

15199500 SINONA CREEK NEAR CHISTOCHINA

LOCATION.--Lat 62°35'28", long 144°38'48", in SW¹/₄ of NW¹/₄ sec. 3, T. 9 N., R. 4 E., (Gulkana C-2 quad), Hydrologic Unit 19020101, on downstream left bank, at Glenn Highway/Tok Cutoff (Alaska Route 1) bridge, 1.8 miles NE of Chistochina.

DRAINAGE AREA.-- 167 mi²

PERIOD OF RECORD.--September 2002 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,900 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. GOES satellite telemetry at station.

REVISIONS.--The maximum discharge for water year 2003 has been revised to 194 ft³/s, May 13, 2003. Revised daily discharges, in cubic feet per second, for May 11-14, 2003, are given below. These figures supercede those published in the report for 2003.

May 11.....160 May 13.....178
12.....178 May 14.....160

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	16	e10	e5.5	e3.5	e1.4	e3.5	e5.5	e12	27	21	12	12
2	15	e10	e5.5	e3.5	e1.4	e3.5	e5.5	e16	29	20	12	13
3	15	e10	e5.5	e3.5	e1.4	e3.5	e5.5	e21	28	20	11	15
4	15	e9.5	e5.5	e3.0	e1.4	e3.5	e5.5	e29	39	18	11	18
5	15	e9.5	e5.5	e3.0	e1.4	e3.5	e5.5	e39	63	16	10	16
6	16	e9.5	e5.5	e3.0	e1.4	e3.5	e5.5	e50	53	16	9.6	15
7	16	e9.5	e5.5	e3.0	e1.4	e3.5	e6.0	e70	41	17	9.1	14
8	16	e9.5	e5.5	e3.0	e1.4	e3.5	e6.0	e100	37	16	9.5	14
9	17	e9.5	e5.0	e3.0	e2.0	e4.0	e6.0	e135	36	17	8.3	13
10	17	e9.0	e5.0	e3.0	e2.0	e4.0	e6.0	e175	82	16	8.4	13
11	e17	e9.0	e5.0	e3.0	e2.0	e4.0	e6.0	e230	129	15	7.9	13
12	e16	e9.0	e5.0	e3.0	e2.0	e4.5	e6.5	e310	124	14	10	13
13	15	e9.0	e5.0	e3.0	e2.0	e4.5	e6.5	e350	94	13	8.6	13
14	e15	e8.5	e5.0	e2.5	e2.0	e4.5	e6.5	326	70	13	8.4	13
15	15	e8.5	e4.5	e2.5	e2.5	e4.5	e6.5	243	53	12	11	13
16	e15	e8.0	e4.5	e2.5	e2.5	e4.5	e6.5	179	43	14	10	13
17	e15	e7.5	e4.5	e2.5	e2.5	e4.5	e6.5	137	36	12	10	13
18	e15	e7.0	e4.5	e2.5	e2.5	e4.5	e7.0	103	32	10	9.8	13
19	15	e7.0	e4.5	e2.5	e2.5	e4.5	e7.0	79	29	11	9.7	13
20	14	e7.0	e4.5	e2.5	e2.5	e4.5	e7.0	62	28	10	11	14
21	14	e7.0	e4.5	e2.0	e3.0	e5.0	e7.0	50	25	12	12	14
22	e14	e7.0	e4.5	e2.0	e3.0	e5.0	e7.5	41	25	12	11	14
23	16	e6.5	e4.0	e2.0	e3.0	e5.0	e7.5	35	24	11	11	16
24	14	e6.5	e4.0	e2.0	e3.0	e5.0	e7.5	32	22	12	11	17
25	14	e6.0	e4.0	e2.0	e3.0	e5.0	e7.5	30	21	14	11	16
26	15	e6.0	e4.0	e2.0	e3.0	e5.0	e8.0	28	22	13	12	16
27	15	e6.0	e4.0	e2.0	e3.0	e5.0	e8.0	27	22	13	12	17
28	e14	e6.0	e3.5	e2.0	e3.0	e5.0	e8.5	28	20	13	13	17
29	e13	e6.0	e3.5	e1.4	e3.0	e5.5	e8.5	27	20	14	14	17
30	e12	e5.5	e3.5	e1.4	---	e5.5	e8.5	26	19	13	13	16
31	e11	---	e3.5	e1.4	---	e5.5	---	28	---	12	13	---
TOTAL	462	239.0	144.0	78.2	65.2	137.0	201.5	3018	1293	440	330.3	434
MEAN	14.9	7.97	4.65	2.52	2.25	4.42	6.72	97.4	43.1	14.2	10.7	14.5
MAX	17	10	5.5	3.5	3.0	5.5	8.5	350	129	21	14	18
MIN	11	5.5	3.5	1.4	1.4	3.5	5.5	12	19	10	7.9	12
AC-FT	916	474	286	155	129	272	400	5990	2560	873	655	861
CFSM	0.09	0.05	0.03	0.02	0.01	0.03	0.04	0.58	0.26	0.09	0.06	0.09
IN.	0.10	0.05	0.03	0.02	0.01	0.03	0.04	0.67	0.29	0.10	0.07	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)#

	2002	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MEAN	53.4	18.4	6.09	4.05	6.22	6.22	8.49	103	41.3	15.0	11.7	33.5
MAX	91.9	28.9	7.53	5.58	10.3	8.02	10.3	110	43.1	15.7	12.7	70.8
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2004	2003	2003	2002
MIN	14.9	7.97	4.65	2.52	2.25	4.42	6.72	97.4	39.5	14.2	10.7	14.5
(WY)	2004	2004	2004	2004	2004	2004	2004	2004	2003	2004	2004	2004

See Period of Record, partial years used in monthly statistics
e Estimated

15199500 SINONA CREEK NEAR CHISTOCHINA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004#	
ANNUAL TOTAL	7779.8		6842.2			
ANNUAL MEAN	21.3		18.7		24.3	
HIGHEST ANNUAL MEAN					29.8	
LOWEST ANNUAL MEAN					18.7	
HIGHEST DAILY MEAN	178	May 12	350	May 13	350	May 13 2004
LOWEST DAILY MEAN	a3.5	Dec 28	b1.4	Jan 29	b1.4	Jan 29 2004
ANNUAL SEVEN-DAY MINIMUM	3.7	Dec 25	1.4	Jan 29	1.4	Jan 29 2004
MAXIMUM PEAK FLOW			370	May 13	370	May 13 2004
MAXIMUM PEAK STAGE			7.75	May 13	7.75	May 13 2004
MAXIMUM PEAK STAGE			c11.55	May 01	c11.55	May 01 2004
ANNUAL RUNOFF (AC-FT)	15430		13570		17570	
ANNUAL RUNOFF (CFSM)	0.128		0.112		0.145	
ANNUAL RUNOFF (INCHES)	1.73		1.52		1.97	
10 PERCENT EXCEEDS	48		29		65	
50 PERCENT EXCEEDS	12		9.5		12	
90 PERCENT EXCEEDS	5.5		2.5		4.0	

See Period of Record, partial years used in monthly statistics

a Dec. 28-31

b Jan. 29 to Feb. 8

c Backwater from ice

15200280 GULKANA RIVER AT SOURDOUGH

LOCATION.--Lat 62°31'15", long 145°31'51", in SE¹/₄ NE¹/₄ sec. 35, T. 9 N., R. 2 W. (Gulkana C-4 quad), Hydrologic Unit 19020102, near left bank on downstream side of pier of Alyeska Pipeline Service Company bridge, 0.3 mi downstream from Sourdough Creek and 0.8 mi southwest of Sourdough.

DRAINAGE AREA.--1,770 mi².

PERIOD OF RECORD.--October 1972 to September 1978, May to September 1982, October 1988 to September 1993, May 1997 to September 2004 (discontinued).

REVISED RECORDS.--WRD AK-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,845.96 ft above sea level (levels of Alyeska Engineering).

REMARKS.--Records good except for estimated daily discharges, which are poor. Rain gage at station. 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	1280	e560	e490	e390	e260	e280	e360	e1200	2620	819	501	469
2	1290	e560	e490	e390	e260	e280	e360	e1500	2690	806	500	483
3	1280	e560	e490	e380	e260	e280	e360	e2250	4020	784	486	514
4	1220	e560	e490	e370	e260	e280	e360	e3000	4300	767	458	570
5	1190	e560	e490	e360	e260	e280	e360	e4000	3560	761	440	597
6	1160	e560	e490	e350	e260	e280	e360	5860	2990	798	426	571
7	1140	e560	e490	e350	e260	e280	e360	6190	2640	794	408	543
8	1100	e550	e490	e340	e260	e280	e365	6940	2870	753	397	510
9	1090	e550	e490	e340	e260	e280	e365	7110	3820	724	393	483
10	1110	e550	e490	e330	e260	e280	e365	7270	4220	694	386	466
11	1070	e550	e490	e330	e270	e290	e365	6130	4010	653	384	457
12	989	e550	e490	e320	e270	e300	e370	5320	3520	613	382	447
13	971	e540	e480	e320	e270	e310	e370	5040	3060	576	381	471
14	934	e530	e480	e310	e270	e320	e370	4600	2700	548	383	470
15	824	e520	e480	e310	e270	e320	e370	4210	2440	523	386	471
16	748	e520	e470	e300	e270	e320	e375	3880	2200	500	385	459
17	690	e510	e470	e300	e270	e320	e380	3540	2000	483	387	463
18	652	e510	e460	e300	e270	e320	e390	3220	1840	465	386	451
19	e640	e510	e460	e290	e270	e320	e400	2830	1710	457	383	429
20	e630	e510	e460	e290	e270	e320	e410	2600	1570	444	396	448
21	e620	e500	e450	e290	e270	e320	e420	2310	1450	441	406	472
22	e610	e500	e450	e290	e280	e320	e450	2130	1340	439	409	495
23	e600	e500	e440	e280	e280	e330	e500	2000	1240	432	406	534
24	e600	e500	e440	e280	e280	e340	e550	2020	1160	414	402	584
25	e600	e500	e430	e280	e280	e340	e590	2330	1080	409	414	623
26	e600	e500	e430	e280	e280	e340	e640	2830	1020	419	436	623
27	e600	e500	e420	e280	e280	e340	e700	2830	968	424	465	681
28	e600	e500	e420	e270	e280	e340	e790	3080	917	435	476	731
29	e590	e490	e410	e270	e280	e350	e880	3250	874	460	491	687
30	e580	e490	e410	e270	---	e350	e1000	3010	841	489	486	637
31	e570	---	e400	e270	---	e360	---	2790	---	501	476	---
TOTAL	26578	15800	14340	9730	7810	9670	13935	115270	69670	17825	13115	15839
MEAN	857	527	463	314	269	312	464	3718	2322	575	423	528
MAX	1290	560	490	390	280	360	1000	7270	4300	819	501	731
MIN	570	490	400	270	260	280	360	1200	841	409	381	429
AC-FT	52720	31340	28440	19300	15490	19180	27640	228600	138200	35360	26010	31420
CFSM	0.48	0.30	0.26	0.18	0.15	0.18	0.26	2.10	1.31	0.32	0.24	0.30
IN.	0.56	0.33	0.30	0.20	0.16	0.20	0.29	2.42	1.46	0.37	0.28	0.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)#

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004				
MEAN	1053	594	445	369	324	315	475	3106	2690	1440	1289	1394																								
MAX	2369	1362	1005	801	670	563	1344	5630	4969	2696	2821	4253																								
(WY)	2003	2003	2003	2003	2003	2003	1993	1989	1977	1992	1992	1990																								
MIN	437	287	208	200	200	200	227	836	1150	575	423	505																								
(WY)	1975	1976	1974	1974	1974	1974	2000	2002	1998	2004	2004	1974																								

See period of record, partial years used in monthly statistics
e Estimated

SOUTH-CENTRAL ALASKA

15200280 GULKANA RIVER AT SOURDOUGH—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004#	
ANNUAL TOTAL	362387		329582			
ANNUAL MEAN	993		900		1125	
HIGHEST ANNUAL MEAN					1564	
LOWEST ANNUAL MEAN					658	
HIGHEST DAILY MEAN	3270	May 19	7270	May 10	12100	Sep 12 1990
LOWEST DAILY MEAN	400	Dec 31	a260	Feb 1	b200	Dec 6 1973
ANNUAL SEVEN-DAY MINIMUM	417	Dec 25	260	Feb 1	200	Dec 6 1973
MAXIMUM PEAK FLOW			7600	May 10	c12700	Sep 12 1990
MAXIMUM PEAK STAGE			9.50	May 10	11.26	Sep 12 1990
MAXIMUM PEAK STAGE					d16.03	May 07 1976
ANNUAL RUNOFF (AC-FT)	718800		653700		814800	
ANNUAL RUNOFF (CFSM)	0.561		0.509		0.635	
ANNUAL RUNOFF (INCHES)	7.62		6.93		8.63	
10 PERCENT EXCEEDS	2000		2610		2620	
50 PERCENT EXCEEDS	748		482		624	
90 PERCENT EXCEEDS	500		280		250	

See period of record, partial years used in monthly statistics

a Feb. 1-10

b Dec. 6, 1973 to Apr. 12, 1974

c From rating curve extended above 4,600 ft³/s

d Backwater from ice

15215990 NICOLET CREEK NEAR CORDOVA

LOCATION.--Lat 60°31'09", long 145°47'23", in SW¹/₄ SW¹/₄ SE¹/₄ sec. 32, T. 15 S., R. 3 W. (Cordova C-5 quad), Hydrologic Unit 19020201, on right bank 275 ft upstream from culvert for Whitshed Road, 475 ft upstream from mouth and 2.1 mi southwest of Cordova.

DRAINAGE AREA.--0.75 mi².

PERIOD OF RECORD.--Annual maximum, water years 1991-99. September 1999 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 40 ft above sea level, from topographic map.

REMARKS.--Records good except for discharges greater than 60 ft³/s, which are fair; and estimated daily discharges, which are poor.

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	e8.5	0.86	e0.90	e1.1	e1.5	0.89	0.99	19	15	0.34	1.4	0.63
2	e18	0.97	e0.70	e1.0	e1.1	3.1	94	19	4.7	0.28	0.95	13
3	e70	0.82	e0.60	e1.0	e1.3	8.9	61	8.1	4.5	0.28	0.61	13
4	3.8	0.72	e0.90	e1.0	e9.0	e3.0	13	7.9	1.9	0.74	0.41	3.3
5	12	0.66	e0.60	e1.0	e15	e1.5	6.2	7.8	1.3	0.83	0.34	1.5
6	29	1.9	e1.0	e1.0	e10	e1.0	44	7.3	1.1	0.54	0.29	1.1
7	43	14	e1.0	e1.0	e6.0	e1.0	58	7.8	0.87	0.31	0.27	0.81
8	6.2	57	e5.0	e1.0	e21	e1.0	16	5.5	1.2	0.25	0.25	0.71
9	14	5.0	e12	e1.5	e10	e1.0	31	6.8	1.2	0.22	0.23	0.62
10	34	1.7	8.8	e2.5	111	e2.0	6.4	5.7	2.2	0.24	0.20	0.59
11	2.6	3.0	20	e1.1	25	4.4	4.0	5.1	2.5	0.22	0.33	0.51
12	1.9	15	12	e1.0	e2.0	8.1	3.7	5.5	1.2	0.21	0.38	0.50
13	1.5	2.6	16	e0.90	e1.5	5.5	3.5	4.6	0.80	0.20	0.26	0.44
14	1.2	1.5	4.6	e0.85	e1.0	2.8	5.0	3.9	0.61	0.21	0.23	0.45
15	1.0	1.2	4.7	e0.80	e0.90	1.8	5.8	3.0	0.66	0.19	0.19	0.46
16	0.85	0.96	4.8	e0.75	e0.80	1.5	6.9	16	6.9	0.17	0.17	0.38
17	0.74	e0.90	31	e0.70	e0.70	1.2	10	16	31	0.20	0.15	0.37
18	1.5	e0.80	4.4	e0.70	e0.70	e1.1	18	4.8	2.7	1.1	0.14	0.34
19	28	e0.70	18	2.1	e2.0	e1.3	5.9	3.4	1.2	1.5	0.33	0.98
20	15	e0.60	8.2	48	30	e1.1	4.6	2.6	0.82	0.62	0.51	18
21	2.4	e1.0	37	83	86	e1.0	4.4	2.0	0.61	1.5	0.27	15
22	1.6	e3.0	28	26	21	e0.90	27	1.7	0.46	31	0.21	49
23	23	e2.0	3.3	e4.0	e3.5	0.83	15	3.4	0.39	5.7	0.17	38
24	11	e1.5	2.6	e2.0	e3.0	0.74	25	29	0.33	1.9	0.14	3.9
25	34	e1.1	3.5	e1.5	e2.5	1.6	49	33	0.30	1.5	0.13	66
26	22	e1.1	1.8	e1.1	e2.0	1.9	8.4	6.0	0.26	29	6.8	e200
27	5.5	e1.0	1.2	e1.1	e2.0	2.1	51	2.1	0.25	74	24	e50
28	2.0	e1.0	1.1	e1.0	e1.0	1.5	56	3.9	0.26	25	23	e20
29	1.3	e1.0	e3.0	e1.0	e1.0	1.7	24	2.3	0.32	6.2	2.4	e18
30	1.1	e0.95	e2.0	e1.0	---	1.3	13	1.4	0.30	2.9	1.2	e80
31	0.97	---	e1.5	e1.1	---	1.2	---	7.1	---	2.1	0.77	---
TOTAL	397.66	124.54	240.20	191.80	372.50	66.96	670.79	251.7	85.84	189.45	66.73	597.59
MEAN	12.8	4.15	7.75	6.19	12.8	2.16	22.4	8.12	2.86	6.11	2.15	19.9
MAX	70	57	37	83	111	8.9	94	33	31	74	24	200
MIN	0.74	0.60	0.60	0.70	0.70	0.74	0.99	1.4	0.25	0.17	0.13	0.34
AC-FT	789	247	476	380	739	133	1330	499	170	376	132	1190
CFSM	17.1	5.54	10.3	8.25	17.1	2.88	29.8	10.8	3.82	8.15	2.87	26.6
IN.	19.72	6.18	11.91	9.51	18.48	3.32	33.27	12.48	4.26	9.40	3.31	29.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)#

