

PUYALLUP RIVER BASIN

12097500 GREENWATER RIVER AT GREENWATER, WA

LOCATION.--Lat 47°09'13", long 121°38'10", in NE 1/4 NE 1/4 sec.10, T.19 N., R.9 E., Pierce County, Hydrologic Unit 17110014, on left bank at bridge crossing, 0.7 mi east of Greenwater, and at mile 1.1.

DRAINAGE AREA.--73.5 mi².

PERIOD OF RECORD.--September 1911 to August 1912 (fragmentary), May 1929 to September 1977, June 1980 to September 1993 (seasonal records), October 1993 to current year. Published as "near Enumclaw" 1911-12.

REVISED RECORDS.--WSP 1716: 1947(M). WA-94-1: 1990(M), 1993(M). WSP 1932: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,720 ft above NGVD of 1929, from river-profile survey. Prior to Aug. 10, 1912, nonrecording gages at sites approximately 500 ft upstream at different datums. May 1, 1929, to Aug. 14, 1934, water-stage recorder at site 1,400 ft upstream at different datum. Aug. 17, 1934, to Sept. 30, 1977, water-stage recorder at site 500 ft upstream at different datum. U.S. Geological Survey satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. No regulation upstream from station.

AVERAGE DISCHARGE.--57 years (water years 1930-77, 1994-2002), 213 ft³/s, 39.31 in/yr, 154,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,900 ft³/s Feb. 8, 1996, gage height, 8.94 ft, from rating curve extended above 2,400 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 22 ft³/s Oct. 27-31, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 2, 1977, reached a stage of 9.8 ft former site and datum, from floodmarks, discharge, about 10,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 638 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 08	0500	856	5.31	May 29	2215	823	5.16
Apr. 14	0830	*1,710	*6.33	Jun. 15	0330	672	4.92

Minimum discharge, 28 ft³/s Oct. 4, 5, 6, 7.

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	30	128	139	105	142	177	203	467	721	321	81	45
2	29	127	138	106	135	163	222	536	692	292	77	45
3	29	119	130	105	131	154	220	500	667	273	75	46
4	29	110	124	100	126	153	246	449	652	260	74	44
5	28	111	119	97	125	155	305	413	657	248	74	43
6	28	100	122	107	123	149	318	375	666	228	75	42
7	29	92	120	374	128	140	363	343	612	218	73	42
8	34	86	118	758	134	131	343	315	551	227	69	42
9	42	81	122	567	129	126	332	302	488	206	66	41
10	43	77	118	446	128	123	367	288	467	192	65	41
11	53	73	113	375	127	174	422	286	477	183	63	40
12	59	71	108	352	123	268	486	315	507	176	62	40
13	91	81	231	320	119	240	612	402	562	169	60	40
14	128	289	404	285	113	216	1430	430	626	160	58	39
15	86	269	276	254	114	198	976	433	642	152	57	39
16	65	232	316	231	119	182	704	429	626	144	56	40
17	58	204	427	213	118	168	566	442	582	140	55	40
18	51	177	336	199	123	156	479	470	543	134	54	39
19	57	165	270	192	135	160	427	489	499	130	54	38
20	63	164	230	196	141	189	404	587	456	124	54	38
21	61	161	199	193	224	177	380	643	430	116	54	37
22	77	175	178	176	453	165	364	670	422	110	53	36
23	134	228	161	165	439	161	349	637	415	106	52	36
24	113	201	148	188	370	165	328	602	400	103	50	36
25	119	181	138	256	293	187	322	610	385	98	50	35
26	117	163	130	236	246	208	329	668	381	97	50	35
27	110	148	125	202	216	200	335	714	378	94	49	34
28	99	142	121	181	194	194	314	760	382	90	47	34
29	88	141	116	163	---	190	331	797	385	88	46	34
30	82	133	111	158	---	187	381	801	346	86	46	34
31	115	---	108	151	---	193	---	769	---	83	45	---
TOTAL	2147	4429	5496	7451	4968	5449	12858	15942	15617	5048	1844	1175
MEAN	69.3	148	177	240	177	176	429	514	521	163	59.5	39.2
MAX	134	289	427	758	453	268	1430	801	721	321	81	46
MIN	28	71	108	97	113	123	203	286	346	83	45	34
AC-FT	4260	8780	10900	14780	9850	10810	25500	31620	30980	10010	3660	2330
CFSM	0.94	2.01	2.41	3.27	2.41	2.39	5.83	7.00	7.08	2.22	0.81	0.53
IN.	1.09	2.24	2.78	3.77	2.51	2.76	6.51	8.07	7.90	2.55	0.93	0.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2002, BY WATER YEAR (WY)

MEAN	73.8	183	259	249	220	195	284	432	364	146	65.5	51.9
MAX	347	784	1116	597	809	640	457	833	900	371	133	128
(WY)	1960	1996	1934	1934	1996	1972	1956	1949	1950	1950	1976	1959
MIN	24.1	29.7	35.0	45.3	70.3	77.5	124	158	83.0	51.6	36.5	30.9
(WY)	1988	1937	1953	1937	1936	1941	1973	1941	1992	1934	1934	1987

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1929 - 2002

ANNUAL TOTAL	48273	82424	
ANNUAL MEAN	132	226	213
HIGHEST ANNUAL MEAN			328
LOWEST ANNUAL MEAN			92.4
HIGHEST DAILY MEAN	427	1430	4800
LOWEST DAILY MEAN	28	28	22
ANNUAL SEVEN-DAY MINIMUM	29	29	23
ANNUAL RUNOFF (AC-FT)	95750	163500	154100
ANNUAL RUNOFF (CFSM)	1.80	3.07	2.89
ANNUAL RUNOFF (INCHES)	24.43	41.72	39.31
10 PERCENT EXCEEDS	284	499	461
50 PERCENT EXCEEDS	108	158	147
90 PERCENT EXCEEDS	39	44	44