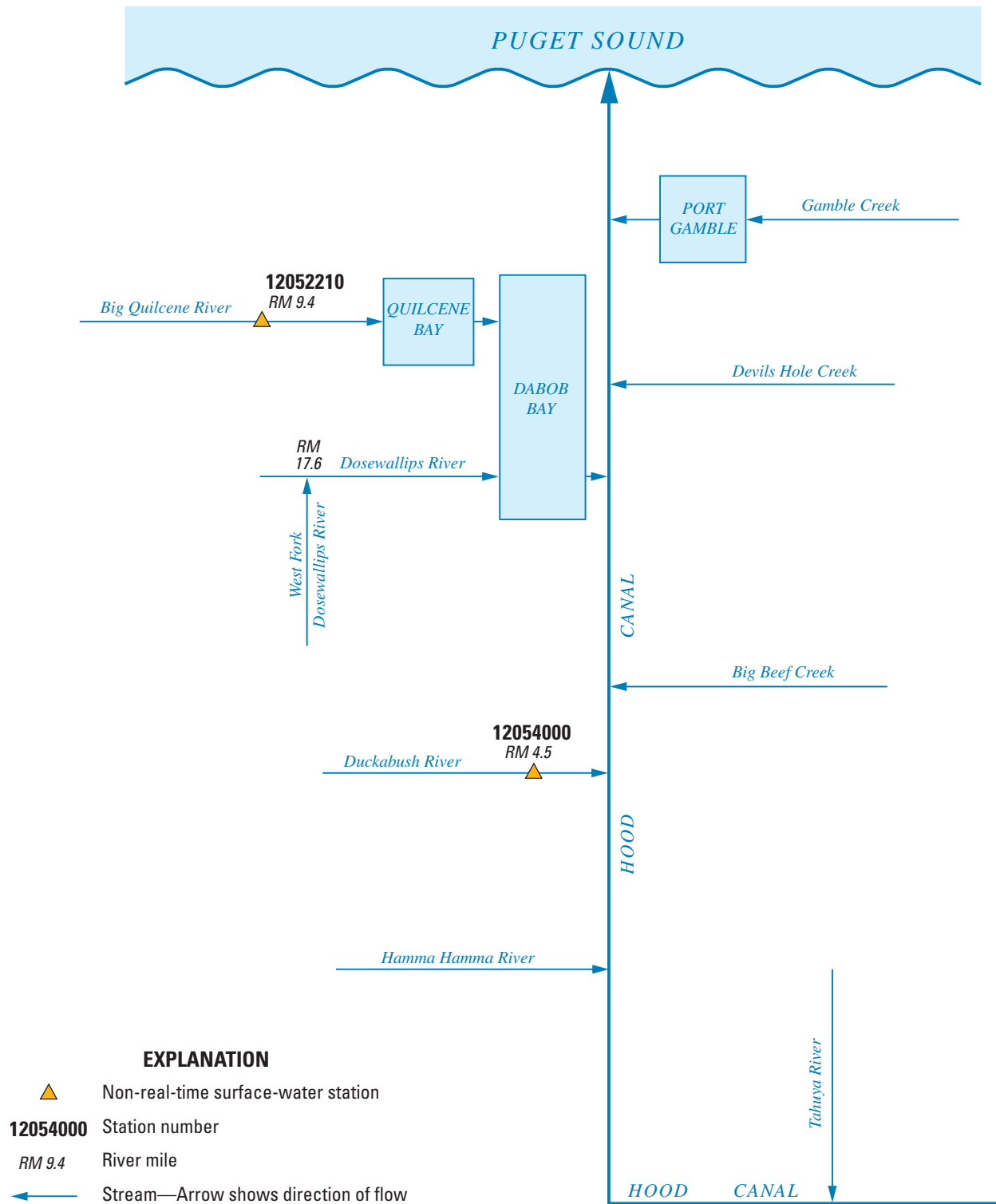


Figure 16. Location of surface-water stations in the Big Quilcene and Duckabush River Basins.



