

# SOUTH-CENTRAL ALASKA

## 15239070 BRADLEY RIVER NEAR TIDEWATER NEAR HOMER

LOCATION.--Lat 59°48'06", long 150°52'58", in SE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub> sec. 30, T. 4 S., R. 9 W. (Seldovia D-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on right bank 0.7 mi upstream from mouth, 0.8 mi downstream from Middle Fork Bradley River, 4.3 mi downstream from Bradley Lake outlet and dam site, and 25 mi east of Homer.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--May 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 25 ft above sea level, from topographic map.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Flow occasionally affected by high tides. Intermittent regulation during construction at the Bradley River dam site began in November 1986. Flow has been regulated since the reservoir began filling April 26, 1991. (See station 15239001.) Upper Nuka River was diverted into Upper Bradley River on July 29, 1990; flow from about 10 mi<sup>2</sup> of Middle Fork Bradley River upstream drainage has been seasonally diverted into the Bradley Lake reservoir since August 7, 1990. Battle Creek was diverted into the reservoir in October 1990. Water has been diverted out of the basin through the turbines since hydropower generation began June 28, 1991. Rain gage and air temperature recorder at station; daily values of precipitation and air temperature available from the computer files of the Alaska Science Center, Water Resources Office. GOES satellite telemetry at station.

### 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	282	75	e62	e47	e44	e40	e45	246	147	128	120	126
2	300	76	e60	e47	e44	e40	e45	232	146	119	133	130
3	408	70	e60	e47	e44	e40	e45	198	151	116	139	128
4	263	62	e55	e47	e44	e40	e44	197	167	119	134	123
5	204	58	e50	e47	e44	e40	e42	238	159	122	128	122
6	342	64	e50	e47	e44	e40	e40	273	158	136	130	119
7	452	64	e48	e47	e44	e40	e40	342	175	151	132	118
8	546	69	e48	e46	e44	e41	e45	302	156	137	132	122
9	474	65	e49	e46	e44	e45	e50	241	129	154	133	121
10	298	62	e48	e46	e44	e45	e55	214	129	146	132	122
11	149	56	e48	e46	e44	e45	e60	219	134	139	131	123
12	110	60	e47	e46	e44	e45	e60	232	127	140	130	121
13	105	56	e47	e46	e44	e45	e65	244	117	129	128	120
14	107	e50	e47	e46	e44	e45	e70	244	127	115	132	119
15	114	e44	e47	e46	e44	e44	74	227	144	125	133	116
16	96	e40	e47	e46	e44	e44	84	252	295	120	132	109
17	82	e40	e47	e37	e44	e44	75	265	377	128	133	106
18	75	e72	e50	e35	e44	e44	80	286	313	126	133	106
19	83	e82	e50	e35	e44	e44	75	273	234	128	134	98
20	78	e78	e49	e39	e44	e43	57	275	192	129	140	76
21	80	e74	e49	e46	e44	e43	68	298	171	127	132	79
22	76	e70	e48	e46	e44	e43	64	320	153	126	126	77
23	74	70	e48	e46	e44	e43	65	438	143	129	127	73
24	67	66	e48	e46	e44	e43	67	414	165	123	128	66
25	84	67	e48	e46	e42	e43	71	362	160	122	126	69
26	110	e62	e48	e45	e40	e44	86	289	158	147	125	161
27	130	e58	e48	e45	e40	e46	104	255	152	151	125	105
28	101	e53	e48	e44	e40	e46	99	235	134	126	126	88
29	81	e53	e48	e44	e40	e46	121	169	126	128	127	86
30	71	e62	e48	e44	---	e46	179	161	135	126	125	130
31	77	---	e48	e44	---	e45	---	153	---	122	124	---
TOTAL	5519	1878	1538	1385	1258	1342	2075	8094	5074	4034	4030	3259
MEAN	178	62.6	49.6	44.7	43.4	43.3	69.2	261	169	130	130	109
MAX	546	82	62	47	44	46	179	438	377	154	140	161
MIN	67	40	47	35	40	40	40	153	117	115	120	66
AC-FT	10950	3730	3050	2750	2500	2660	4120	16050	10060	8000	7990	6460

### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2004, BY WATER YEAR (WY)#

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	117	125	69.3	62.7	65.6	51.7	69.1	167	185	141	132	133	
MAX	317	594	137	137	117	70.5	93.8	261	263	185	178	224	
(WY)	2003	2003	2003	2001	2003	1998	1993	2004	1998	2001	1995	1995	
MIN	64.0	51.2	47.1	41.6	42.2	43.3	50.5	120	114	115	105	104	
(WY)	1998	2000	1998	1999	1999	2004	1999	1996	1997	1997	2002	1993	

# See Period of Record and Remarks  
e Estimated

# SOUTH-CENTRAL ALASKA

## 15239070 BRADLEY RIVER NEAR TIDEWATER NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1992 - 2004#	
ANNUAL TOTAL	36956		39486			
ANNUAL MEAN	101		108		110	
HIGHEST ANNUAL MEAN					164	
LOWEST ANNUAL MEAN					83.8	
HIGHEST DAILY MEAN					3490	
LOWEST DAILY MEAN	546	Oct 8	546	Oct 8	Nov 6 2002	
ANNUAL SEVEN-DAY MINIMUM	a40	Nov 16	b35	Jan 18	c35 Jan 18 2004	
MAXIMUM PEAK FLOW	46	Mar 26	40	Feb 26	40 Jan 28 1999	
MAXIMUM PEAK STAGE			591	Oct 7	6200 Nov 5 2002	
INSTANTANEOUS LOW FLOW			6.47	Oct 7	d10.83 Nov 5 2002	
ANNUAL RUNOFF (AC-FT)	73300		78320		17 Mar 28 1989	
10 PERCENT EXCEEDS	148		228		178	
50 PERCENT EXCEEDS	90		77		91	
90 PERCENT EXCEEDS	48		44		47	

### PRIOR TO REGULATION AND DIVERSION OF BRADLEY DAM

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1989, BY WATER YEAR (WY)#

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	808	224	198	145	82.1	74.0	72.8	462	1032	1390	1318	966
MAX	1908	480	503	223	114	163	101	676	1357	1577	1781	1746
(WY)	1987	1984	1987	1985	1985	1984	1989	1987	1988	1988	1988	1989
MIN	363	86.1	78.9	72.5	37.4	27.4	42.5	282	862	1153	907	470
(WY)	1984	1986	1988	1989	1989	1989	1985	1985	1986	1983	1983	1983

#### SUMMARY STATISTICS

WATER YEARS 1983 - 1989#

ANNUAL MEAN	583	
HIGHEST ANNUAL MEAN	722	1987
LOWEST ANNUAL MEAN	475	1985
HIGHEST DAILY MEAN	10000	Oct 11 1986
LOWEST DAILY MEAN	19	Dec 7 1986
ANNUAL SEVEN-DAY MINIMUM	22	Mar 26 1989
MAXIMUM PEAK FLOW	f11000	Oct 11 1986
MAXIMUM PEAK STAGE	d13.73	Oct 11 1986
INSTANTANEOUS LOW FLOW	g17	Mar 28 1989
ANNUAL RUNOFF (AC-FT)	422700	
ANNUAL RUNOFF (CFSM)	7.11	
ANNUAL RUNOFF (IN)	96.67	
10 PERCENT EXCEEDS	1470	
50 PERCENT EXCEEDS	388	
90 PERCENT EXCEEDS	52	

# See Period of Record and Remarks

a Nov. 16, 17

b Jan. 18, 19

c Jan. 18, 19, 2004

d From floodmarks

f From rating curve extended above 2,400 ft<sup>3</sup>/s on basis of runoff comparisons with nearby stations

g Minimum recorded, but may have been less during period of ice effect, Mar. 28 to Mar. 31, 1989