1,480	1,250	1,180	867	688	864	584
27	575	557	638	781	1,040	1,510	1,270	1,450	867	688	796	599
28	553	550	627	855	1,070	1,450	1,370	1,580	822	687	697	577
29	588	634	636	1,680	1,050	1,400	1,290	1,520	838	673	671	584
30	604	748	578	2,520	---	1,420	1,310	1,440	801	668	660	567
31	547	---	605	2,050	---	1,380	---	1,400	---	673	636	---
TOTAL	17,609	17,884	21,277	24,518	30,180	37,187	40,040	40,040	31,887	22,835	20,326	18,724
MEAN	568	596	686	791	1,041	1,200	1,335	1,292	1,063	737	656	624
MAX	773	860	874	2,520	1,650	1,510	1,510	1,580	1,470	827	864	724
MIN	508	512	578	501	807	997	1,220	1,080	801	668	588	567
AC-FT	34,930	35,470	42,200	48,630	59,860	73,760	79,420	79,420	63,250	45,290	40,320	37,140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2004, BY WATER YEAR (WY)

MEAN	631	805	1,144	1,329	1,530	1,515	1,513	1,514	1,262	888	699	630
MAX	1,210	1,607	2,984	3,362	4,110	3,417	2,518	2,631	2,506	1,911	1,225	1,026
(WY)	(1998)	(1956)	(1918)	(1974)	(1996)	(1972)	(1943)	(1997)	(1956)	(1916)	(1916)	(1997)
MIN	429	396	452	430	508	558	651	659	587	456	424	391
(WY)	(1993)	(1930)	(1945)	(1979)	(1929)	(1977)	(1977)	(1977)	(1992)	(1977)	(1994)	(1994)

14123500 WHITE SALMON RIVER NEAR UNDERWOOD, WA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1916 - 2004	
ANNUAL TOTAL	395,407		322,507			
ANNUAL MEAN	1,083		881		1,119	
HIGHEST ANNUAL MEAN					1,765	1974
LOWEST ANNUAL MEAN					554	1977
HIGHEST DAILY MEAN	6,430	Feb 1	2,520	Jan 30	15,400	Feb 9, 1996
LOWEST DAILY MEAN	508	Oct 4	501	Jan 5	158	Jan 17, 1950
ANNUAL SEVEN-DAY MINIMUM	522	Sep 30	523	Oct 2	372	Sep 21, 1994
ANNUAL RUNOFF (AC-FT)	784,300		639,700		810,900	
10 PERCENT EXCEEDS	1,900		1,340		1,900	
50 PERCENT EXCEEDS	826		748		932	
90 PERCENT EXCEEDS	547		561		527	