**Figure 17.** Schematic diagram showing surface-water stations in the Big Quilcene and Duckabush River Basins.

## 12052210 BIG QUILCENE RIVER BELOW DIVERSION DAM, NEAR QUILCENE, WA

LOCATION.--Lat 47°47'05", long 122°58'42", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.31, T.27 N., R.2 W., Jefferson County, Hydrologic Unit 17110018, on left bank, 5.5 mi southwest of Quilcene, and at mile 9.4.

DRAINAGE AREA.--49.4 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1994 to current year.

REVISED RECORDS.--WDR WA-04-1: 1996-2000 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,009.23 ft above NGVD of 1929.

REMARKS.--Records fair. Water for municipal use is diverted upstream by City of Port Townsend.

AVERAGE DISCHARGE.--11 years (water years 1995-2005), 148 ft<sup>3</sup>/s, 107,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,620 ft<sup>3</sup>/s, Dec. 12, 1995, revised, gage height, 6.41 ft, revised, from rating curve extended above 2,000 ft<sup>3</sup>/s; minimum discharge, 11 ft<sup>3</sup>/s, Sept. 26, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,210 ft<sup>3</sup>/s, Dec. 10, gage height, 3.62 ft; minimum discharge, 24 ft<sup>3</sup>/s, Aug. 25, Sept 29, result of regulation, gage height, 0.80 ft.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	83	56	85	151	64	166	125	141	97	49	31
2	e36	323	52	81	130	60	153	123	139	98	47	29
3	e35	267	50	75	127	58	164	130	133	94	45	29
4	e36	186	50	71	123	55	152	128	128	90	43	29
5	e36	138	49	69	113	53	149	125	128	88	42	28
6	e36	115	49	67	109	52	171	122	129	89	41	27
7	35	108	57	70	107	51	166	118	126	89	41	26
8	38	103	142	70	101	49	160	113	128	87	40	26
9	35	96	108	66	93	49	147	107	134	85	39	27
10	33	86	837	63	89	49	138	126	124	82	38	26
11	34	79	767	60	90	49	147	125	180	81	37	27
12	34	72	423	59	85	48	135	120	265	78	37	27
13	35	66	349	56	79	46	128	115	201	75	36	27
14	36	70	419	54	75	45	121	112	168	73	33	27
15	36	69	345	53	74	44	116	117	152	72	33	27
16	36	65	282	61	75	45	184	129	139	71	33	29
17	111	65	244	455	74	43	181	127	154	68	33	26
18	84	67	205	707	72	42	156	382	143	68	32	27
19	299	61	183	717	70	59	135	503	129	76	30	27
20	228	59	161	616	67	332	125	440	129	75	29	27
21	132	55	146	519	65	271	123	337	125	72	28	26
22	103	53	136	487	64	160	132	304	125	64	27	27
23	84	51	122	495	62	116	145	268	122	60	27	27
24	69	55	111	408	61	96	150	227	118	58	26	27
25	84	88	108	331	59	89	151	190	114	54	26	27
26	129	78	107	287	58	208	155	173	109	51	30	27
27	106	74	102	259	56	252	159	155	108	51	30	26
28	87	67	98	241	62	201	159	160	104	51	30	26
29	84	64	94	219	---	170	145	159	102	52	40	27
30	94	59	90	185	---	138	132	158	100	50	35	28
31	80	---	86	175	---	127	---	155	---	49	33	---
TOTAL	2,340	2,822	6,028	7,161	2,391	3,121	4,445	5,673	4,097	2,248	1,090	817
MEAN	75.5	94.1	194	231	85.4	101	148	183	137	72.5	35.2	27.2
MAX	299	323	837	717	151	332	184	503	265	98	49	31
MIN	33	51	49	53	56	42	116	107	100	49	26	26
AC-FT	4,640	5,600	11,960	14,200	4,740	6,190	8,820	11,250	8,130	4,460	2,160	1,620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

