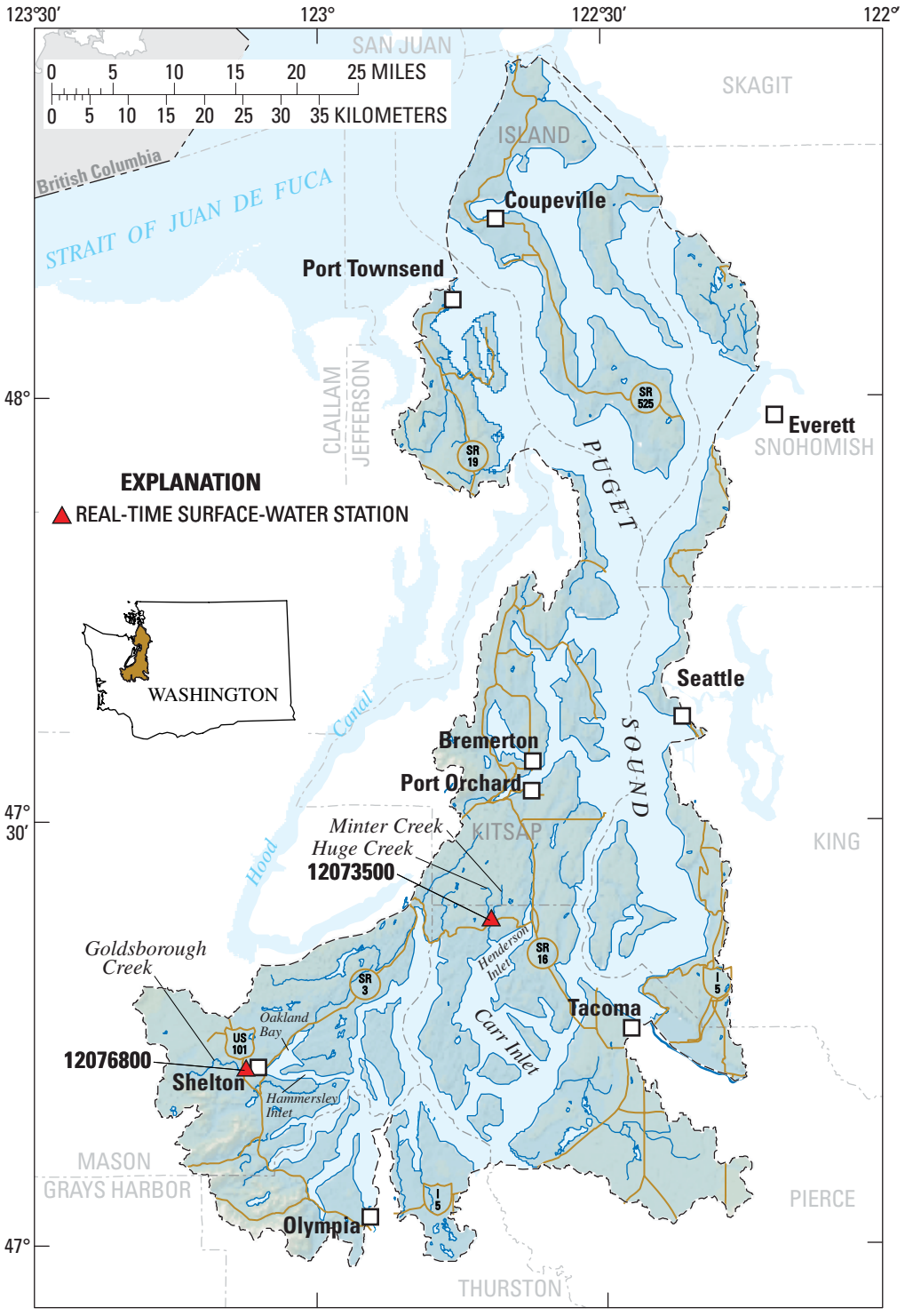

Figure 22 Location of surface-water stations in the Minter and Goldsborough Creek Basins.