	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
MEAN	16.0	11.0	12.7	13.6	10.5	5.16	11.5	10.0	5.47	5.47	8.16	11.1			
MAX	20.2	19.8	20.4	26.6	20.7	10.2	22.4	16.1	9.35	6.79	15.2	19.9			
(WY)	2001	2003	2000	2001	2003	2000	2004	2000	2002	2001	2003	2004			
MIN	10.4	4.15	5.33	6.19	2.00	2.16	3.56	6.27	1.59	3.88	2.15	6.69			
(WY)	2002	2004	2003	2004	2002	2004	2003	2003	2001	2003	2004	2003			

See Period of Record and Remarks
e Estimated

15215990 NICOLET CREEK NEAR CORDOVA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004#	
ANNUAL TOTAL	2873.75		3255.76			
ANNUAL MEAN	7.87		8.90		10.1	
HIGHEST ANNUAL MEAN					11.7 2001	
LOWEST ANNUAL MEAN					8.90 2004	
HIGHEST DAILY MEAN	124	Feb 5	200	Sep 26	200	Sep 26 2004
LOWEST DAILY MEAN	a0.10	Mar 12	0.13	Aug 25	a0.10	Mar 12 2003
ANNUAL SEVEN-DAY MINIMUM	0.41	Apr 1	0.20	Jul 11	0.19	Jun 27 2001
MAXIMUM PEAK FLOW			b740	Sep 26	cd988	Nov 3 1994
MAXIMUM PEAK STAGE					d19.60	Nov 3 1994
MAXIMUM PEAK STAGE			26.53	Sep 26	26.53	Sep 26 2004
INSTANTANEOUS LOW FLOW			f0.10	Jul 17	f0.10	Jul 17 2004
ANNUAL RUNOFF (AC-FT)	5700		6460		7290	
ANNUAL RUNOFF (CFSM)	10.5		11.9		13.4	
ANNUAL RUNOFF (INCHES)	142.54		161.49		182.19	
10 PERCENT EXCEEDS	23		26		30	
50 PERCENT EXCEEDS	2.0		1.7		3.5	
90 PERCENT EXCEEDS	0.55		0.33		0.74	

See Period of Record and Remarks

a Mar. 12 and 13

b From rating extended above 33 ft³/s on basis of step-backwater analysis

c From rating curve extended above 66 ft³/s on basis of slope-area measurement of peak flow

d Site and datum then in use

f Minimum observed, but may have been lower during periods of ice effect.

15225990 SOLOMON LAKE NEAR VALDEZ

LOCATION.--Lat 61°04'25", long 146°18'08", in NE¹/₄ SW¹/₄ sec. 21, T. 9 S., R. 6 W. (Valdez A-7 SE quad), Hydrologic Unit 19020201, within Valdez Corporate boundary, at outlet of Solomon Lake, 0.7 mi upstream from mouth of Solomon Gulch, and 4.6 mi southeast of Valdez.

DRAINAGE AREA.--19.2 mi².

PERIOD OF RECORD.--October 1991 to current year. Additional unpublished records prior to period of record available from Copper Valley Electric Association and in station files of Geological Survey.

REMARKS.--Reservoir is formed by a rockfill dam at outlet of Solomon Lake. Reservoir is used for power; power-plant operation began January 6, 1982. Usable capacity is 31,500 acre-feet below spillway crest at 685 ft. Discharge released to the penstocks is accounted for at Solomon Gulch Tailrace (station 15225996). Releases through the dam to maintain minimum flows, spillway releases, and incremental flow are accounted for at the Solomon Gulch at top of falls gage (station 15225997).

COOPERATION.--Reservoir contents furnished by Copper Valley Electric Association.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents 32,500 acre-ft, September 21, 1993, from crest-stage gage and rating extended above 31,500 acre-ft; minimum contents, 2,167 acre-ft, May 1, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 32,100 acre-ft September 30, elevation, 686.14 ft, from crest-stage gage and rating extended above 31,500 acre-ft; minimum contents, 4,070 acre-ft, April 30 and May 1, elevation, 625.3 ft.

MONTH END RESERVOIR ELEVATION, IN FEET, AND CONTENTS, IN ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	ELEVATION	CONTENTS	CHANGE IN CONTENTS
SEP 30	684.6	31,100	----
OCT 31	678.3	26,600	-4,500
NOV 30	672.8	23,500	-3,100
DEC 31	666.8	20,400	-3,100
JAN 31	658.2	16,100	-4,300
FEB 29	649.7	12,500	-3,600
MAR 31	638.5	8,170	-4,330
APR 30	625.6	4,150	-4,020
MAY 31	648.8	12,100	+7,950
JUN 30	673.6	24,000	+11,900
JUL 31	678.4	26,700	+2,700
AUG 31	----	25,300e	-1,400e
SEP 30	684.4	30,900	+5,600e
		CAL YR 2003	-3,600
		WTR YR 2004	-200

e Estimated

15225996 SOLOMON GULCH TAILRACE NEAR VALDEZ

LOCATION.--Lat 61°05'01", long 146°18'10", in NE¹/₄ SE¹/₄ SW¹/₄ sec. 16, T. 9 S., R. 6 W. (Valdez A-7 SE quad), Hydrologic Unit 19020201, within Valdez Corporate boundary, on left wingwall of tailrace pool of Copper Valley Electric Association powerhouse facility, 350 ft upstream from mouth at Solomon Gulch, and 3.8 mi southeast of Valdez.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--September 1986 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 40 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharge, which is poor. Discharge shown herein is flow through the Solomon Gulch Power Plant turbines. Solomon Lake, 0.8 mi upstream, supplies water to the power-plant through two 48-in. diameter penstocks. Water for the fish hatchery, diverted upstream from the gage, is not included in these published daily values. Annual mean discharge for these diversions for 2004 water year was 11.6 ft³/s.

COOPERATION.--Records of daily discharge diverted to the fish hatchery are furnished by Valdez Fisheries Development Association. Copper Valley Electric Association provides tables of hourly power output through the turbines.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 293 ft³/s, January 2 and 3, 1992, gage height, 3.04 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 255 ft³/s, July 6, and August 18, gage height, 2.98 ft, but may have been higher during period of missing record; no flow for period on May 20.

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	182	e105	65	52	46	57	67	73	189	212	197	221
2	185	e105	52	59	64	51	67	87	201	182	209	220
3	183	e110	53	58	68	52	61	84	202	211	213	215
4	174	e110	51	60	68	58	64	83	202	207	208	208
5	179	e110	59	63	62	57	69	92	200	217	209	207
6	185	e85	56	57	58	60	71	103	195	218	212	206
7	185	e85	58	56	49	60	71	173	195	220	211	213
8	151	e105	75	48	43	75	65	210	205	218	205	217
9	182	e90	75	42	52	77	65	208	204	217	217	217
10	180	e95	56	52	54	71	57	216	202	204	217	124
11	171	e105	54	49	57	58	54	216	202	204	218	85
12	174	e95	55	50	55	59	64	214	199	216	215	84
13	185	e95	52	54	54	58	68	217	198	207	185	70
14	184	87	54	56	49	51	65	216	203	214	219	60
15	182	82	72	48	51	65	66	209	209	213	218	57
16	e180	88	75	52	69	66	71	211	208	211	209	64
17	e185	109	73	68	76	58	65	219	206	205	211	63
18	e185	106	70	65	74	73	60	217	208	204	224	56
19	e185	94	56	58	72	79	53	216	204	204	228	60
20	e190	76	50	54	58	76	52	117	202	206	179	58
21	e190	67	48	51	53	71	62	205	209	204	218	55
22	e190	62	46	68	49	62	78	193	206	202	214	61
23	e190	63	47	68	54	67	81	197	208	199	220	59
24	e190	68	47	55	57	70	83	213	207	198	223	54
25	e190	87	50	57	69	86	81	205	190	196	223	54
26	e180	92	63	53	65	88	91	186	209	201	222	67
27	e190	74	69	55	65	74	96	183	210	206	224	150
28	e190	74	52	53	58	73	92	182	173	207	213	210
29	e150	70	46	68	57	76	82	176	213	201	205	209
30	e200	61	42	68	---	82	76	173	212	208	210	205
31	e120	---	48	47	---	73	---	176	---	205	217	---
TOTAL	5587	2655	1769	1744	1706	2083	2097	5470	6071	6417	6593	3829
MEAN	180	88.5	57.1	56.3	58.8	67.2	69.9	176	202	207	213	128
MAX	200	110	75	68	76	88	96	219	213	220	228	221
MIN	120	61	42	42	43	51	52	73	173	182	179	54
AC-FT	11080	5270	3510	3460	3380	4130	4160	10850	12040	12730	13080	7590
CAL YR 2003	TOTAL 47422	MEAN 130	MAX 223	MIN 36	AC-FT 94060							
WTR YR 2004	TOTAL 46021	MEAN 126	MAX 228	MIN 42	AC-FT 91280							

e Estimated

15225997 SOLOMON GULCH AT TOP OF FALLS NEAR VALDEZ

LOCATION.--Lat 61°04'45", long 146°18'11", in SE¹/₄ NE¹/₄ NW¹/₄ sec. 21, T. 9 S., R. 6 W. (Valdez A-7 SE quad), Hydrologic Unit 19020201, within Valdez Corporate boundary, on right bank, 72 ft above Alyeska Pipeline Service Company Bridge, 150 ft upstream from top of falls, 0.3 mi upstream from mouth, and 4.2 mi southeast of Valdez.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--September 1986 to current year.

REVISED RECORDS.--WDR AK-00-1: 1999.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above sea level, from topographic map. Prior to October 1, 1991, discharge computed for site 150 ft downstream at datum 72.00 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Discharge shown herein represents controlled releases from bypass valve and flow over the spillway of dam at Solomon Lake, 0.5 mi upstream, plus inflow between the spillway and the gage. Spillway crest elevation is 685 ft above sea level, from construction plans. Water for power generation is diverted from Solomon Lake (see records for station 15225996). Water is diverted for fish hatchery use 1,150 ft downstream from gage. Reservoir spilled October 1-9, September 26, and 30.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,280 ft³/s, October 11, 1986, by computation of peak flow by several indirect measurement methods; gage height, 82.20 ft from water surface profiles for 1986 flood at top of falls and at datum 72.00 ft lower (12.90 ft from profile at present site and datum); minimum daily discharge, about 0.20 ft³/s, January 23 to April 6, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 987 ft³/s, October 3, gage height, 7.58 ft, maximum gage height, 7.72 ft, September 30; minimum daily discharge, 3.0 ft³/s, April 5, and September 17-18.

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	301	5.9	4.3	4.0	3.6	3.5	e3.1	11	6.1	3.6	3.9	3.4
2	199	5.8	4.3	3.9	3.6	3.4	3.1	15	5.5	3.6	3.8	3.6
3	614	5.8	4.3	3.9	3.5	3.3	3.1	11	5.1	3.5	3.8	3.7
4	252	5.6	4.2	3.9	3.5	3.3	3.1	14	4.8	3.6	3.7	3.7
5	185	5.5	4.1	3.9	3.5	3.3	3.0	16	4.6	3.7	3.7	3.5
6	105	5.5	4.1	3.9	3.6	3.2	3.1	14	4.4	3.6	3.7	3.5
7	82	5.8	4.1	e3.9	3.6	3.3	3.5	14	4.1	3.6	3.7	3.4
8	81	11	4.0	3.9	3.6	3.2	4.0	11	4.1	3.5	3.7	3.4
9	39	7.7	4.0	3.9	3.7	3.2	3.9	11	4.1	3.5	3.6	3.4
10	7.3	6.4	4.0	e3.8	e3.7	3.3	3.9	10	4.1	3.5	3.6	3.3
11	6.5	6.1	4.1	3.8	e3.7	3.3	3.7	12	4.0	3.5	3.6	3.1
12	6.2	6.2	4.0	3.8	e3.7	3.3	3.7	12	3.9	3.5	3.5	3.1
13	6.1	5.9	4.0	3.8	3.7	3.3	3.7	12	3.8	3.5	3.4	3.1
14	6.0	5.7	4.1	3.8	3.6	3.3	3.6	12	3.7	3.5	3.4	3.1
15	5.9	5.5	4.0	e3.7	3.6	3.3	3.9	12	3.7	3.5	3.3	3.1
16	5.8	5.3	4.0	e3.7	3.5	3.2	4.1	11	3.8	3.5	3.3	3.1
17	5.7	5.1	4.0	3.7	3.5	3.2	4.3	10	7.1	3.5	3.3	3.0
18	5.6	5.0	4.1	3.7	3.5	3.2	4.5	11	4.9	3.5	3.3	3.0
19	6.0	4.8	4.0	3.7	3.4	e3.2	4.3	11	4.2	3.5	3.4	3.1
20	6.2	4.9	4.0	3.8	3.5	3.3	4.1	12	4.0	3.6	3.5	3.5
21	5.9	4.9	4.0	3.8	e3.5	3.1	4.3	11	3.9	3.6	3.4	3.5
22	5.8	4.9	e4.0	3.8	e3.5	3.2	4.2	10	3.8	3.6	3.4	5.9
23	5.9	4.9	e4.0	3.8	e3.5	3.1	4.4	9.6	3.8	3.6	3.3	10
24	7.1	4.9	4.0	3.8	e3.5	3.1	4.3	9.9	3.7	3.6	3.3	5.2
25	9.3	4.6	4.0	3.7	3.6	3.1	5.3	10	3.7	3.6	3.3	12
26	14	4.6	3.9	3.7	3.5	3.1	6.3	8.7	3.6	3.7	3.5	51
27	8.1	4.6	e4.0	3.7	3.5	3.1	7.0	7.9	3.6	4.0	3.8	16
28	6.8	4.5	e4.0	3.7	3.4	3.1	7.1	7.1	3.6	4.9	3.9	7.0
29	6.3	4.4	4.0	3.7	3.4	3.1	7.7	6.7	3.6	5.2	3.6	10
30	6.1	4.4	4.0	3.6	---	3.1	8.1	6.5	3.6	4.4	3.5	193
31	6.0	---	4.0	3.6	---	3.1	---	7.9	---	4.0	3.4	---
TOTAL	2006.6	166.2	125.6	117.4	103.0	99.8	132.4	337.3	126.9	115.0	109.6	379.7
MEAN	64.7	5.54	4.05	3.79	3.55	3.22	4.41	10.9	4.23	3.71	3.54	12.7
MAX	614	11	4.3	4.0	3.7	3.5	8.1	16	7.1	5.2	3.9	193
MIN	5.6	4.4	3.9	3.6	3.4	3.1	3.0	6.5	3.6	3.5	3.3	3.0
AC-FT	3980	330	249	233	204	198	263	669	252	228	217	753
CAL YR 2003	TOTAL	6635.9	MEAN	18.2	MAX	614	MIN	2.7	AC-FT	13160		
WTR YR 2004	TOTAL	3819.5	MEAN	10.4	MAX	614	MIN	3.0	AC-FT	7580		

e Estimated

15226000 SOLOMON GULCH NEAR VALDEZ

LOCATION.--Lat 61°05'02", long 146°18'13", in NE¹/₄ SE¹/₄ SW¹/₄ sec. 16, T. 9 S., R. 6 W. (Valdez A-7 SE quad), Hydrologic Unit 19020201, at bridge crossing at mouth and 3.8 mi southeast across Port Valdez from Valdez.