	79.7	164	232	246	176	179	151	169	160	108	55.2	35.6
MEAN	328	316	330	395	385	372	214	308	439	360	176	73.8
(WY)	(1998)	(2000)	(1996)	(2002)	(1995)	(2003)	(1999)	(1999)	(1999)	(1999)	(1999)	(1997)
MIN	27.6	38.7	72.1	66.8	38.5	36.5	66.7	83.7	64.5	46.9	28.8	24.3
(WY)	(2003)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(1994)	(1994)

## BIG QUILCENE BASIN

12052210 BIG QUILCENE RIVER BELOW DIVERSION DAM, NEAR QUILCENE, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1994 - 2005	
ANNUAL TOTAL	40,277		42,233			
ANNUAL MEAN	110		116		148	
HIGHEST ANNUAL MEAN					235	1999
LOWEST ANNUAL MEAN					53.4	2001
HIGHEST DAILY MEAN	837	Dec 10	837	Dec 10	2,250	Jan 7, 2002
LOWEST DAILY MEAN	33	Sep 24	26	Aug 24	19	Oct 5, 1996
ANNUAL SEVEN-DAY MINIMUM	34	Sep 18	27	Sep 6	21	Sep 19, 1998
ANNUAL RUNOFF (AC-FT)	79,890		83,770		107,000	
10 PERCENT EXCEEDS	179		212		300	
50 PERCENT EXCEEDS	101		85		107	
90 PERCENT EXCEEDS	36		30		29	

e Estimated

12054000 DUCKABUSH RIVER NEAR BRINNON, WA

LOCATION.--Lat 47°41'03", long 123°00'37", in NW¼ SW¼ sec.1, T.25 N., R.3 W., Jefferson County, Hydrologic Unit 17110018, Olympic National Forest, on left bank 5.2 mi west of Brinnon, and at mile 4.5.

DRAINAGE AREA.--66.5 mi<sup>2</sup>.

PERIOD OF RECORD.--August to December 1910 (gage height only), December 1910 to December 1911, June 1938 to current year. Published as "near Duckabush" water years 1910-11.

REVISED RECORDS.--WSP 1216: Drainage area. WDR WA-04-1:2002(M).

GAGE.--Water-stage recorder. Datum of gage is 241.49 ft above NGVD of 1929. Aug. 19, 1910, to Dec. 31, 1911, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. Chemical analyses April 1972 to September 1974.

AVERAGE DISCHARGE.--67 years (water years 1939-2005), 417 ft<sup>3</sup>/s, 85.12 in/yr, 301,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft<sup>3</sup>/s, Jan. 7, 2002, gage height, 8.85 ft; minimum daily discharge, 41 ft<sup>3</sup>/s, Oct. 23-30, 1987, Oct. 15-17, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov 2	0600	2,540	4.75	Jan 17	2145	3,920	5.75
Dec 10	2145	*4,900	*6.33	May 18	0945	2,680	4.86
Dec 14	0945	2,530	4.74				