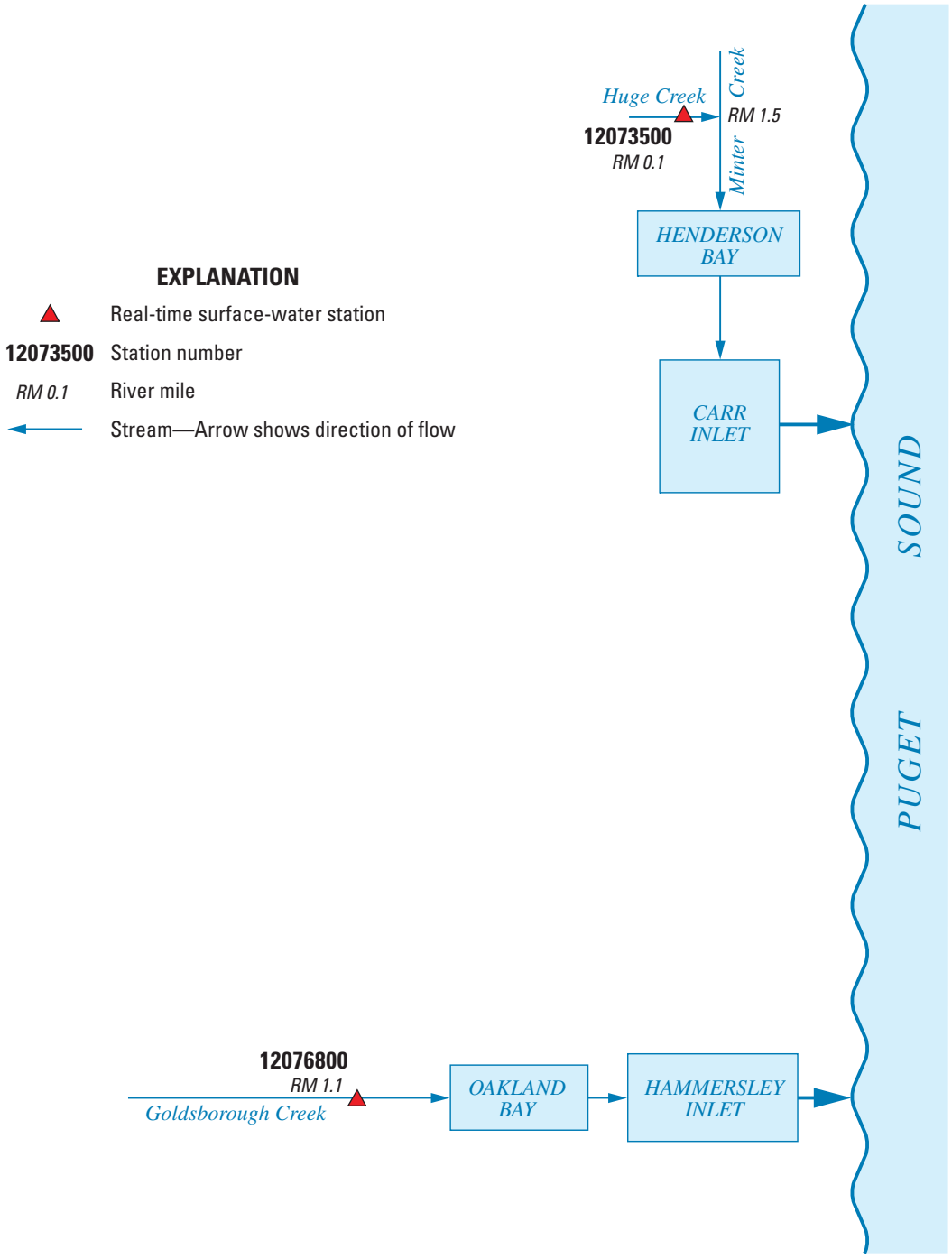

Figure 23 Schematic diagram showing surface-water stations in the Minter and Goldsborough Creek Basins.