DRAINAGE AREA.--19.7 mi².

PERIOD OF RECORD.--July to December 1948, October 1949 to September 1956, and September 1986 to current year.

GAGE.--Nonrecording gage. Elevation of gage is at sea level. July 9, 1948 to May 21, 1950, nonrecording gage, and May 22, 1950 to September 30, 1956, water-stage recorder at about present site and datum.

REMARKS.-- Records fair. Discharge data represent the flow at mouth which includes Solomon Gulch at top of falls (station 15225997), power plant tailrace (station 15225996), and all fish hatchery diversions. Water for power generation is diverted by a dam at Solomon Lake, 0.8 mi upstream. Water is diverted for the fish hatchery by a 24-in. penstock aeration system, and a 24-in. penstock line from the tailrace weir pool. An unaerated penstock and an 8-in. pipe for warm water supply are upstream. Additional water is diverted to the fish hatchery from Solomon Gulch bypass channel about 750 ft above gage, by means of a 12-in. diameter pipe. The fish hatchery discharges water directly into Port Valdez. Average daily diversion to fish hatchery for 2004 water year was 11.6 ft³/s. Power generation began January 6, 1982.

COOPERATION.--Records of daily discharge diverted to the fish hatchery are furnished by Valdez Fisheries Development Association. Copper Valley Electric Association provides tables of hourly power output through the turbines and monthly storage values for Solomon Lake.

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	511	120	77	63	57	68	e75	90	198	216	228	253
2	412	e120	64	70	75	62	75	107	210	186	240	252
3	825	e125	65	69	79	63	69	100	210	215	243	248
4	454	e125	63	71	79	69	72	101	210	211	238	240
5	392	e123	71	75	73	68	77	114	208	221	239	239
6	318	e101	68	69	69	71	79	124	203	222	242	238
7	295	e101	70	e68	60	71	80	194	202	224	242	245
8	261	e127	87	60	54	86	74	227	212	222	235	248
9	250	e108	87	54	64	88	74	225	212	220	248	249
10	217	e112	69	e64	e66	82	66	233	209	208	249	156
11	206	e122	67	61	e68	69	63	234	209	208	250	117
12	209	e111	68	62	e66	70	72	231	205	220	247	116
13	220	e111	65	66	66	69	77	233	204	210	217	100
14	219	101	67	68	60	62	74	231	209	218	251	92
15	216	96	85	e60	62	76	76	224	215	225	250	90
16	e194	102	88	e64	80	77	81	225	214	238	241	96
17	e199	123	86	79	87	69	75	232	216	232	243	95
18	e199	120	83	76	85	84	70	231	214	231	256	88
19	e199	108	69	70	83	e90	63	230	210	231	260	92
20	e204	90	62	66	69	87	61	133	208	233	211	91
21	e204	81	60	63	e64	81	72	220	214	231	250	87
22	e204	76	e59	80	e60	72	86	206	211	229	246	96
23	e204	76	e60	80	e65	76	90	210	213	226	252	98
24	e205	82	60	66	e68	79	93	227	212	225	255	88
25	e207	100	63	68	80	95	92	218	195	223	255	96
26	e202	105	75	64	76	97	102	198	214	228	254	148
27	e206	87	e81	67	76	83	108	194	215	234	256	196
28	e205	87	e64	65	69	82	105	192	178	238	246	247
29	e164	83	59	79	68	84	95	186	218	233	237	249
30	e214	74	55	80	---	91	89	183	217	239	242	429
31	e134	---	61	58	---	81	---	187	---	236	247	---
TOTAL	8149	3097	2158	2105	2028	2402	2385	5940	6265	6933	7570	5079
MEAN	263	103	69.6	67.9	69.9	77.5	79.5	192	209	224	244	169
MAX	825	127	88	80	87	97	108	234	218	239	260	429
MIN	134	74	55	54	54	62	61	90	178	186	211	87
AC-FT	16160	6140	4280	4180	4020	4760	4730	11780	12430	13750	15020	10070

ADJUSTED FOR CHANGE IN STORAGE IN SOLOMON LAKE

MEAN	190	51.1	19.2	e0.0	e5.3	7.0	11.9	321	409	268	222	263
AC-FT	11660	3040	1180	e0.0	e300	430	710	19730	24330	16450	13620	15670
CFSM	9.63	2.59	0.97	e0.0	e0.27	0.35	0.61	16.29	20.75	13.58	11.24	13.37
IN	11.11	2.90	1.12	e0.0	e0.29	0.41	0.68	18.80	23.18	15.67	12.98	14.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)#

MEAN	201	109	98.2	92.5	89.1	83.5	75.8	154	186	266	296	323
MAX	435	228	180	138	130	138	132	213	229	410	462	501
(WY)	2003	2003	2003	1995	1987	2003	2003	1993	1990	2001	1993	1989
MIN	97.2	77.1	69.0	63.0	58.9	5.08	26.2	103	145	177	152	152
(WY)	1997	1993	2002	2003	2002	1991	1991	1992	1988	1991	1996	1996

e Estimated

15226000 SOLOMON GULCH NEAR VALDEZ—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1986 - 2004#	
ANNUAL TOTAL	58262		54111			
ANNUAL MEAN	160		148		165	
ANNUAL MEAN	*154		*147		*165	
HIGHEST ANNUAL MEAN					197 1990	
LOWEST ANNUAL MEAN					125 1996	
HIGHEST DAILY MEAN	825	Oct 3	825	Oct 3	2270	Sep 24 1989
LOWEST DAILY MEAN	50	Jan 20	a54	Jan 9	1.0	Apr 12 1989
ANNUAL SEVEN-DAY MINIMUM	54	Feb 11	62	Dec 19	2.3	Mar 24 1991
ANNUAL RUNOFF (AC-FT)	115600		107300		119800	
ANNUAL RUNOFF (AC-FT)	*111950		*107120		*119500	
ANNUAL RUNOFF (CFSM)	*7.80		*7.47		*8.38	
ANNUAL RUNOFF (IN)	*106.67		*102.07		*113.74	
10 PERCENT EXCEEDS	235		243		279	
50 PERCENT EXCEEDS	127		106		123	
90 PERCENT EXCEEDS	58		64		68	

PRIOR TO CONSTRUCTION OF SOLOMON GULCH HYDROELECTRIC PROJECT

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1956, BY WATER YEAR (WY)#

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	58.9	18.3	13.3	10.4	8.82	10.9	102	370	385	322	260
MAX	304	131	35.6	20.9	12.2	11.1	18.3	224	544	514	442	574
(WY)	1953	1953	1950	1956	1954	1953	1953	1953	1953	1955	1956	1951
MIN	48.0	21.7	4.00	1.40	3.57	7.19	6.57	36.5	261	277	254	126
(WY)	1951	1951	1949	1951	1951	1951	1950	1955	1951	1950	1950	1955

SUMMARY STATISTICS

WATER YEARS 1948 - 1956#

ANNUAL MEAN	143	
HIGHEST ANNUAL MEAN	194	1953
LOWEST ANNUAL MEAN	126	1950
HIGHEST DAILY MEAN	1530	Sep 4 1951
LOWEST DAILY MEAN	.50	Dec 31 1950
ANNUAL SEVEN-DAY MINIMUM	1.0	Jan 10 1951
MAXIMUM PEAK FLOW	b2420	Sep 4 1951
MAXIMUM PEAK STAGE	c6.50	Sep 4 1951
INSTANTANEOUS LOW FLOW	d.00	Feb 20 1954
ANNUAL RUNOFF (AC-FT)	103900	
ANNUAL RUNOFF (CFSM)	7.28	
ANNUAL RUNOFF (INCHES)	98.89	
10 PERCENT EXCEEDS	396	
50 PERCENT EXCEEDS	49	
90 PERCENT EXCEEDS	8.0	

See Period of Record and Remarks. Values shown on this page are unadjusted for change in storage in Solomon Lake, unless otherwise noted

* Adjusted for change in storage in Solomon Lake Jan. 9 and Feb. 8

a From rating curve extended above 620 ft³/s

c Site and datum then in use

d No flow sometime during period Feb. 20 to Mar. 3, 1954, caused by temporary storage upstream

15236900 WOLVERINE CREEK NEAR LAWING

LOCATION.--Lat 60°22'14", long 148°53'48", in NE¹/₄ NE¹/₄ sec. 10, T.3 N., R.3 E. (Seward B-6 quad), Kenai Peninsula Borough, Hydrologic Unit 19020202, on the left bank, approximately 0.1 mi downstream from terminus of Wolverine Glacier, 2.0 mi upstream from mouth, 16 mi east of Lawing, Alaska.

DRAINAGE AREA.--9.51 mi².

PERIOD OF RECORD.--October 1966 to September 1978, October 1980 to September 1981, May 1997 to September 1997, October 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,200 ft above sea level, from topographic map.

REMARKS.--Records are poor due to large fluctuations from ice melt and alternate damming and storage releases during the melt season. Stream flow is modified by runoff from the melting of Wolverine Glacier, which covers 6.8 mi², more than 70% of the drainage basin. Precipitation gage and air temperature recorded at station is available from computer files at the Alaska Science Center, Water Resources Office. GOES satellite telemetry at station transmits every 4 hours. At 3,250 feet of elevation, there is a weather station recording air temperature, wind speed, and precipitation. In addition to the weather station, there are also three snow and ice balance measurement sites located in the basin. Combined snow, ice, and water balance data of the basin are published in other reports of the Geological Survey.

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	813	e10	e2.5	e2.0	e2.0	e1.8	e1.8	e3.0	110	277	362	253
2	1130	e9.0	e2.5	e2.0	e2.0	e1.8	e1.8	e10	116	251	575	396
3	1330	e8.0	e2.5	e2.0	e2.0	e1.8	e1.8	e30	135	226	511	366
4	623	e7.0	e2.5	e2.0	e2.0	e1.8	e1.8	e40	129	296	430	274
5	1360	e6.5	e2.5	e2.0	e2.0	e1.8	e1.8	e50	145	240	399	234
6	1840	e6.0	e2.5	e2.0	e2.0	e1.8	e1.8	e70	203	381	414	223
7	1140	e5.5	e2.5	e2.0	e2.0	e1.8	e1.8	e80	218	640	451	184
8	370	e5.0	e2.5	e2.0	e2.0	e1.8	e1.8	80	188	679	379	175
9	242	e5.0	e2.5	e2.0	e2.0	e1.8	e1.8	64	167	618	428	152
10	170	e4.5	e2.5	e2.0	e1.8	e1.8	e1.8	70	154	550	442	151
11	130	e4.5	e2.5	e2.0	e1.8	e1.8	e1.8	70	161	518	377	151
12	107	e4.0	e2.5	e2.0	e1.8	e1.8	e1.8	112	170	496	363	149
13	92	e4.0	e2.5	e2.0	e1.8	e1.8	e1.8	97	182	418	344	146
14	89	e3.5	e2.5	e2.0	e1.8	e1.8	e1.8	77	176	314	393	106
15	87	e3.5	e2.5	e2.0	e1.8	e1.8	e1.8	81	185	338	469	101
16	70	e3.5	e2.5	e2.0	e1.8	e1.8	e1.8	89	671	331	497	89
17	59	e3.5	e2.5	e2.0	e1.8	e1.8	e1.8	78	482	307	614	72
18	53	e3.0	e2.5	e2.0	e1.8	e1.8	e1.8	77	331	421	423	55
19	61	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	108	303	469	638	52
20	46	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	155	288	404	552	75
21	39	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	187	280	383	538	103
22	51	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	157	292	986	541	99
23	45	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	143	295	668	569	108
24	56	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	217	283	315	620	66
25	66	e3.0	e2.0	e2.0	e1.8	e1.8	e1.8	264	322	267	490	43
26	63	e2.5	e2.0	e2.0	e1.8	e1.8	e1.8	231	376	834	381	287
27	41	e2.5	e2.0	e2.0	e1.8	e1.8	e1.8	188	321	700	336	142
28	25	e2.5	e2.0	e2.0	e1.8	e1.8	e1.8	121	280	428	295	83
29	18	e2.5	e2.0	e2.0	e1.8	e1.8	e1.8	114	298	287	314	82
30	14	e2.5	e2.0	e2.0	---	e1.8	e2.0	113	343	274	350	125
31	e12	---	e2.0	e2.0	---	e1.8	---	107	---	265	304	---
TOTAL	10242	129.5	71.0	62.0	54.0	55.8	54.2	3283.0	7604	13581	13799	4542
MEAN	330	4.32	2.29	2.00	1.86	1.80	1.81	106	253	438	445	151
MAX	1840	10	2.5	2.0	2.0	1.8	2.0	264	671	986	638	396
MIN	12	2.5	2.0	2.0	1.8	1.8	1.8	3.0	110	226	295	43
AC-FT	20320	257	141	123	107	111	108	6510	15080	26940	27370	9010
CFSM	34.7	0.45	0.24	0.21	0.20	0.19	0.19	11.1	26.7	46.1	46.8	15.9
IN.	40.06	0.51	0.28	0.24	0.21	0.22	0.21	12.84	29.74	53.12	53.98	17.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)#

MEAN	59.4	12.5	3.56	1.55	1.21	1.04	1.60	27.6	149	305	352	192
MAX (WY)	330	100	20.2	2.71	2.00	2.45	7.77	106	262	438	494	351
MIN (WY)	2004	2003	2003	1970	1970	2003	2003	2004	1967	2004	1981	1974
MIN (WY)	13.1	2.01	0.51	0.39	0.00	0.00	0.00	0.61	31.1	146	176	80.0
MIN (WY)	1975	2002	2001	2001	2001	2001	2001	1971	1971	1997	1997	1970

See Period of Record; partial years used in monthly statistics
e Estimated

15236900 WOLVERINE CREEK NEAR LAWING—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004#	
ANNUAL TOTAL	49176.4		53477.5			
ANNUAL MEAN	135		146		94.5	
HIGHEST ANNUAL MEAN					146 2004	
LOWEST ANNUAL MEAN					66.6 1970	
HIGHEST DAILY MEAN	1840	Oct 6	1840	Oct 6	1930	Aug 28 2001
LOWEST DAILY MEAN	a2.0	Jan 1	b1.8	Feb 10	c0.00	Dec 2 2000
ANNUAL SEVEN-DAY MINIMUM	2.0	Jan 1	1.8	Feb 10	0.00	Dec 2 2000
MAXIMUM PEAK FLOW			3570	Oct 7	d4160	Aug 28 2001
MAXIMUM PEAK STAGE			5.01	Oct 7	5.27	Aug 28 2001
MAXIMUM PEAK STAGE					f6.28	Aug 21 1981
ANNUAL RUNOFF (AC-FT)	97540		106100		68440	
ANNUAL RUNOFF (CFSM)	14.2		15.4		9.93	
ANNUAL RUNOFF (INCHES)	192.36		209.19		134.98	
10 PERCENT EXCEEDS	368		428		321	
50 PERCENT EXCEEDS	9.9		10		6.0	
90 PERCENT EXCEEDS	2.0		1.8		1.0	

See Period of Record; partial years used in monthly statistics

a Jan. 1 to Mar. 23, and Apr. 4-22

b Feb. 10 to Apr. 29

c No flow most days during winter

d From rating curve extended above 1,290 ft³/s

f From floodmarks, date approximate: flow over dense snow

15237730 GROUSE CREEK AT GROUSE LAKE OUTLET NEAR SEWARD

LOCATION.--Lat 60°11'54", long 149°22'24", in NE¹/₄ NE¹/₄ NW¹/₄ sec. 12, T. 1 N., R. 1 W. (Seward A-7 NE quad), Kenai Peninsula Borough, Hydrologic Unit 19020202, on right bank, 200 ft downstream from Grouse Lake outlet, 0.2 mi upstream from Seward Highway, 7 mi north of Seward.

DRAINAGE AREA.--6.22 mi².