Minimum discharge, 45 ft<sup>3</sup>/s, Sept. 26-29.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	354	223	235	378	222	626	435	441	174	99	63
2	77	1,570	211	223	351	223	483	505	381	166	97	63
3	75	705	198	212	333	205	550	539	346	161	94	62
4	73	466	200	201	347	180	482	502	331	156	91	60
5	72	366	200	191	325	167	456	493	313	155	89	59
6	82	325	198	186	305	160	634	465	318	183	88	58
7	75	369	226	192	286	190	518	423	306	161	87	56
8	191	347	468	194	267	195	452	369	313	194	86	56
9	272	292	410	189	253	221	359	355	302	206	85	56
10	227	256	3,220	176	241	212	315	514	291	173	84	55
11	166	230	2,570	166	234	197	395	472	305	188	83	54
12	139	216	1,020	162	229	192	330	416	304	202	81	54
13	123	203	1,050	157	220	173	304	391	282	179	80	53
14	113	218	2,220	151	207	159	288	409	273	163	78	52
15	106	284	1,230	148	197	152	277	495	264	157	76	52
16	103	255	798	172	190	154	949	441	252	152	76	58
17	454	228	664	2,180	183	150	692	382	297	143	77	58
18	405	268	668	3,040	176	140	492	1,830	268	139	77	56
19	1,260	247	639	2,220	170	175	394	2,060	244	134	74	54
20	848	219	523	1,580	163	1,410	368	1,380	236	129	73	53
21	475	204	439	1,190	159	843	427	945	239	125	72	51
22	373	196	377	1,570	155	472	504	1,070	238	125	70	50
23	309	188	341	1,550	151	348	553	823	223	122	70	49
24	255	633	314	966	147	294	612	653	207	117	67	48
25	264	1,090	323	735	145	258	610	570	201	112	66	47
26	422	474	341	645	142	644	634	556	194	109	64	46
27	345	357	307	620	139	685	652	558	194	106	64	46
28	295	296	288	522	155	516	608	566	187	105	64	45
29	263	265	274	469	---	416	515	562	182	103	74	85
30	400	243	257	421	---	350	483	519	181	101	68	149
31	304	---	240	415	---	318	---	480	---	99	65	---
TOTAL	8,647	11,364	20,437	21,078	6,248	10,021	14,962	20,178	8,113	4,539	2,419	1,748
MEAN	279	379	659	680	223	323	499	651	270	146	78.0	58.3
MAX	1,260	1,570	3,220	3,040	378	1,410	949	2,060	441	206	99	149
MIN	72	188	198	148	139	140	277	355	181	99	64	45
AC-FT	17,150	22,540	40,540	41,810	12,390	19,880	29,680	40,020	16,090	9,000	4,800	3,470
CFSM	4.19	5.70	9.91	10.2	3.36	4.86	7.50	9.79	4.07	2.20	1.17	0.88
IN.	4.84	6.36	11.43	11.79	3.50	5.61	8.37	11.29	4.54	2.54	1.35	0.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

	285	535	602	531	490	392	396	552	565	352	170	133
MEAN	285	535	602	531	490	392	396	552	565	352	170	133
MAX	954	1,446	1,470	1,180	1,050	972	656	1,043	1,146	936	598	523
(WY)	(1998)	(1984)	(1967)	(1953)	(1991)	(2003)	(1943)	(1956)	(1999)	(1999)	(1999)	(1978)
MIN	44.4	79.6	167	116	133	138	214	314	242	136	75.1	57.6
(WY)	(1988)	(1994)	(1977)	(1979)	(1985)	(1985)	(1973)	(1977)	(1992)	(1977)	(1944)	(1942)

## DUCKABUSH RIVER BASIN

12054000 DUCKABUSH RIVER NEAR BRINNON, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	133,284		129,754		417	
ANNUAL MEAN	364		355		670	
HIGHEST ANNUAL MEAN					204	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	3,220	Dec 10	3,220	Dec 10	6,920	Jan 7, 2002
LOWEST DAILY MEAN	72	Oct 5	45	Sep 28	41	Oct 23, 1987
ANNUAL SEVEN-DAY MINIMUM	76	Oct 1	47	Sep 22	41	Oct 23, 1987
ANNUAL RUNOFF (AC-FT)	264,400		257,400		301,800	
ANNUAL RUNOFF (CFSM)	5.48		5.35		6.26	
ANNUAL RUNOFF (INCHES)	74.56		72.58		85.12	
10 PERCENT EXCEEDS	581		648		800	
50 PERCENT EXCEEDS	308		234		310	
90 PERCENT EXCEEDS	107		70		96	