12073500 HUGE CREEK NEAR WAUNA, WA

LOCATION.--Lat 47°23'22", long 122°41'52", at north line, sec.20, T.22 N., R.1 E., Pierce County, Hydrologic Unit 17110019, on right bank 25 ft upstream from bridge, 0.1 mi upstream from mouth, and 2.5 mi west of Wauna.

DRAINAGE AREA.--6.47 mi^2.

PERIOD OF RECORD.--July 1947 to September 1969, October 1977 to current year.

REVISED RECORDS.--WSP 1636: 1953-54, 1956, 1957(M). WSP 1932: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 100 ft above NGVD of 1929, from topographic map. Prior to Sept. 27, 1978, at site 50 ft downstream and prior to June 26, 1951, at datum 0.86 ft higher.

REMARKS.--No estimated daily discharges. Records good. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station.

AVERAGE DISCHARGE.--50 years (water years 1948-69, 1978-2005), 11.1 ft^3/s, 23.28 in/yr, 8,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 526 ft^3/s, Mar. 19, 1997, gage height, 5.76 ft; minimum discharge, 2.4 ft^3/s, Sept. 30, 1994, Oct. 1, 1994.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 11	0415	71	2.53	Jan 18	1745	*83	*2.69

Minimum discharge, 3.3 ft^3/s, Aug. 15, gage height, 1.02 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	4.2	6.1	5.6	7.3	7.7	7.2	14	6.7	5.3	4.6	4.0	3.9
2	4.1	11	5.4	6.6	7.4	6.6	11	6.5	5.4	4.6	3.9	3.7
3	4.2	6.5	5.3	6.3	7.3	6.1	14	6.4	5.3	4.6	3.7	3.7
4	4.2	5.5	6.5	6.2	7.6	5.7	13	6.4	5.3	4.4	3.7	3.6
5	4.4	5.1	7.5	6.0	7.1	5.7	10	6.3	5.3	4.6	3.6	3.6
6	5.1	5.1	7.8	5.9	11	5.8	9.5	6.1	5.6	5.7	3.7	3.5
7	4.5	5.0	9.5	7.8	11	5.7	9.2	6.0	5.6	4.7	3.8	3.5
8	5.6	4.9	15	7.8	8.8	5.7	8.4	6.0	6.1	5.5	3.7	3.5
9	7.1	4.8	13	7.8	8.0	5.6	7.5	6.1	5.5	5.2	3.7	3.5
10	5.7	4.7	43	6.8	7.4	5.6	7.3	7.6	5.3	4.8	3.7	3.7
11	4.9	4.7	57	6.3	7.3	5.6	11	6.3	5.4	5.1	3.8	3.7
12	4.7	4.7	27	6.2	7.3	5.6	10	6.1	5.3	4.8	3.7	3.7
13	4.6	4.7	19	5.9	6.9	5.6	9.9	5.9	5.3	4.6	3.6	3.7
14	4.5	4.7	19	5.8	6.7	5.6	8.7	6.1	5.2	4.5	3.6	3.7
15	4.5	4.9	15	6.0	6.4	5.6	9.3	8.2	5.0	4.5	3.6	3.7
16	4.7	4.9	12	8.4	6.4	6.0	22	6.8	5.0	4.5	3.7	3.7
17	8.4	4.9	10	40	6.3	5.8	18	6.5	5.9	4.5	4.0	3.7
18	5.9	5.9	9.1	73	6.2	5.5	13	10	5.1	4.3	3.8	3.7
19	8.1	5.1	8.4	61	6.2	6.5	10	9.1	4.9	4.3	3.6	3.7
20	6.1	4.9	7.9	35	6.1	7.9	9.1	8.1	4.8	4.3	3.6	3.7
21	5.1	4.8	7.5	24	6.0	7.1	8.2	8.4	4.8	4.1	3.6	3.6
22	5.4	4.9	7.2	19	6.0	6.1	7.9	8.2	4.9	4.2	3.6	3.6
23	5.1	4.8	7.1	18	6.0	5.7	7.3	7.0	4.8	4.2	3.6	3.6
24	4.8	7.1	6.8	14	5.9	5.6	7.4	6.5	4.7	4.1	3.5	3.6
25	4.8	11	8.5	13	5.8	5.5	7.1	6.2	4.7	4.0	3.5	3.7
26	5.0	6.3	9.0	11	5.8	16	6.9	5.8	4.7	3.9	3.5	3.7
27	4.7	5.9	7.6	10	5.6	17	6.8	5.5	4.9	3.9	3.5	3.6
28	4.7	5.7	7.1	9.6	5.9	11	6.5	5.4	4.8	3.9	3.5	3.6
29	4.7	5.5	7.0	8.9	---	13	7.7	5.5	4.7	3.8	5.5	4.6
30	5.1	5.9	6.8	8.3	---	9.2	7.3	5.5	4.6	3.8	5.5	5.3
31	4.8	---	6.5	8.1	---	8.2	---	5.4	---	3.8	4.2	---
TOTAL	159.7	170.0	384.1	460.0	196.1	223.8	298.0	206.6	154.2	137.8	118.0	112.1
MEAN	5.15	5.67	12.4	14.8	7.00	7.22	9.93	6.66	5.14	4.45	3.81	3.74
MAX	8.4	11	57	73	11	17	22	10	6.1	5.7	5.5	5.3
MIN	4.1	4.7	5.3	5.8	5.6	5.5	6.5	5.4	4.6	3.8	3.5	3.5
AC-FT	317	337	762	912	389	444	591	410	306	273	234	222
CFSM	0.80	0.88	1.92	2.29	1.08	1.12	1.54	1.03	0.79	0.69	0.59	0.58
IN.	0.92	0.98	2.21	2.64	1.13	1.29	1.71	1.19	0.89	0.79	0.68	0.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2005, BY WATER YEAR (WY)