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water stage recorder and crest-stage gage. Elevation of gage is 250 ft above sea level from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Rain gage recorder at station. GOES satellite telemetry and phone modem at station.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 100 ft³/s and water year maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage Height(ft)	Date	Time	Discharge (ft ³ /s)	Gage Height(ft)
Oct 03	13:00	145	6.53	May 06	21:00	128	6.31
Oct 06	20:45	*149	*6.58	Jun 17	12:30	131	6.34

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	44	15	e6.0	7.5	5.6	11	e6.5	65	49	12	10	6.8
2	40	15	6.4	7.1	5.7	11	e7.0	77	46	12	9.9	7.1
3	101	14	6.8	7.0	5.8	11	e8.0	72	43	11	9.4	7.4
4	72	13	7.4	6.7	5.7	10	e8.0	78	42	11	8.8	6.9
5	51	12	6.9	6.7	5.6	9.7	e10	98	42	11	8.7	6.9
6	111	13	6.6	6.6	5.4	9.2	e20	114	40	10	8.8	7.2
7	122	12	6.7	6.5	5.4	8.8	e35	114	e38	9.7	8.7	6.4
8	77	12	7.2	6.4	5.8	8.3	e32	103	e36	9.5	8.3	6.3
9	51	12	8.6	6.7	5.7	7.4	e30	87	35	9.2	8.4	6.3
10	41	11	14	6.9	8.2	9.0	27	82	33	9.0	8.2	5.8
11	35	11	14	6.8	11	8.6	26	86	31	8.7	8.0	5.8
12	31	11	14	6.4	9.2	8.5	22	91	28	8.5	7.9	5.9
13	25	10	13	6.4	8.6	8.4	19	93	25	8.4	7.7	e5.8
14	e24	9.9	11	6.2	9.0	8.4	18	91	23	8.1	7.8	e5.7
15	e21	8.6	11	6.0	8.6	8.2	18	82	21	8.0	e7.6	5.7
16	e18	8.2	10	5.9	8.1	7.7	21	79	40	7.8	e7.5	5.6
17	16	8.2	9.7	6.0	7.6	7.5	27	81	106	7.7	e7.4	5.5
18	15	7.9	9.2	6.2	7.2	7.2	26	81	60	7.8	e7.3	5.5
19	15	7.7	8.9	6.4	8.0	6.6	24	84	41	7.7	e7.3	5.8
20	14	8.0	8.7	6.5	7.6	6.7	24	93	34	7.5	7.3	6.9
21	13	8.4	8.5	6.4	11	6.9	23	96	29	7.5	7.2	7.1
22	13	8.2	8.6	7.5	19	6.9	27	91	23	7.9	6.8	7.2
23	12	7.7	8.1	6.6	19	6.8	29	89	19	8.7	6.5	10
24	13	7.8	7.6	6.2	16	6.8	27	82	17	7.8	6.3	8.5
25	16	7.5	7.0	6.0	15	6.8	30	77	16	7.2	6.6	7.9
26	29	e6.5	7.1	6.1	14	e6.7	34	e65	15	12	6.7	22
27	28	e6.0	6.9	6.0	13	e6.7	39	e60	14	17	8.1	13
28	21	e6.0	7.3	5.8	12	e6.6	43	e55	14	14	8.5	11
29	18	e6.0	8.2	5.5	11	e6.6	45	53	13	13	7.8	10
30	16	e6.0	9.8	5.4	---	e6.5	47	50	13	12	7.3	13
31	15	---	8.4	5.6	---	e6.0	---	51	---	11	7.1	---
TOTAL	1118	289.6	273.6	198.0	273.8	246.5	752.5	2520	986	302.7	243.9	235.0
MEAN	36.1	9.65	8.83	6.39	9.44	7.95	25.1	81.3	32.9	9.76	7.87	7.83
MAX	122	15	14	7.5	19	11	47	114	106	17	10	22
MIN	12	6.0	6.0	5.4	5.4	6.0	6.5	50	13	7.2	6.3	5.5
AC-FT	2220	574	543	393	543	489	1490	5000	1960	600	484	466
CFSM	5.80	1.55	1.42	1.03	1.52	1.28	4.03	13.1	5.28	1.57	1.26	1.26
IN.	6.69	1.73	1.64	1.18	1.64	1.47	4.50	15.07	5.90	1.81	1.46	1.41

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

	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	27.7	28.6	18.7	17.1	13.6	8.81	18.4	53.6
MAX	60.8	83.3	39.7	58.0	45.0	15.6	38.6	81.3
(WY)	2003	2003	2003	2001	2003	1998	1998	2004
MIN	11.8	7.41	8.83	5.23	3.34	2.69	5.81	29.9
(WY)	1998	2002	2004	1998	1999	1999	2002	2003

See Period of Record, partial year used in monthly statistics
e Estimated

15237730 GROUSE CREEK AT GROUSE LAKE OUTLET NEAR SEWARD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004#	
ANNUAL TOTAL	6003.8		7439.6			
ANNUAL MEAN	16.4		20.3		21.8	
HIGHEST ANNUAL MEAN					27.3 2001	
LOWEST ANNUAL MEAN					15.4 2002	
HIGHEST DAILY MEAN	277	Feb 5	122	Oct 7	326	Nov 23 2002
LOWEST DAILY MEAN	4.6	Aug 10	5.4	Jan 30	a2.1	Mar 9 1999
ANNUAL SEVEN-DAY MINIMUM	4.7	Aug 5	5.6	Feb 1	2.2	Mar 4 1999
MAXIMUM PEAK FLOW			149	Oct 6	478	Feb 5 2003
MAXIMUM PEAK STAGE			6.58	Oct 6	b8.14	Feb 5 2003
INSTANTANEOUS LOW FLOW			4.1	Mar 15	c1.5	Apr 7 1999
ANNUAL RUNOFF (AC-FT)	11910		14760		15790	
ANNUAL RUNOFF (CFSM)	2.64		3.27		3.50	
ANNUAL RUNOFF (INCHES)	35.91		44.49		47.60	
10 PERCENT EXCEEDS	33		52		55	
50 PERCENT EXCEEDS	10		9.1		11	
90 PERCENT EXCEEDS	6.0		6.2		5.6	

See Period of Record, partial year used in monthly statistics

a Mar. 9 and 10, 1999

b From crest-stage gage.

c From temporary blockage of channel upstream from gage

SOUTH-CENTRAL ALASKA

15238600 SPRUCE CREEK NEAR SEWARD

LOCATION.--Lat 60°04'10", long 149°27'08", in SW¹/₄ SE¹/₄ sec. 21, T. 1 S., R. 1 W. (Seward A-7 quad), Kenai Peninsula Borough, Hydrologic Unit 19020202, on left bank 0.7 mi upstream from mouth at Resurrection Bay and 2.4 mi south of Seward.

DRAINAGE AREA.--9.26 mi².

PERIOD OF RECORD.--September 1967 to September 1979, annual maximum, water years 1980-90. October 1990 to current year.

REVISED RECORDS.--WDR AK-76-1: 1966-67(M), 1970(M), 1972(M). WDR AK-77-1: 1969(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 75 ft above sea level, from topographic map.

REMARKS.--Records good, except estimated daily discharges and discharges below 7.0 ft³/s, which are poor. Precipitation gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 21, 1966, reached a stage of 10.1 ft, from floodmarks; discharge, 3,090 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 1	0030	*2170	*7.02	July 26	unknown	1510	6.60
Jun. 16	2245	1150	6.33	Sep. 26	0930	1590	6.65

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	750	45	12	11	2.5	8.1	0.02	49	169	195	e130	55
2	469	42	11	9.6	2.3	8.0	0.43	54	163	164	e120	115
3	521	40	11	8.8	1.9	8.0	2.5	53	153	152	e120	72
4	265	38	12	8.0	1.7	7.4	2.3	83	176	166	e110	48
5	231	37	11	7.3	1.4	6.7	9.1	133	209	156	e110	38
6	464	51	11	6.7	1.1	6.0	19	154	241	215	e105	34
7	560	75	10	6.1	0.89	5.4	34	138	264	264	e96	31
8	319	71	11	e5.5	2.7	5.1	33	114	239	281	e92	28
9	182	58	38	e5.0	2.7	e4.6	29	100	211	294	e90	26
10	144	47	44	e4.5	14	4.3	25	97	166	236	e86	26
11	110	41	23	e4.5	20	3.9	19	109	151	182	e78	24
12	90	38	19	e4.0	17	4.4	16	116	147	165	e72	23
13	76	33	16	e4.0	14	4.0	15	120	159	139	e70	22
14	92	28	14	e3.5	15	3.9	14	118	202	113	e68	19
15	99	25	13	e3.0	14	3.4	14	112	209	101	e66	17
16	74	23	12	e3.0	13	2.8	15	173	504	103	e64	16
17	62	20	11	e2.5	11	2.5	16	198	814	132	e62	14
18	55	19	10	e2.5	9.8	e2.4	15	188	474	165	e60	13
19	56	20	9.8	e2.5	9.0	e2.2	15	179	397	122	e58	14
20	50	19	9.3	2.4	8.3	2.1	14	281	356	98	e56	19
21	45	20	8.8	4.1	15	0.98	14	320	325	e100	e54	33
22	40	19	8.5	7.8	33	0.44	14	276	318	e110	e52	38
23	37	17	8.0	6.9	23	0.26	14	263	277	e94	e52	50
24	50	16	7.6	6.8	17	0.19	14	260	238	e110	e50	33
25	109	16	7.3	6.4	14	0.14	15	259	257	e150	60	47
26	185	14	7.0	5.9	12	0.11	16	209	313	e200	73	464
27	148	13	6.5	5.2	11	0.08	44	196	266	e180	67	114
28	94	13	6.5	4.6	9.8	0.07	43	193	227	e160	56	67
29	69	13	16	4.0	8.9	0.04	31	167	209	e140	48	59
30	57	12	14	e3.5	---	0.07	32	164	216	e135	50	123
31	50	---	12	2.9	---	e0.05	---	172	---	e130	42	---
TOTAL	5553	923	410.3	162.5	305.99	97.63	544.35	5048	8050	4952	2317	1682
MEAN	179	30.8	13.2	5.24	10.6	3.15	18.1	163	268	160	74.7	56.1
MAX	750	75	44	11	33	8.1	44	320	814	294	130	464
MIN	37	12	6.5	2.4	0.89	0.04	0.02	49	147	94	42	13
AC-FT	11010	1830	814	322	607	194	1080	10010	15970	9820	4600	3340
CFSM	19.3	3.32	1.43	0.57	1.14	0.34	1.96	17.6	29.0	17.3	8.07	6.05
IN.	22.31	3.71	1.65	0.65	1.23	0.39	2.19	20.28	32.34	19.89	9.31	6.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)#

	1967	1974	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000									
MEAN	95.3	44.2	18.8	11.1	11.2	4.06	12.7	76.8	203	188	145	163	333	249	89.0	46.1	53.1	15.3	35.6	163	318	371	323	372	1970	2003	2003	2001	1970	1969	2004	2001	1977	1977	1995
MAX (WY)	1970	2003	2003	2001	2003	1970	1969	2004	2001	1977	1977	1995	1970	2003	2003	2001	1970	1969	2004	2001	1977	1977	1995	1970	2003	2003	2001	1970	1969	2004	2001	1977	1977	1995	
MIN (WY)	17.0	9.40	3.52	0.65	0.00	0.00	0.12	30.6	116	104	56.9	48.8	17.0	9.40	3.52	0.65	0.00	0.12	30.6	116	104	56.9	48.8	17.0	9.40	3.52	0.65	0.00	0.12	30.6	116	104	56.9	48.8	
(WY)	1997	1974	1997	1974	1972	1971	1972	1971	1972	1971	1972	1997	1997	1997	1974	1997	1972	1971	1972	1971	1972	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

See Period of Record, partial year used in monthly statistics
e Estimated

15238600 SPRUCE CREEK NEAR SEWARD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004#	
ANNUAL TOTAL	28355.7		30045.77			
ANNUAL MEAN	77.7		82.1		80.8	
HIGHEST ANNUAL MEAN					123 1977	
LOWEST ANNUAL MEAN					50.6 1996	
HIGHEST DAILY MEAN	750	Oct 1	814	Jun 17	1650	Oct 11 1969
LOWEST DAILY MEAN	1.4	Apr 7	0.02	Apr 1	a0.00	Mar 1 1969
ANNUAL SEVEN-DAY MINIMUM	1.6	Apr 4	0.06	Mar 26	0.00	Mar 1 1969
MAXIMUM PEAK FLOW			2170	Oct 1	b13600	Oct 11 1986
MAXIMUM PEAK STAGE			c7.02	Oct 1	d13.96	Oct 11 1986
INSTANTANEOUS LOW FLOW			f0.00	Mar 29	0.00	Mar 1 1969
ANNUAL RUNOFF (AC-FT)	56240		59600		58520	
ANNUAL RUNOFF (CFSM)	8.39		8.87		8.72	
ANNUAL RUNOFF (INCHES)	113.91		120.70		118.53	
10 PERCENT EXCEEDS	185		215		208	
50 PERCENT EXCEEDS	46		36		34	
90 PERCENT EXCEEDS	7.0		3.3		1.7	

- # See Period of Record, partial year used in monthly statistics
a No flow many days in water years 1969, 1971-76, 1992, 1996, 1999, and 2002
b Slope-area measurement of the release of water temporarily stored behind a debris-avalanche dam. Inflow into the ponded area was 5,420 ft³/s, from a slope-area measurement made about 0.3 mi upstream at a site with a drainage area of 8.98 mi²
c From crest-stage gage
d From floodmarks
f Mar. 29 to Apr. 2, 2004

15238648 UPPER NUKA RIVER NEAR PARK BOUNDARY NEAR HOMER

LOCATION.--Lat 59°41'04", long 150°42'12" (Seldovia C-2 quad), Kenai Peninsula Borough, Hydrologic Unit 19020202, on left bank, 0.4 mi downstream from terminus of Nuka Glacier, 4.9 mi southeast of Bradley Lake, and 29 mi east of Homer, Alaska.

DRAINAGE AREA.--Indeterminate. Prior to July 29, 1990, drainage area was about 3 mi² and varied according to position of glacier terminus.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1980-81, prior to shift in glacier terminus; September 1984 to current year. Records prior to July 29, 1990, are not equivalent. Published as "Upper Nuka River near Homer" prior to October 1989. Low-flow records not equivalent prior to November 1987 because most low-flow measurements were made at site 0.5 mi downstream.

REVISED RECORDS.--WDR AK-89-1: 1985 (M), 1986-88.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,300 ft above sea level, from topographic map.

REMARKS.--Records fair except estimated daily discharges, which are poor. Water is diverted, 300 ft upstream from gage, into Bradley River drainage since July 29, 1990. Precipitation gage and air temperature recorder at station; daily values of precipitation and air temperature are 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	183	1.2	0.00	0.00	0.00	e0.00	0.00	e0.00	e1.0	2.5	3.6	1.6
2	57	0.88	e0.00	0.00	0.00	e0.00	0.00	e0.00	e2.0	1.9	8.6	2.0
3	12	0.64	e0.00	0.00	0.00	e0.00	0.00	e0.00	e4.0	1.6	5.9	1.7
4	2.1	0.64	e0.00	0.00	0.00	e0.00	0.00	e0.00	e5.0	1.7	1.8	1.0
5	5.7	0.68	e0.00	0.00	0.00	e0.00	0.00	e0.00	e6.0	2.6	3.3	0.72
6	21	1.7	e0.00	0.00	0.00	e0.00	0.00	e0.00	e5.0	6.0	2.9	0.84
7	12	1.2	e0.00	0.00	0.00	e0.00	0.00	e0.00	e5.0	12	4.5	0.84
8	1.4	0.75	0.00	0.00	0.00	e0.00	0.00	e0.00	e5.0	13	3.4	0.73
9	0.84	0.66	0.00	0.00	0.00	e0.00	0.00	e0.00	2.7	11	2.4	0.72
10	0.78	0.62	0.00	0.00	0.00	e0.00	0.00	e0.00	9.2	8.7	5.0	0.86
11	0.69	e0.50	0.00	0.00	0.00	e0.00	0.00	e0.00	13	8.7	2.0	0.77
12	0.61	0.49	0.00	0.00	0.00	e0.00	0.00	e0.00	4.0	7.7	3.2	0.69
13	0.63	0.45	0.00	0.00	0.00	0.00	0.00	e0.00	4.1	4.5	2.9	0.66
14	13	e0.40	0.00	0.00	0.00	0.00	0.00	e0.00	6.0	2.1	2.5	0.55
15	19	e0.30	0.00	0.00	0.00	0.00	0.00	e0.00	8.4	1.4	2.3	0.49
16	0.93	e0.20	0.00	0.00	0.00	0.00	0.00	e0.00	23	2.5	4.7	0.46
17	0.68	e0.10	0.00	0.00	0.00	0.00	0.00	e0.00	30	6.4	6.5	0.43
18	0.67	e0.00	0.00	0.00	0.00	0.00	0.00	e0.00	21	4.1	3.2	0.42
19	0.57	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	18	3.0	2.1	0.80
20	0.50	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	16	2.0	1.7	1.1
21	0.47	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	12	2.4	2.5	0.76
22	0.47	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	8.5	8.3	2.5	1.2
23	0.47	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	9.6	12	2.6	0.94
24	0.53	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	9.6	2.3	1.7	0.71
25	4.2	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	10	5.1	2.5	0.76
26	17	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	14	22	1.4	24
27	4.8	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	13	22	1.1	2.4
28	0.83	0.00	0.00	0.00	e0.00	0.00	0.00	e0.00	13	15	0.74	0.82
29	0.68	0.00	0.00	0.00	e0.00	0.00	e0.00	e0.10	4.1	2.3	0.98	0.77
30	0.59	0.00	0.00	0.00	---	0.00	e0.00	e0.20	4.0	1.8	1.3	7.6
31	0.71	---	0.00	0.00	---	0.00	---	e0.30	---	1.7	1.4	---
TOTAL	363.85	11.41	0.00	0.00	0.00	0.00	0.00	0.60	286.2	198.3	91.22	57.34
MEAN	11.7	0.38	0.00	0.00	0.00	0.00	0.00	0.02	9.54	6.40	2.94	1.91
MAX	183	1.7	0.00	0.00	0.00	0.00	0.00	0.30	30	22	8.6	24
MIN	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.0	1.4	0.74	0.42
AC-FT	722	23	0.00	0.00	0.00	0.00	0.00	1.2	568	393	181	114

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2004, BY WATER YEAR (WY)#

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	7.81	4.00	0.26	0.04	0.18	0.01	0.01	1.28	27.4	36.1	18.5	12.5		
MAX	62.1	36.7	2.15	0.16	1.56	0.10	0.12	9.96	209	272	53.1	41.1		
(WY)	2003	2003	2003	1995	1994	2003	2003	2003	1999	1999	1998	2002		
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	2.96	0.97	1.72		
(WY)	1992	1992	1991	1991	1991	1991	1992	1998	1992	1991	1991	1991		

See Period of Record and Remarks. Not adjusted to account for changes in drainage area
e Estimated

15238648 UPPER NUKA RIVER NEAR PARK BOUNDARY NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1991 - 2004#	
ANNUAL TOTAL	3702.16		1008.92			
ANNUAL MEAN	10.1		2.76		9.05	
HIGHEST ANNUAL MEAN					a45.6	1999
LOWEST ANNUAL MEAN					1.09	1991
HIGHEST DAILY MEAN	183	Oct 1	183	Oct 1	389	Oct 23 2002
LOWEST DAILY MEAN	b0.00	Jan 22	c0.00	Nov 18	d0.00	Nov 3 1990
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 22	0.00	Nov 18	0.00	Nov 3 1990
MAXIMUM PEAK FLOW			356	Oct 1	565	Oct 23 2002
MAXIMUM PEAK STAGE			f4.12	Oct 1	f4.48	Oct 23 2002
ANNUAL RUNOFF (AC-FT)	7340		2000		6560	
10 PERCENT EXCEEDS	29		7.9		16	
50 PERCENT EXCEEDS	1.0		0.00		0.22	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

PRIOR TO REGULATION AND DIVERSION OF NUKA RIVER

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1989, BY WATER YEAR (WY)#

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	47.6	7.01	2.83	1.48	.49	.21	.22	23.8	34.7	141	180	131
MAX	72.0	24.9	9.00	5.79	2.24	.87	.72	117	81.2	307	432	321
(WY)	1987	1987	1987	1985	1985	1985	1985	1986	1989	1989	1989	1989
MIN	3.84	.024	.000	.000	.000	.000	.000	.016	.76	6.41	12.1	7.08
(WY)	1989	1989	1989	1989	1988	1988	1988	1987	1987	1988	1986	1988

SUMMARY STATISTICS

WATER YEARS 1985 - 1989#

ANNUAL MEAN	47.9
HIGHEST ANNUAL MEAN	96.2
LOWEST ANNUAL MEAN	8.60
HIGHEST DAILY MEAN	1240
LOWEST DAILY MEAN	g.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	h1630
INSTANTANEOUS PEAK STAGE	5.47
ANNUAL RUNOFF (AC-FT)	34700
10 PERCENT EXCEEDS	183
50 PERCENT EXCEEDS	1.1
90 PERCENT EXCEEDS	.00

- # See Period of Record and Remarks. Not adjusted to account for changes in drainage area
a Diversion dam failed Jun. 17, 1999; repaired Sep. 25, 1999
b From Jan. 22-31, Mar. 12 - Apr. 10, and Nov. 18 - Dec. 31
c From Nov. 18 - May 28
d No flow most days during winter
e From crest-stage gage
f No flow many days each year since 1987 during winter through Jun.
g See Period of Record for remark on low-flow records
h From rating curve extended above 380 ft³/s

15238978 BATTLE CREEK DIVERSION ABOVE BRADLEY LAKE NEAR HOMER

LOCATION.--Lat 59°44'45", long 150°50'22", in SW¹/₄ NE¹/₄ sec. 17, T. 5 S., R. 9 W. (Seldovia C-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on right bank 0.6 mi upstream from Bradley Lake and 25 mi east of Homer.

DRAINAGE AREA.--0.95 mi².

PERIOD OF RECORD.--August 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,350 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. The entire flow of Battle Creek at the station has been diverted into Bradley Lake since October 1991.

EXTREMES FOR CURRENT YEAR.-- Peak discharges greater than base discharge of 50 ft³/s and maximums (*).

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 2	1130	*91	*6.76	Sep. 26	0515	67	6.39
Jun. 17	1630	60	6.27				

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	54	3.5	0.00	0.00	0.00	0.00	0.00	1.8	6.9	9.6	3.3	0.25
2	45	3.9	0.00	0.00	0.00	0.00	0.00	1.4	8.5	9.7	3.7	2.2
3	32	2.1	0.00	0.00	0.00	0.00	0.00	0.84	9.9	8.9	3.7	2.2
4	13	1.8	e0.00	0.00	0.00	0.00	0.00	0.83	13	11	3.0	1.4
5	10	1.7	0.00	0.00	0.00	0.00	0.00	1.2	14	8.9	2.8	0.66
6	30	2.1	0.00	0.00	0.00	0.00	e0.00	1.4	12	8.5	2.5	0.35
7	21	2.0	0.00	0.00	0.00	0.00	e0.00	1.7	14	11	2.2	0.18
8	11	2.3	0.00	0.00	0.00	0.00	e0.00	1.6	12	12	2.3	0.09
9	8.1	1.7	e0.00	0.00	0.00	0.00	e0.00	1.4	8.3	12	3.1	0.02
10	5.0	1.5	e0.00	0.00	e0.00	0.00	0.00	1.1	8.2	10	2.8	0.03
11	3.2	0.92	0.00	0.00	e0.00	0.00	0.00	1.3	9.6	9.3	2.4	0.04
12	2.2	0.89	0.00	0.00	0.00	0.00	0.00	1.6	9.5	10	2.3	0.00
13	1.8	0.92	0.00	0.00	e0.00	0.00	0.00	2.0	7.6	9.4	1.7	0.00
14	13	0.64	0.00	0.00	e0.00	0.00	0.00	2.4	9.2	7.4	1.6	0.00
15	16	0.47	0.00	0.00	e0.00	0.00	0.00	3.0	13	9.6	1.6	0.00
16	4.2	0.34	0.00	0.00	0.00	0.00	0.00	4.7	32	8.0	1.5	0.00
17	2.5	0.22	0.00	0.00	0.00	0.00	0.00	5.4	49	9.6	1.7	0.00
18	1.8	0.12	0.00	0.00	0.00	0.00	0.00	6.3	42	8.4	1.8	0.00
19	1.6	0.08	0.00	0.00	0.00	0.00	0.00	6.6	28	6.7	1.7	0.00
20	1.3	0.10	0.00	0.00	0.00	0.00	0.00	9.2	20	5.1	1.6	0.14
21	1.3	0.33	0.00	0.00	0.00	0.00	0.00	9.5	17	5.7	1.1	0.87
22	1.1	0.28	0.00	0.00	0.00	0.00	0.00	11	15	5.8	1.0	1.3
23	0.97	0.10	0.00	0.00	0.00	0.00	0.00	27	15	6.5	1.2	1.8
24	0.91	0.06	0.00	0.00	0.00	0.00	0.00	31	18	4.4	1.3	0.98
25	2.2	0.01	0.00	0.00	0.00	0.00	0.00	27	18	5.1	1.0	2.4
26	3.6	0.00	0.00	0.00	0.00	0.00	0.00	19	16	22	0.80	30
27	3.1	0.00	0.00	0.00	0.00	0.00	0.04	15	15	16	0.72	5.6
28	1.7	0.00	0.00	0.00	0.00	0.00	0.07	15	15	9.7	0.53	3.6
29	1.1	0.00	0.00	0.00	0.00	0.00	0.38	11	10	6.1	0.30	3.8
30	0.99	0.00	0.00	0.00	---	0.00	0.88	8.1	9.3	4.6	0.17	9.6
31	1.4	---	0.00	0.00	---	0.00	---	7.0	---	3.8	0.10	---
TOTAL	295.07	28.08	0.00	0.00	0.00	0.00	1.37	236.37	475.0	274.8	55.52	67.51
MEAN	9.52	0.94	0.00	0.00	0.00	0.00	0.05	7.62	15.8	8.86	1.79	2.25
MAX	54	3.9	0.00	0.00	0.00	0.00	0.88	31	49	22	3.7	30
MIN	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.83	6.9	3.8	0.10	0.00
AC-FT	585	56	0.00	0.00	0.00	0.00	2.7	469	942	545	110	134
CFSM	10.0	0.99	0.00	0.00	0.00	0.00	0.05	8.03	16.7	9.33	1.89	2.37
IN.	11.55	1.10	0.00	0.00	0.00	0.00	0.05	9.26	18.60	10.76	2.17	2.64

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

	MEAN	2.14	0.54	0.05	0.22	0.00	0.12	3.12	14.2	11.1	5.39	6.41
MAX	16.6	15.1	4.76	0.22	1.58	0.01	0.67	7.67	23.5	20.1	14.5	16.9
(WY)	2003	2003	2003	2003	2003	1998	1997	1993	1998	2001	2001	1995
MIN	0.21	0.01	0.00	0.00	0.00	0.00	0.00	0.21	5.55	1.83	0.09	0.91
(WY)	1997	2000	1996	1996	1996	1994	1999	1999	1996	1996	1996	1992

a Maximum discharge, Oct. 1, stage falling, peak occurred Sep. 20, 2004
b Maximum stage, Oct.1, stage falling, peak occurred Sep. 30, 2004
e Estimated

15238978 BATTLE CREEK DIVERSION ABOVE BRADLEY LAKE NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1992 - 2004#	
ANNUAL TOTAL	1390.51		1433.72			
ANNUAL MEAN	3.81		3.92		4.01	
HIGHEST ANNUAL MEAN					5.98 2003	
LOWEST ANNUAL MEAN					1.23 1996	
HIGHEST DAILY MEAN					121 Oct 23 2002	
LOWEST DAILY MEAN	54	Oct 1	d0.00	Nov 26	f0.00 Jun 3 1992	
ANNUAL SEVEN-DAY MINIMUM	c0.00	Jan 1	0.00	Nov 26	0.00 Jan 11 1993	
MAXIMUM PEAK FLOW			g91	Oct 2	151 Oct 23 2002	
MAXIMUM PEAK STAGE			g6.76	Oct 2	7.50 Oct 23 2002	
ANNUAL RUNOFF (AC-FT)	2760		2840		2910	
ANNUAL RUNOFF (CFPM)	4.01		4.12		4.23	
ANNUAL RUNOFF (INCHES)	54.45		56.14		57.42	
10 PERCENT EXCEEDS	12		12		13	
50 PERCENT EXCEEDS	0.84		0.34		0.40	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

See Period of Record and Remarks, partial years used in summary statistics

c No flow many days during winter, and Sep. 19

d No flow Nov. 26 to Apr. 26, and Sep. 12-19

f No flow many days most winters, and Jun. 3, 1992 (observation), Aug. 4, Aug. 5, Aug. 9, Aug. 14 - Sep. 11, 1986, Sep. 19, 2003, and Sep. 12-19, 2004

g Maximum discharge, 116 ft³/s, Oct. 1, gage-height 7.10 ft., stage falling, peak occurred Sep. 30, 2004; maximum peak discharge, 91 ft³/s, Oct. 2, gage-height 6.76 ft

15238990 UPPER BRADLEY RIVER NEAR NUKA GLACIER NEAR HOMER

LOCATION.--Lat 59°42'02", long 150°42'09", (Seldovia C-2 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on left bank 1.0 mi downstream from Nuka Glacier terminus, 2.7 mi upstream from confluence with Kachemak Creek, 3.7 mi southeast of Bradley Lake, and 29 mi east of Homer. Prior to July 22, 1991 at site 0.2 mi downstream.

DRAINAGE AREA.--Indeterminate. Prior to July 29, 1990, drainage area was about 10 mi² and varied according to position of glacier terminus.

PERIOD OF RECORD.--October 1979 to current year. Prior to October 1989, published as Upper Bradley River near Homer.

REVISED RECORDS.--WDR AK-86-1: 1980-85, WRD AK-96-1: 1991-95.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,250 ft above sea level, from topographic map. Prior to July 22, 1991 at site 0.2 mi downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow diverted from Upper Nuka River into Upper Bradley River drainage since July 29, 1990. Air temperature recorder at station, daily values of 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	1790	54	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e15	482	416	317
2	1810	71	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e33	474	671	501
3	1060	53	e0.50	e0.00	e0.00	e0.00	e0.00	e0.00	e60	467	569	457
4	711	51	e0.30	e0.00	e0.00	e0.00	e0.00	e0.00	e160	518	425	278
5	672	56	e0.20	e0.00	e0.00	e0.00	e0.00	e0.00	276	498	417	207
6	1020	94	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	294	586	383	189
7	792	93	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	350	805	399	166
8	494	61	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	303	e1300	400	138
9	313	40	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	244	e1000	466	134
10	207	31	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	256	e800	482	189
11	142	29	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	266	e700	468	158
12	101	28	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	233	e600	449	132
13	85	e20	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	218	e550	383	128
14	180	e15	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	257	e500	401	79
15	247	e10	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	331	e500	439	58
16	98	e7.0	e0.00	e0.00	e0.00	e0.00	e0.00	e0.20	634	e550	451	47
17	59	e4.0	e0.00	e0.00	e0.00	e0.00	e0.00	e0.25	973	635	544	35
18	46	e2.5	e0.00	e0.00	e0.00	e0.00	e0.00	e0.30	1060	814	493	28
19	40	e1.5	e0.00	e0.10	e0.00	e0.00	e0.00	e0.40	948	733	536	38
20	36	e1.0	e0.00	e0.50	e0.00	e0.00	e0.00	e0.50	788	597	467	86
21	32	e0.90	e0.00	e1.0	e0.00	e0.00	e0.00	e0.60	666	618	400	83
22	32	e0.70	e0.00	e0.80	e0.00	e0.00	e0.00	e0.70	593	774	430	119
23	31	e0.50	e0.00	e0.50	e0.00	e0.00	e0.00	e0.80	576	895	533	102
24	34	e0.40	e0.00	e0.20	e0.00	e0.00	e0.00	e0.90	586	610	548	50
25	66	e0.35	e0.00	e0.00	e0.00	e0.00	e0.00	e1.4	612	642	460	68
26	138	e0.30	e0.00	e0.00	e0.00	e0.00	e0.00	e2.0	660	1270	380	391
27	92	e0.25	e0.00	e0.00	e0.00	e0.00	e0.00	e3.0	641	1380	282	150
28	45	e0.20	e0.00	e0.00	e0.00	e0.00	e0.00	e4.0	631	1010	199	77
29	33	e0.10	e0.00	e0.00	e0.00	e0.00	e0.00	e5.0	548	645	214	105
30	32	e0.10	e0.00	e0.00	---	e0.00	e0.00	e7.0	513	500	243	264
31	36	---	e0.00	e0.00	---	e0.00	---	e10	---	391	225	---
TOTAL	10474	725.80	1.00	3.10	0.00	0.00	0.00	37.05	13725	21844	13173	4774
MEAN	338	24.2	0.03	0.10	0.00	0.00	0.00	1.20	458	705	425	159
MAX	1810	94	0.50	1.0	0.00	0.00	0.00	10	1060	1380	671	501
MIN	31	0.10	0.00	0.00	0.00	0.00	0.00	0.00	15	391	199	28
AC-FT	20780	1440	2.0	6.1	0.00	0.00	0.00	73	27220	43330	26130	9470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2004, BY WATER YEAR (WY)#