MEAN	5.62	10.5	18.2	23.2	21.8	16.0	10.5	7.45	6.02	5.02	4.57	4.62
MAX	13.3	29.2	41.4	47.1	58.1	42.7	24.6	12.4	8.60	7.31	6.18	6.68
(WY)	(2004)	(1991)	(2002)	(1966)	(1999)	(1997)	(1991)	(1959)	(1984)	(1961)	(1968)	(1978)
MIN	3.45	3.55	4.97	5.37	5.73	7.16	6.07	4.52	4.24	3.50	3.15	3.23
(WY)	(1988)	(1994)	(1953)	(1979)	(1993)	(2001)	(2001)	(1994)	(2001)	(1994)	(1994)	(1989)

12073500 HUGE CREEK NEAR WAUNA, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1947 - 2005	
ANNUAL TOTAL	3,048.8		2,620.4			
ANNUAL MEAN	8.33		7.18		11.1	
HIGHEST ANNUAL MEAN					19.8	1999
LOWEST ANNUAL MEAN					5.57	2001
HIGHEST DAILY MEAN	61	Jan 30	73	Jan 18	400	Mar 19, 1997
LOWEST DAILY MEAN	4.0	Jul 24	3.5	Aug 24	2.7	Sep 30, 1994
ANNUAL SEVEN-DAY MINIMUM	4.1	Jul 22	3.5	Aug 22	2.8	Oct 4, 1994
ANNUAL RUNOFF (AC-FT)	6,050		5,200		8,030	
ANNUAL RUNOFF (CFSM)	1.29		1.11		1.71	
ANNUAL RUNOFF (INCHES)	17.53		15.07		23.28	
10 PERCENT EXCEEDS	15		10		21	
50 PERCENT EXCEEDS	6.1		5.6		6.7	
90 PERCENT EXCEEDS	4.2		3.7		4.2	

12076800 GOLDSBOROUGH CREEK ABOVE 7TH STREET BRIDGE AT SHELTON, WA

LOCATION.--Lat 47°12'43", long 123°06'42", in NE¼NW¼ sec.19, T.20 N., R.3 W., Mason County, Hydrologic Unit 17110019, on right bank 0.15 mi upstream from 7th Street bridge, at mile 1.1.