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	103	28.4	7.16	0.53	0.64	0.02	0.14	21.0	236	429	446	335		
MAX	338	195	68.5	4.75	4.39	0.27	1.02	93.6	458	763	597	851		
(WY)	2004	2003	2003	2001	2003	2003	2003	1993	2004	2001	1993	1995		
MIN	12.9	2.40	0.00	0.00	0.00	0.00	0.00	0.01	94.4	106	293	117		
(WY)	1997	2000	1995	1991	1991	1991	1992	1998	1999	1999	1998	1992		

See Period of Record and Remarks. Not adjusted to account for changes in drainage area
e Estimated

15238990 UPPER BRADLEY RIVER NEAR NUKA GLACIER NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1991 - 2004#	
ANNUAL TOTAL	54512.55		64756.95			
ANNUAL MEAN	149		177		135	
HIGHEST ANNUAL MEAN					181	
LOWEST ANNUAL MEAN					91.1	
HIGHEST DAILY MEAN	1810 Oct 2		1810 Oct 2		a3600 Sep 21 1995	
LOWEST DAILY MEAN	b0.00 Mar 20		c0.00 Dec 1		d0.00 Dec 5 1990	
ANNUAL SEVEN-DAY MINIMUM	0.00 Mar 20		0.00 Dec 6		0.00 Dec 5 1990	
MAXIMUM PEAK FLOW			f2730 Oct 2		f4100 Sep 20 1995	
MAXIMUM PEAK STAGE			14.33 Oct 2		g15.10 Sep 20 1995	
ANNUAL RUNOFF (AC-FT)	108100		128400		97570	
10 PERCENT EXCEEDS	447		598		436	
50 PERCENT EXCEEDS	32		0.85		6.5	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

PRIOR TO DIVERSION FROM UPPER NUKA RIVER

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1989, BY WATER YEAR (WY)#

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	106	22.8	10.2	4.67	1.74	1.35	1.29	38.3	161	290	349	292
MAX	279	75.7	54.6	15.1	4.82	6.50	4.67	92.0	270	458	595	673
(WY)	1980	1980	1987	1981	1981	1984	1981	1986	1988	1981	1986	1982
MIN	26.3	2.60	.50	.000	.000	.000	.000	.33	102	149	133	63.1
(WY)	1986	1988	1989	1989	1989	1989	1986	1987	1985	1985	1985	1983

SUMMARY STATISTICS

WATER YEARS 1980 - 1989 #

ANNUAL MEAN	107	
HIGHEST ANNUAL MEAN	154	1986
LOWEST ANNUAL MEAN	49.6	1985
HIGHEST DAILY MEAN	1890	Aug 27 1986
LOWEST DAILY MEAN	d.00	Dec 25 1979
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 25 1979
INSTANTANEOUS PEAK FLOW	h2530	Oct 10 1986
INSTANTANEOUS PEAK STAGE	i9.86	Oct 10 1986
ANNUAL RUNOFF (AC-FT)	77650	
10 PERCENT EXCEEDS	338	
50 PERCENT EXCEEDS	15	
90 PERCENT EXCEEDS	.50	

- # See Period of Record and Remarks. Not adjusted to account for changes in drainage area
- a Estimated discharge, but may have been higher during period of no gage-height record, Sep. 21 to Sep. 22, 1995
- b From Mar. 20 to Apr. 10 and Dec. 1, 2, and 6-31
- c From Dec. 1, 2, Dec. 6 to Jan. 18, and Jan. 25 to May 15
- d No flow in winter most years
- f From rating curve extended above 400 ft³/s on basis of slope-area measurement of peak flow
- g From floodmarks
- h From rating curve extended above 440 ft³/s on basis of slope-area measurement of peak flow
- i Site and datum then in use

15239000 BRADLEY RIVER NEAR HOMER

LOCATION.--Lat 59°45'30", long 150°51'02", in SW¹/₄ SE¹/₄ NW¹/₄ sec. 8, T. 5 S., R. 9 W. (Seldovia D-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, about 1,300 ft downstream from Bradley Lake dam, 3.3 mi upstream from confluence with Middle Fork Bradley River, and 26 mi northeast of Homer.

DRAINAGE AREA.--About 65 mi² since July and August 1990, when additional water was diverted into the basin. Prior drainage area was about 54 mi².

PERIOD OF RECORD.--July to August 1955, October 1957 to September 1990 (discharge). October 1991 to September 2004 (discontinued) (beginning month reservoir contents and monthly discharges).

REVISED RECORDS.--WSP 2136: 1960 (M), 1965. WDR AK-77-1: 1958, 1961, 1963 (M), 1966, 1967, 1970, 1972, 1974, 1976.

GAGE.--Nonrecording gage. Datum of gage is 1,054.16 ft above sea level (levels of dam-site survey for Alaska Power Authority). Totalizing flow meters on penstocks to two turbines in Bradley powerhouse. Lake-level sensor. July 13-22, 1955, non-recording lake gage at site 1 mi upstream and July 23 to August 5, 1955, at site 3 mi upstream at different datum. Prior to November 4, 1980, and April 29 to October 5, 1986, water-stage recorder at site 500 ft upstream at different datum and November 4, 1980 to April 28, 1986, water-stage recorder 1,300 ft upstream at different datum. April 29, 1986 to September 30, 1989, water-stage recorder at present site and datum.

REMARKS.--Reservoir is formed by an earthen dam with impermeable core and concrete face at the outlet of Bradley Lake. Construction began November 1986 and was completed in April 1991. Total and usable capacities below the spillway crest of 1,180 ft are 547,500 and 284,200 acre-ft, respectively. Reservoir is used for power. Discharge released through turbines is computed using totalizing flow meters; release flow enters Kachemak Bay and is not returned to stream. Spill, dam seepage, and fish-water bypass are measured at Bradley River below Dam (15239001) gage. Reservoir capacity table furnished by the Alaska Energy Authority.

COOPERATION.--Reservoir elevations and power generation discharge provided by the Homer Electric Association, for the Alaska Energy Authority.

AVERAGE DISCHARGE.--45 years (water years 1958 to 1989, and 1992 to 2004), 463 ft³/s, 335,400 acre-ft/yr. The inflow diversions from Middle Fork Bradley River and Battle Creek into the reservoir are excluded. Flow diverted from Upper Nuka River into Upper Bradley since July 29, 1990 was not measurable and is included in the following tabulations.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 557,700 acre-ft, November 6, 2002, elevation 1182.6 ft; minimum contents observed, 246,600 acre-ft, April 23, 1997, elevation 1069.3 ft. Maximum computed discharge, 8,800 ft³/s, October 10, 1986, gage height, 10.90 ft from floodmarks, site and datum then in use. Maximum discharge, September 21-22, 1995 was probably higher, as indicated by extremes for period of record on these dates for other sites in the Bradley River basin; minimum daily, about 9.0 ft³/s, December 7, 1986, result of power tunnel construction at dam site.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 550,200 acre-ft, October 8,9, elevation 1180.7 ft; minimum contents observed, 327,100 acre-ft, April 29,30, elevation 1111.0 ft.

BEGINNING OF MONTH RESERVOIR ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS, IN ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DATE	ELEVATION	CONTENTS	CHANGE IN CONTENTS
Oct 1	1,171.9	516,800	--
Nov 1	1,173.7	523,200	+6,400
Dec 1	1,163.8	488,000	-35,200
Jan 1	1,153.6	451,800	-36,200
Feb 1	1,144.3	421,500	-30,300
Mar 1	1,134.6	391,600	-29,900
Apr 1	1,121.4	353,000	-38,600
May 1	1,111.1	327,300	-25,700
Jun 1	1,119.6	348,500	+21,200
Jul 1	1,142.4	415,600	+67,100
Aug 1	1,160.7	477,000	+61,400
Sep 1	1,167.6	501,500	+24,500
Oct 1	1,163.8	488,000	-13,500
		CAL YR 2003	-60,700
		WTR YR 2004	-28,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
MEAN VALUES

MONTH	CHANGE IN CONTENTS	POWER GENERATION	BRADLEY RIVER BELOW DAM 15239001	MIDDLE FORK BRADLEY RIVER 15239050	BATTLE CREEK DIVERSION 15238978	BRADLEY RIVER 15239000
OCT	+104	1,077	32.1	147	9.52	1,060
NOV	-592	741	23.0	19.0	0.94	153
DEC	-589	638	42.0	7.87	0.00	83
JAN	-493	522	38.5	6.03	0.00	62
FEB	-520	577	37.3	5.21	0.00	60e
MAR	-628	618	37.4	4.75	0.00	52e
APR	-432	543	21.7	4.25	0.05	128
MAY	+345	481	0.78	34.1	7.62	785
JUN	+1,128	472	6.75	208	15.8	1,380
JUL	+999	675	63.7	193	8.86	1,540
AUG	+398	724	99.0	152	1.79	1,070
SEP	-227	731	79.0	56.7	2.25	524
CAL YR 2003	-88	697	47.4	66.5	3.81	587
WTR YR 2004	-42	650	40.2	70.1	3.92	575

e Estimated

15239001 BRADLEY RIVER BELOW DAM NEAR HOMER

LOCATION.--Lat 59°45'30", long 150°51'02", in SW¹/₄ SE¹/₄ NW¹/₄ sec. 8, T. 5 S., R. 9 W. (Seldovia D-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on right bank about 1,300 ft downstream from Bradley Lake Dam, 3.3 mi upstream from Middle Fork Bradley River, and 26 mi northeast of Homer.

DRAINAGE AREA.--About 66 mi² since October 1991, when additional water was diverted into the basin. Prior drainage area was about 54 mi².

PERIOD OF RECORD.--October 1989 to current year. Prior to 1990 water year, records are equivalent to "Bradley River near Homer" (station no. 15239000).

GAGE.--Water-stage recorder. Datum of gage is 1,054.16 ft above sea level (levels of dam-site survey for Alaska Power Authority).

REMARKS.--No estimated daily discharges. Records fair. Nuka River and Middle Fork Bradley River were diverted into Bradley Lake, upstream from dam, beginning July 29 and August 7, 1990, respectively. Reservoir began filling April 26, 1991. Water has been diverted out of the basin through the turbines since hydro-power generation began on June 28, 1991. Battle Creek was diverted into reservoir in October 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,480 ft³/s November 6, 2002 gage height, 7.15 ft; minimum, 0.00 ft³/s, from rating curve extended below 0.18 ft³/s, most likely ponded water, but no measurable flow, June 9 and June 10, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 378 ft³/s, Oct. 8, gage height, 3.84 ft; minimum, 0.09 ft³/s, Jun. 21 to 24, gage-height 1.65 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	13	49	41	38	34	41	2.1	0.23	35	86	107
2	2.3	13	49	41	38	34	41	1.2	0.22	39	87	99
3	8.0	13	50	41	38	33	41	0.96	0.21	42	87	96
4	0.74	4.2	44	41	38	33	38	1.1	0.22	43	88	98
5	0.56	12	40	41	38	33	34	1.2	0.19	48	88	100
6	1.3	15	40	40	38	33	20	1.3	0.17	57	93	100
7	122	12	40	40	38	33	5.3	1.5	0.19	53	95	102
8	332	11	40	40	38	31	15	1.00	0.15	41	96	106
9	246	9.5	42	40	38	37	17	0.76	6.3	52	95	106
10	100	9.5	40	40	39	33	24	0.67	9.4	51	96	106
11	5.9	10	40	40	38	35	31	0.67	9.4	54	96	106
12	4.2	12	40	40	38	40	33	0.67	9.4	58	96	105
13	13	12	40	40	38	40	33	0.70	9.4	54	99	105
14	7.3	7.0	40	40	38	40	33	0.69	9.4	54	106	105
15	0.44	0.37	40	40	38	39	33	0.68	9.2	64	106	101
16	0.32	0.99	40	39	37	39	33	0.81	4.5	64	106	96
17	0.27	0.48	40	31	37	39	22	0.75	0.26	66	106	94
18	3.3	31	42	29	37	39	30	0.68	0.19	67	107	94
19	13	42	43	29	38	39	20	0.65	0.15	75	107	83
20	18	42	43	33	38	38	11	0.65	0.12	80	107	64
21	22	42	43	39	38	38	14	0.59	0.10	80	102	62
22	19	41	43	39	38	38	13	0.61	0.09	81	99	59
23	18	41	43	39	38	38	13	0.79	0.09	81	99	53
24	13	41	42	39	38	38	13	0.64	23	82	100	50
25	6.1	41	42	39	35	38	13	0.64	10	82	100	50
26	0.58	41	41	41	34	39	13	0.47	10	72	100	21
27	0.69	41	41	40	34	42	7.6	0.42	10	78	100	33
28	0.46	41	42	36	34	42	4.8	0.37	10	74	104	28
29	0.35	41	42	38	34	42	2.5	0.27	33	83	106	22
30	3.5	49	41	38	---	42	1.6	0.27	37	83	106	19
31	13	---	41	38	---	41	---	0.24	---	83	106	---
TOTAL	996.31	689.04	1303	1192	1081	1160	650.8	24.05	202.58	1976	3069	2370
MEAN	32.1	23.0	42.0	38.5	37.3	37.4	21.7	0.78	6.75	63.7	99.0	79.0
MAX	332	49	50	41	39	42	41	2.1	37	83	107	107
MIN	0.27	0.37	40	29	34	31	1.6	0.24	0.09	35	86	19
AC-FT	1980	1370	2580	2360	2140	2300	1290	48	402	3920	6090	4700
CAL YR 2003	TOTAL 17317.35	MEAN 47.4	MAX 332	MIN 0.27	AC-FT 34350							
WTR YR 2004	TOTAL 14713.78	MEAN 40.2	MAX 332	MIN 0.09	AC-FT 29180							

15239050 MIDDLE FORK BRADLEY RIVER NEAR HOMER

LOCATION.--Lat 59°46'42", long 150°45'15", in NW¼ NE¼ sec.2, T.5 S., R.9 W. (Seldovia D-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on left bank 6.0 mi upstream from mouth and 27 mi east of Homer.

DRAINAGE AREA.--9.25 mi².

PERIOD OF RECORD.--October 1979 to current year. Published as Bradley River tributary near Homer prior to October 1989.

REVISED RECORDS.-- WDR AK-86-1: 1980(P), 1981-82(M), 1984(M). WRD AK-2000-1: 1995-1997.

GAGE.--Water-stage recorder. Elevation of gage is 2,300 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Precipitation gage and air temperature recorder at station; daily values of air temperature and precipitation are available from the computer files of the Alaska Science Center, Water-Resources office. GOES satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximums (*).

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 01	1145	532	9.51	Jun. 17	2115	*684	*9.72
Oct. 02	1045	676	9.71	Jun. 24	2015	324	9.23
Oct. 03	0600	580	9.58	Jul. 26	1600	580	9.60
Oct. 06	1900	668	9.70				

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	449	29	e9.0	e6.5	e5.5	e5.0	e4.4	e4.8	73	202	163	109
2	464	37	e8.0	e6.5	e5.5	e5.0	e4.4	e5.5	72	190	217	134
3	496	34	e8.0	e6.5	e5.5	e5.0	e4.4	e6.0	76	186	184	e120
4	345	32	e9.0	e6.5	e5.5	e5.0	e4.4	e7.0	87	197	163	e100
5	351	31	e9.0	e6.5	e5.5	e4.8	e4.4	e8.0	98	187	167	e90
6	574	30	e9.0	e6.5	e5.5	e4.8	e4.4	e9.0	115	189	156	e80
7	423	29	e9.0	e6.5	e5.5	e4.8	e4.2	e10	146	225	155	e70
8	225	30	e9.0	e6.5	e5.5	e4.8	e4.2	e13	137	229	163	e60
9	164	28	e9.0	e6.5	e5.5	e4.8	e4.2	e14	104	241	178	e44
10	119	27	e8.5	e6.5	e5.5	e4.8	e4.2	e15	88	225	e185	49
11	93	e22	e8.5	e6.0	e5.5	e4.8	e4.2	e15	87	206	e185	41
12	75	e17	e8.5	e6.0	e5.5	e4.8	e4.2	e16	78	198	e185	36
13	64	e15	e8.5	e6.0	e5.0	e4.8	e4.2	e16	73	184	e185	35
14	71	e13	e8.5	e6.0	e5.0	e4.8	e4.2	e17	90	172	e185	30
15	76	e12	e8.0	e6.0	e5.0	e4.8	e4.2	e18	129	171	e185	28
16	60	e11	e8.0	e6.0	e5.0	e4.8	e4.2	e20	303	161	e180	25
17	49	e10	e8.0	e6.0	e5.0	e4.8	e4.2	e23	532	182	e175	23
18	45	e13	e8.0	e6.0	e5.0	e4.8	e4.2	e25	539	181	e170	21
19	42	e15	e8.0	e6.0	e5.0	e4.8	e4.2	e28	390	163	e165	23
20	37	e16	e7.5	e6.0	e5.0	e4.8	e4.2	e32	332	145	145	27
21	34	e15	e7.5	e6.0	e5.0	e4.8	e4.0	e36	302	148	135	27
22	32	e14	e7.5	e6.0	e5.0	e4.8	e4.0	e40	275	159	140	34
23	30	e13	e7.0	e6.0	e5.0	e4.8	e4.0	e45	262	163	170	37
24	28	e12	e6.5	e5.5	e5.0	e4.8	e4.0	e50	279	134	152	31
25	30	e12	e6.0	e5.5	e5.0	e4.6	e4.0	e58	291	140	124	33
26	34	e11	e6.0	e5.5	e5.0	e4.6	e4.2	e68	283	325	111	109
27	31	e11	e6.5	e5.5	e5.0	e4.6	e4.2	e80	277	328	91	66
28	28	e10	e7.0	e5.5	e5.0	e4.4	e4.4	e90	266	237	73	49
29	31	e10	e7.0	e5.5	e5.0	e4.4	e4.6	e110	238	186	72	55
30	25	e10	e7.0	e5.5	---	e4.4	e4.8	99	213	167	76	114
31	24	---	e7.0	e5.5	---	e4.4	---	79	---	155	73	---
TOTAL	4549	569	244.0	187.0	151.0	147.4	127.4	1057.3	6235	5976	4708	1700
MEAN	147	19.0	7.87	6.03	5.21	4.75	4.25	34.1	208	193	152	56.7
MAX	574	37	9.0	6.5	5.5	5.0	4.8	110	539	328	217	134
MIN	24	10	6.0	5.5	5.0	4.4	4.0	4.8	72	134	72	21
AC-FT	9020	1130	484	371	300	292	253	2100	12370	11850	9340	3370
CFSM	15.9	2.05	0.85	0.65	0.56	0.51	0.46	3.69	22.5	20.8	16.4	6.13
IN.	18.29	2.29	0.98	0.75	0.61	0.59	0.51	4.25	25.07	24.03	18.93	6.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	51.4	20.4	9.58	5.88	5.39	3.74	3.37	17.6	101	164	145	101													
MAX	147	106	37.5	17.0	23.0	7.17	4.42	44.5	208	221	204	220													
(WY)	2004	2003	2003	1981	2003	1981	2001	1990	2004	2001	2001	1995													
MIN	15.6	5.29	4.45	3.82	2.86	1.30	2.38	5.45	44.7	111	86.9	38.7													
(WY)	1997	1985	1985	1991	1991	1986	1999	1987	1985	1996	1996	1992													

e Estimated

15239050 MIDDLE FORK BRADLEY RIVER NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1980 - 2004	
ANNUAL TOTAL	24270.8		25651.1			
ANNUAL MEAN	66.5		70.1		52.7	
HIGHEST ANNUAL MEAN					75.3	
LOWEST ANNUAL MEAN					34.6	
HIGHEST DAILY MEAN	574		574		966	
LOWEST DAILY MEAN	a3.8	Oct 6	b4.0	Apr 21	c1.1	Sep 20 1995
ANNUAL SEVEN-DAY MINIMUM	3.8	Apr 13	4.1	Apr 19	1.1	Mar 28 1986
MAXIMUM PEAK FLOW			684		1470	
MAXIMUM PEAK STAGE			9.72		10.09	
MAXIMUM PEAK STAGE					d16.16	
ANNUAL RUNOFF (AC-FT)	48140		50880		38160	
ANNUAL RUNOFF (CFSM)	7.19		7.58		5.70	
ANNUAL RUNOFF (INCHES)	97.61		103.16		77.38	
10 PERCENT EXCEEDS	198		189		156	
50 PERCENT EXCEEDS	18		16		12	
90 PERCENT EXCEEDS	4.8		4.7		3.4	

a Apr. 13-21

b Apr. 21-25

c From Mar. 28 to Apr. 10, 1986

d Backwater from ice

15239060 MIDDLE FORK BRADLEY RIVER BELOW NORTH FORK BRADLEY RIVER NEAR HOMER

LOCATION.--Lat 59°47'54", long 150°51'48", in SE¹/₄ NE¹/₄ SW¹/₄ sec. 29, T. 4 S., R. 9 W. (Seldovia D-3 quad), Kenai Peninsula Borough, Hydrologic Unit 19020301, on left bank 100 ft upstream from confluence with the main stem Bradley River, 0.2 mi below the mouth of the North Fork Bradley River, 5.5 mi downstream from the Middle Fork Bradley River diversion dam, and 25 mi east of Homer.

DRAINAGE AREA.--24.8 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 200 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Water from upper Middle Fork Bradley River (15239050) is diverted into Bradley Lake at Middle Fork Bradley River diversion dam, located 5.5 mi upstream. Air temperature recorder at station, daily values of air temperature are available from the computer files of the Alaska Science Center, Water Resources Office.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255	e58	e11	e4.0	e4.5	e4.5	e3.0	e90	e150	86	42	20
2	290	e59	e10	e4.0	e4.5	e4.5	e3.0	e90	e150	76	45	28
3	362	e52	e9.0	e4.0	e4.5	e5.0	e3.0	e120	e155	72	49	30
4	224	e52	e9.0	e4.0	e4.5	e5.0	e5.0	e180	e155	72	44	25
5	164	e42	e9.0	e4.0	e4.0	e5.0	e7.0	e230	e156	71	39	20
6	322	e45	e9.0	e4.0	e4.0	e5.0	e13	e260	158	73	37	18
7	316	e48	e7.0	e4.0	e4.0	e5.0	e25	e320	182	87	36	16
8	194	e54	e7.0	e4.0	e4.0	e4.5	e24	e290	157	89	36	15
9	175	e51	e6.0	e4.0	e4.5	e4.5	e25	e230	119	92	37	15
10	127	e48	e7.0	e4.0	e4.5	e4.5	e23	e210	114	87	37	14
11	99	e42	e7.0	e4.0	e4.5	e4.5	e20	e215	119	78	36	14
12	80	e44	e6.0	e4.0	e4.5	e4.0	e18	e220	113	73	35	14
13	69	e40	e6.0	e4.0	e4.5	e4.0	e20	e230	101	67	32	13
14	73	e41	e6.0	e4.0	e4.5	e4.0	e22	e230	111	60	30	12
15	83	e42	e6.0	e4.0	e4.0	e4.0	e24	e220	133	57	31	12
16	71	e37	e6.0	e4.0	e4.0	e4.0	e30	e240	278	53	30	11
17	63	e38	e6.0	e4.0	e4.0	e4.0	e38	e260	400	55	31	11
18	59	e39	e6.0	e4.0	e4.0	e4.0	e36	e280	350	53	31	11
19	56	e38	e6.0	e4.0	e4.0	e4.0	e40	e270	261	48	30	11
20	49	e34	e5.0	e4.0	e4.0	e4.0	e38	e270	208	43	30	14
21	e53	e30	e5.0	e4.0	e4.5	e4.0	e43	e290	178	41	27	20
22	e53	e27	e4.5	e4.0	e4.5	e4.0	e42	e310	153	40	26	22
23	e49	e27	e4.5	e4.0	e4.5	e4.0	e43	e410	141	42	27	26
24	e49	e24	e4.5	e4.0	e4.5	e4.0	e47	e400	142	37	27	21
25	e70	e25	e4.5	e4.0	e4.5	e4.0	e48	e350	148	35	25	24
26	e100	e18	e4.5	e4.0	e4.5	e4.0	e50	e280	148	68	24	114
27	e117	e16	e4.5	e4.0	e4.5	e3.0	e52	e250	139	72	24	71
28	e93	e11	e5.0	e4.0	e4.5	e3.0	e53	e230	119	59	21	58
29	e74	e11	e5.0	e4.0	e4.5	e3.0	e60	e165	91	51	19	63
30	e63	e12	e5.0	e4.0	---	e3.0	e70	e160	88	49	18	100
31	e59	---	e5.0	e4.0	---	e3.0	---	e155	---	46	17	---
TOTAL	3911	1105	196.0	124.0	125.5	127.0	925.0	7455	4917	1932	973	843
MEAN	126	36.8	6.32	4.00	4.33	4.10	30.8	240	164	62.3	31.4	28.1
MAX	362	59	11	4.0	4.5	5.0	70	410	400	92	49	114
MIN	49	11	4.5	4.0	4.0	3.0	3.0	90	88	35	17	11
AC-FT	7760	2190	389	246	249	252	1830	14790	9750	3830	1930	1670
CFSM	5.09	1.49	0.25	0.16	0.17	0.17	1.24	9.70	6.61	2.51	1.27	1.13
IN.	5.87	1.66	0.29	0.19	0.19	0.19	1.39	11.18	7.38	2.90	1.46	1.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2004, BY WATER YEAR (WY)#

MEAN	85.4	77.8	28.3	18.0	19.1	9.29	22.4	127	177	98.4	46.3	64.6
MAX	267	309	95.5	75.3	81.4	20.7	36.4	240	277	193	120	116
(WY)	2003	2003	2003	2001	2003	1998	1998	2004	2001	2001	2001	1997
MIN	23.2	16.2	6.32	2.68	2.00	2.74	9.59	74.0	82.3	45.7	12.5	25.0
(WY)	1997	2000	2004	1999	1999	1999	1999	2003	2003	1997	1996	2003

See Period of Record; partial years used in monthly statistics
e Estimated

15239060 MIDDLE FORK BRADLEY RIVER BELOW NORTH FORK BRADLEY RIVER NEAR HOMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1996 - 2004#	
ANNUAL TOTAL	17076.1		22633.5			
ANNUAL MEAN	46.8		61.8		65.2	
HIGHEST ANNUAL MEAN					90.8	
LOWEST ANNUAL MEAN					44.0	
HIGHEST DAILY MEAN	423	Feb 5	410	May 23	1950	Oct 23 2002
LOWEST DAILY MEAN	a4.4	Apr 7	b3.0	Mar 27	c1.0	Feb 5 1999
ANNUAL SEVEN-DAY MINIMUM	4.5	Apr 4	3.0	Mar 27	1.0	Feb 5 1999
MAXIMUM PEAK FLOW			d532	Oct 2	d3940	Oct 24 2002
MAXIMUM PEAK STAGE			11.80	Oct 2	16.27	Oct 24 2002
ANNUAL RUNOFF (AC-FT)	33870		44890		47270	
ANNUAL RUNOFF (CFPM)	1.89		2.49		2.63	
ANNUAL RUNOFF (INCHES)	25.61		33.95		35.75	
10 PERCENT EXCEEDS	89		186		159	
50 PERCENT EXCEEDS	30		30		33	
90 PERCENT EXCEEDS	6.6		4.0		5.3	

See Period of Record; partial years used in monthly statistics

a Apr. 7-8

b From Mar. 27 to Apr. 3

c Feb. 5-12, 1999

d From rating curve extended above 52 ft³/s on basis of comparison of instantaneous discharge of Bradley River below Dam (15239001) and instantaneous discharge of Bradley River near Tidewater (15239070)

15239070 BRADLEY RIVER NEAR TIDEWATER NEAR HOMER

LOCATION.--Lat 59°48'06", long 150°52'58", in SE¹/₄ NE¹/₄ 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 mi² 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

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		79740	
50 PERCENT EXCEEDS	90		77		178	
90 PERCENT EXCEEDS	48		44		91	
					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 ft³/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

15243900 SNOW RIVER NEAR SEWARD

LOCATION.--Lat 60°17'42", long 149°20'38", in NE¹/₄ SW¹/₄ sec. 6, T. 2 N., R. 1 E. (Seward B-7 quad), Kenai Peninsula Borough, Hydrologic Unit 19020302, on left bank, 0.5 mi below the Alaska Railroad bridge, 3.0 mi upstream from the mouth at Kenai Lake, and 13.5 mi north of Seward.

DRAINAGE AREA.--128 mi² (revision pending).

PERIOD OF RECORD.--August to September of 1970, 1974, 1977 and April 1997 to current year.

GAGE.--Water stage recorder. Elevation of gage is 470 ft above sea level, from topographic map. Prior to April 9, 1998 at site 0.5 mi upstream at different datum.

REMARKS.--Record poor. Rain gage at station. GOES satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Glacier-dammed lake outburst flood about August 31, 1967, 55,000 ft³/s from rating curve extended above 27,000 ft³/s, gage-height 42.60 ft from floodmarks, site and datum then in use.

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	5940	1050	e150	e110	e80	e95	e75	789	1560	3020	2590	1990
2	5700	1100	e180	e95	e80	e95	103	914	1530	2870	2900	2420
3	7880	1100	e160	e95	e80	e95	112	829	1590	2720	2990	2520
4	5360	1110	e150	e95	e80	e95	108	785	1680	2870	2930	2020
5	5100	1140	e140	e95	e80	e90	108	883	1750	2740	2670	1600
6	7650	1210	e140	e95	e75	e90	133	978	1850	2570	2540	1440
7	6950	1340	e140	e100	e75	e85	187	1000	2120	3130	2720	1340
8	4410	1510	e150	e110	e75	e85	189	955	2080	3290	2840	1220
9	3480	1800	e160	e100	e75	e100	240	864	1910	3300	2950	1150
10	3830	2400	e170	e95	e80	e100	215	833	1690	3090	2920	1140
11	2080	3200	e150	e90	e80	e90	191	887	1710	3060	2980	1060
12	1720	4260	e130	e90	e90	e90	180	974	1810	3100	2800	1010
13	1530	6220	e120	e90	e90	e90	175	1010	1710	2990	2710	1000
14	1430	8940	e120	e90	e90	e85	173	980	1710	2860	2620	885
15	1490	e12700	e120	e90	e90	e85	182	950	1770	2820	2820	760
16	1350	e14600	e120	e85	e90	e85	198	928	2670	2750	2990	680
17	1230	5140	e120	e85	e85	e85	210	934	4650	2830	3380	622
18	1140	1640	e120	e85	e85	e90	210	885	3950	3090	3320	568
19	1170	992	e110	e85	e85	e95	208	1040	3510	3540	3340	545
20	1120	915	e110	e85	e85	e95	209	1430	3330	3270	3350	638
21	1040	375	e110	e90	e90	e95	215	1710	3190	2990	2860	934
22	1050	320	e110	e85	e100	e95	242	1840	3110	3850	2940	855
23	1070	e200	e110	e85	e95	e90	254	2080	3030	4260	3960	1180
24	1160	e190	e110	e85	e90	e90	255	2390	3030	3340	4030	878
25	1440	e180	e110	e85	e90	e90	275	2560	2980	2840	2770	736
26	1820	e170	e110	e80	e90	e85	310	2120	3190	3740	2770	2660
27	1550	e160	e120	e80	e90	e85	339	1960	3200	4610	2680	1720
28	1320	e155	e130	e80	e90	e85	356	1780	3090	3990	2320	1150
29	1170	e150	e120	e80	e90	e85	376	1620	2860	3200	2010	1040
30	1090	e150	e110	e80	---	e80	434	1570	2960	2780	2010	1430
31	1050	---	e110	e80	---	e70	---	1560	---	2540	2030	---
TOTAL	84320	74417	4010	2775	2475	2770	6462	40038	75220	98050	88740	37191
MEAN	2720	2481	129	89.5	85.3	89.4	215	1292	2507	3163	2863	1240
MAX	7880	14600	180	110	100	100	434	2560	4650	4610	4030	2660
MIN	1040	150	110	80	75	70	75	785	1530	2540	2010	545
AC-FT	167200	147600	7950	5500	4910	5490	12820	79420	149200	194500	176000	73770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2004, BY WATER YEAR (WY)#

MEAN	1396	901	338	205	159	102	173	875	2281	3168	2980	2832
MAX	2720	2481	713	524	444	220	277	1412	2714	3281	5598	6294
(WY)	2004	2004	2003	2001	2003	1998	1998	2002	2002	1998	1977	1974
MIN	279	163	87.3	57.0	42.0	39.2	81.8	491	1780	2866	1764	1157
(WY)	1998	2002	1999	1999	1999	1999	1999	2001	1999	1999	1998	2000

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1970 - 2004#

ANNUAL TOTAL	498467	516468										
ANNUAL MEAN	1366	1411							1210			
HIGHEST ANNUAL MEAN									1412			2001
LOWEST ANNUAL MEAN									965			2000
HIGHEST DAILY MEAN	ae14600	Nov 16	a14600	Nov 16					a23800	Sep 20	1974	
LOWEST DAILY MEAN	85	Apr 3	70	Mar 3					b36	Mar 3	1999	
ANNUAL SEVEN-DAY MINIMUM	85	Apr 3	77	Feb 3					37	Feb 26	1999	
MAXIMUM PEAK FLOW			15200	Nov 16					a26400	Sep 20	1974	
MAXIMUM PEAK STAGE			14.07	Nov 16					c40.75	Sep 20	1974	
INSTANTANEOUS LOW FLOW			d						36	Mar 3	1999	
ANNUAL RUNOFF (AC-FT)	988700	1024000							876900			
10 PERCENT EXCEEDS	3350	3220							3140			
50 PERCENT EXCEEDS	627	931							478			
90 PERCENT EXCEEDS	100	85							80			

- # See Period of Record, partial years used in monthly summary statistic
a Result of release of stored water from glacier-dammed lake
b Mar. 3 and Mar. 4, 1999
c Site and datum then in use
d Not determined, see lowest daily mean
e Estimated

15258000 KENAI RIVER AT COOPER LANDING

LOCATION.--Lat 60°29'34", long 149°48'28", in SE¹/₄ sec. 28, T. 5 N., R. 3 W. (Seward B-8 quad), Kenai Peninsula Borough, Hydrologic Unit 19020302, Chugach National Forest, on right bank 10 ft. downstream from bridge on Sterling Highway, 0.9 mi upstream from Bean Creek, 0.9 mi east of Cooper Landing, and at Kenai Lake outlet.