DRAINAGE AREA.--54.9 mi^2.

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is mean sea level NAVD88.

REMARKS.--Records good except estimated daily discharges, which are poor. No regulation or diversion upstream from station. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,410 ft^3/s, Jan. 18, 2005, gage height, 22.20 ft; minimum recorded discharge, 38 ft^3/s, Aug. 26, 28, Sept. 8, 2005, but may have been less during periods of no gage height record Oct. 1-18, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,410 ft^3/s, Jan. 18, gage height, 22.20 ft; minimum daily discharge, 35 ft^3/s, Oct. 2-5, 7.

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	e36	107	119	103	148	154	264	113	90	57	44	39
2	e35	266	104	104	140	133	254	114	86	56	44	39
3	e35	241	93	92	134	115	242	116	84	56	42	39
4	e35	168	112	86	136	104	220	109	80	55	42	39
5	e35	129	158	83	135	99	198	108	78	54	41	39
6	e36	109	138	82	146	97	219	101	86	61	41	39
7	e35	94	184	108	162	94	198	95	82	58	42	39
8	e62	88	303	123	136	92	185	95	77	62	42	39
9	e110	83	342	115	128	91	159	97	75	73	42	39
10	e111	77	542	104	124	89	146	153	71	62	42	39
11	e74	75	731	97	122	87	196	129	73	62	41	39
12	e58	73	511	108	132	86	183	113	69	64	42	39
13	e50	72	368	101	126	83	183	107	70	58	41	39
14	e45	74	363	93	114	82	169	104	69	55	40	39
15	e44	79	347	90	110	81	177	109	67	53	40	39
16	e43	81	275	145	108	86	306	110	67	54	40	40
17	e60	85	225	515	105	91	306	103	75	52	41	40
18	e85	113	193	1,310	105	85	260	175	70	51	42	40
19	131	111	170	1,030	104	90	217	182	66	50	41	40
20	124	86	152	588	101	155	191	147	64	48	40	39
21	93	81	132	433	98	160	171	139	62	47	40	39
22	92	79	118	345	96	128	157	149	62	47	40	39
23	92	77	111	307	95	110	144	139	62	48	39	39
24	78	142	107	259	94	106	143	124	61	47	39	39
25	77	282	119	224	95	103	141	113	60	46	39	39
26	117	222	141	205	94	271	134	106	59	46	39	39
27	96	171	111	189	93	429	123	99	62	45	39	45
28	78	138	100	174	99	360	117	93	62	45	39	40
29	69	120	99	161	---	335	114	89	61	44	39	53
30	93	128	100	155	---	283	116	89	60	44	39	89
31	88	---	95	155	---	234	---	87	---	44	40	---
TOTAL	2,217	3,651	6,663	7,684	3,280	4,513	5,633	3,607	2,110	1,644	1,262	1,245
MEAN	71.5	122	215	248	117	146	188	116	70.3	53.0	40.7	41.5
MAX	131	282	731	1,310	162	429	306	182	90	73	44	89
MIN	35	72	93	82	93	81	114	87	59	44	39	39
AC-FT	4,400	7,240	13,220	15,240	6,510	8,950	11,170	7,150	4,190	3,260	2,500	2,470

WTR YR 2005 TOTAL 43,509 MEAN 119 MAX 1,310 MIN 35 AC-FT 86,300

e Estimated