DRAINAGE AREA.--634 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1947 to current year.

REVISED RECORDS.--WSP 2136: 1964 (M).

GAGE.--Water-stage recorder. Datum of gage is 419.92 ft. above sea level (levels by Alaska Department of Transportation). See WSP 2136 for history of changes prior to August 28, 1965. August 28, 1965 to January 21, 1974, at site 10 ft. upstream at present datum. January 22, 1974 to September 30, 1981, non-recording gage at site 40 ft. upstream at present datum.

REMARKS.--Records good except for estimated daily discharge, which are poor. Diversion from Cooper Lake to Kenai Lake above gage through Cooper Lake power plant began May 1961. Rain gage at station. GOES satellite telemetry and telephone modem at station.

COOPERATION.--Records of diversion provided by Chugach Electric Association.

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	3180	2380	1830	924	752	846	644	1590	5390	7810	5940	4360
2	4290	2320	1710	900	746	844	643	1780	5260	7580	5690	4230
3	6360	2290	1670	883	737	825	654	1990	5100	7330	5640	4220
4	8620	2240	1540	868	727	819	660	2170	5020	7070	5610	4130
5	9260	2200	1480	855	720	817	657	2390	5030	6870	5510	4020
6	10700	2170	1410	833	731	812	658	2670	5090	6560	5340	3840
7	12900	2160	1360	820	739	803	663	2980	5330	6450	5240	3630
8	13400	2160	1350	806	736	790	676	3300	5540	6520	5250	3400
9	12400	2170	1340	827	731	797	698	3550	5750	6680	5220	3210
10	11200	2220	1370	852	752	794	719	3750	5790	6770	5220	3040
11	9880	2350	1350	846	765	789	730	3870	5690	6780	5300	2860
12	8470	2570	1330	837	773	778	754	4000	5590	6760	5270	2710
13	7310	3110	1300	832	775	772	771	4190	5490	6720	5210	2570
14	6390	4240	1290	823	788	766	786	4350	5380	6650	5100	2460
15	5630	e6330	1260	827	796	752	812	4460	5340	6520	5050	2340
16	5020	e9940	1230	829	795	742	848	4510	5470	6370	5110	2210
17	4540	e10700	1210	819	796	735	892	4550	5660	6220	5190	2070
18	4110	8490	1190	820	797	715	932	4540	7750	6090	5350	2000
19	3800	6940	1180	812	798	712	967	4520	8460	6140	5490	1970
20	3550	5750	1160	823	802	708	996	4610	8790	6220	5610	1900
21	3300	4900	1130	816	818	697	1030	4860	8860	6190	5620	1860
22	3090	4190	1130	794	850	695	1060	5110	8810	6170	5540	1860
23	2910	3710	1100	790	852	688	1100	5380	8680	6510	5550	1850
24	2770	3250	1070	795	858	684	1140	5690	8560	6660	5920	1840
25	2720	2890	1040	789	852	680	1190	6010	8410	6480	5800	1840
26	2770	2610	1010	799	854	676	1240	6160	8400	6360	5620	2040
27	2760	2430	994	781	854	675	1320	6210	8410	6680	5490	2320
28	2700	2230	997	764	848	662	1380	6150	8340	6980	5330	2410
29	2650	2100	994	760	844	657	1430	5950	8150	6930	5040	2450
30	2560	1960	962	758	---	646	1480	5740	7940	6670	4750	2540
31	2440	---	945	758	---	645	---	5570	---	6320	4510	---
TOTAL	181680	113000	38932	25440	22886	23021	27530	132600	202380	206060	166510	82180
MEAN	5861	3767	1256	821	789	743	918	4277	6746	6647	5371	2739
MAX	13400	10700	1830	924	858	846	1480	6210	8860	7810	5940	4360
MIN	2440	1960	945	758	720	645	643	1590	5020	6090	4510	1840
MED	4290	2500	1230	820	795	742	830	4510	5770	6650	5340	2450
AC-FT	360400	224100	77220	50460	45390	45660	54610	263000	401400	408700	330300	163000
CFSM	9.24	5.94	1.98	1.29	1.24	1.17	1.45	6.75	10.6	10.5	8.47	4.32
IN.	10.66	6.63	2.28	1.49	1.34	1.35	1.62	7.78	11.87	12.09	9.77	4.82

ADJUSTED TO EXCLUDE DIVERSION FROM COOPER LAKE

MEAN	5811	3658	1171	642	611	595	789	4145	6613	6548	5295	2674
CFSM	9.17	5.77	1.85	1.01	0.96	0.94	1.24	6.54	10.43	10.33	8.35	4.22
IN	10.57	6.44	2.13	1.17	1.04	1.08	1.39	7.54	11.64	11.91	9.63	4.71
AC-FT	357320	217680	71980	39480	35140	36610	46940	254850	393480	402640	325600	159110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2004, BY WATER YEAR (WY)#

MEAN	3358	1905	1171	835	684	528	556	1969	5455	6996	6337	5210
MAX	8955	6739	3755	2807	2066	1122	1071	4277	10010	10480	11430	11490
(WY)	1980	2003	2003	1981	1981	1977	1980	2004	1953	1980	1977	1967
MIN	1264	654	364	310	251	208	262	658	3268	4868	3651	2629
(WY)	1956	1951	1951	1951	1949	1951	1952	1952	1972	1996	1969	1969

See Period of Record and Remarks; partial years used in monthly statistics
e Estimated

15258000 KENAI RIVER AT COOPER LANDING—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1947 - 2004#	
ANNUAL TOTAL	1201452		1222219			
ANNUAL MEAN	3292		3339		2935	
ANNUAL MEAN	*3186		*3224		*2860	
HIGHEST ANNUAL MEAN					4499 1977	
LOWEST ANNUAL MEAN					2102 1969	
HIGHEST DAILY MEAN	13400	Oct 8	13400	Oct 8	22500	Sep 21 1974
LOWEST DAILY MEAN	643	Apr 11	643	Apr 2	100	Mar 28 1964
ANNUAL SEVEN-DAY MINIMUM	654	Apr 10	650	Mar 29	190	Mar 15 1951
MAXIMUM PEAK FLOW			a13600	Oct 7	b23100	Sep 21 1974
MAXIMUM PEAK STAGE			14.07	Oct 8	17.18	Sep 21 1974
INSTANTANEOUS LOW FLOW			612	Apr 2	c0.00	Mar 27 1964
ANNUAL RUNOFF (AC-FT)	2383000		2424000		2126000	
ANNUAL RUNOFF (AC-FT)	*2306760		*2340830		2072000	
ANNUAL RUNOFF (CFSM)	*5.03		*5.09		*4.51	
ANNUAL RUNOFF (INCHES)	*68.22		*69.22		*61.26	
10 PERCENT EXCEEDS	6820		6760		6980	
50 PERCENT EXCEEDS	2280		2380		1670	
90 PERCENT EXCEEDS	922		752		420	

See Period of Record and Remarks; partial years used in monthly statistics
Values shown on this page are unadjusted for inflow from diversion, unless
otherwise noted

* Adjusted to account for inflow from diversion, see Remarks

a Maximum peak flow recorded on Oct. 7 and Oct. 8

b Result of release of stored water from glacier-dammed lake at head of unnamed
glacier in the Snow River Basin

c No flow, Mar. 27 and Mar. 28, 1964, caused by earthquake

15258000 KENAI RIVER AT COOPER LANDING—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-53, 1955-60, 1966-74, 1976, 1994 and December 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water year 1950, and December 2002 to current year.

INSTRUMENTATION.--Electronic water-temperature recorder set for 15 minute recording interval.

REMARKS.--Records represent water temperature at the sensor within 0.5°C.

EXTREMES FOR PERIOD OF DAILY RECORDS.--

WATER TEMPERATURE: Maximum, 18.0°C, August 18, 19 2004; Minimum, 0.0°C, Several days January and March, 2003 and April 27, 2004.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 18.0°C, August 18, 19; Minimum, 0.0°C, April 27.

TEMPERATURE, WATER (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.5	8.5	9.0	6.5	6.0	6.0	3.0	1.5	2.5	2.5	1.0	2.0
2	9.0	8.5	8.5	6.5	6.0	6.0	2.5	1.5	2.5	2.5	1.0	2.0
3	9.0	8.0	8.5	6.5	6.0	6.0	2.5	1.0	2.0	2.0	1.5	2.0
4	9.0	8.0	8.5	6.5	6.0	6.0	2.5	1.5	2.0	2.0	1.5	2.0
5	9.0	8.0	8.5	6.5	6.0	6.0	2.0	1.5	2.0	2.5	1.5	2.0
6	9.0	8.0	8.5	6.5	6.0	6.0	2.0	1.0	1.5	2.5	1.0	2.0
7	9.0	8.0	8.5	6.5	5.5	6.0	2.0	1.0	1.5	2.5	1.5	2.0
8	9.0	8.0	8.5	6.0	5.5	6.0	2.0	1.5	2.0	2.0	1.0	1.5
9	8.5	8.0	8.5	6.0	5.5	6.0	2.5	1.0	2.0	2.0	1.5	1.5
10	8.5	8.0	8.5	6.0	5.0	5.5	2.0	0.5	1.5	3.5	1.0	1.5
11	8.5	8.0	8.0	6.0	4.5	5.5	2.0	1.5	1.5	1.5	1.0	1.5
12	8.5	8.0	8.0	5.5	5.0	5.5	2.0	1.0	1.5	1.5	0.5	1.0
13	8.5	7.5	8.0	5.5	5.0	5.0	2.0	1.0	1.5	1.5	0.5	1.0
14	8.0	7.5	8.0	5.5	4.0	5.0	2.5	1.0	1.5	1.5	0.5	1.0
15	8.0	7.5	8.0	5.0	4.5	5.0	2.5	0.5	1.5	1.5	0.5	1.0
16	8.0	7.5	7.5	5.0	4.0	4.5	1.5	0.5	1.0	1.5	1.0	1.0
17	8.0	7.5	7.5	4.5	3.5	4.0	2.0	1.0	1.5	1.5	1.0	1.0
18	8.0	7.0	7.5	4.5	3.5	4.0	2.0	0.5	1.5	1.5	1.0	1.0
19	7.5	7.0	7.0	4.5	4.0	4.0	2.5	1.0	1.5	1.0	0.5	1.0
20	7.5	7.0	7.0	4.5	3.5	4.0	2.5	1.5	2.0	1.5	1.0	1.0
21	7.5	6.5	7.0	4.0	3.5	4.0	2.0	1.5	1.5	1.5	1.0	1.5
22	7.0	6.5	7.0	4.0	3.5	4.0	3.0	1.5	2.0	1.5	0.5	1.0
23	7.0	6.5	7.0	4.0	3.0	3.5	2.5	1.0	2.0	1.5	0.5	1.0
24	7.0	6.5	7.0	4.0	3.0	3.5	2.0	1.5	2.0	1.5	0.5	1.0
25	7.0	6.5	7.0	4.0	2.0	3.0	2.5	1.5	2.0	1.5	0.5	1.0
26	7.0	6.5	7.0	3.0	1.5	2.5	2.5	1.0	2.0	1.5	0.5	1.0
27	7.0	6.0	6.5	3.0	2.0	2.5	2.5	2.0	2.5	1.5	1.0	1.0
28	6.5	5.5	6.0	2.5	1.5	2.0	3.0	2.0	2.5	1.5	0.5	1.0
29	6.5	5.5	6.0	3.0	2.0	2.5	3.0	2.0	2.5	1.0	0.5	1.0
30	6.5	6.0	6.0	2.5	1.5	2.0	2.5	1.5	2.0	1.0	0.5	1.0
31	6.5	6.0	6.0	---	---	---	2.5	1.0	1.5	1.5	1.0	1.0
MONTH	9.5	5.5	7.6	6.5	1.5	4.5	3.0	0.5	1.8	3.5	0.5	1.3

15258000 KENAI RIVER AT COOPER LANDING—Continued

TEMPERATURE, WATER (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1.5	1.0	1.0	2.5	1.0	1.5	2.5	1.0	1.5	3.0	2.0	3.0
2	1.5	1.0	1.0	2.5	1.0	1.5	2.0	1.0	1.5	3.5	2.5	3.0
3	1.5	1.0	1.0	3.0	1.0	2.0	2.5	1.5	2.0	3.5	2.5	3.0
4	1.5	1.0	1.0	3.0	1.0	1.5	2.0	1.5	1.5	3.5	3.0	3.5
5	1.5	1.0	1.0	2.5	0.5	1.5	2.0	1.5	1.5	3.5	3.0	3.5
6	1.5	0.5	1.0	2.5	1.0	1.5	2.5	1.5	2.0	4.0	3.0	3.5
7	1.5	1.0	1.0	2.5	1.0	1.5	2.5	1.5	2.0	4.5	3.0	3.5
8	1.5	1.0	1.0	2.0	1.0	1.5	2.5	1.5	2.0	4.5	3.5	4.0
9	1.5	1.0	1.0	2.0	1.0	1.5	3.5	1.5	2.0	4.0	3.5	4.0
10	1.5	1.0	1.5	2.5	1.5	2.0	4.0	1.5	2.5	4.5	3.5	4.0
11	1.5	1.0	1.0	3.0	1.5	2.0	4.0	1.5	2.0	4.5	3.5	4.0
12	1.5	1.0	1.0	2.5	1.5	2.0	4.0	1.5	2.5	4.5	3.5	4.0
13	1.5	1.0	1.5	3.0	1.0	2.0	4.0	1.5	2.5	5.0	3.5	4.5
14	2.0	0.5	1.0	2.5	1.5	2.0	3.5	1.5	2.5	5.5	4.5	4.5
15	1.5	0.5	1.0	3.0	1.5	2.0	4.0	1.5	2.5	5.0	4.5	4.5
16	1.5	0.5	1.0	3.0	1.0	1.5	3.0	2.0	2.5	5.0	4.0	4.5
17	1.5	1.0	1.0	3.0	1.0	1.5	3.5	2.0	2.5	5.0	4.0	4.5
18	1.5	1.0	1.0	1.5	0.5	1.0	3.5	2.0	2.5	5.0	4.0	4.5
19	1.5	1.0	1.0	2.0	1.0	1.5	3.0	2.0	2.5	5.0	4.5	4.5
20	2.0	1.0	1.5	2.5	1.0	1.5	3.5	2.0	2.5	5.0	4.0	4.5
21	2.0	1.0	1.5	2.5	1.0	1.5	3.0	2.0	2.5	5.5	4.0	4.5
22	2.0	1.0	1.5	3.0	1.5	2.0	3.0	2.0	2.5	6.0	4.5	5.5
23	2.0	1.0	1.5	3.0	1.5	2.0	3.0	2.0	2.5	6.0	5.0	5.5
24	2.5	1.0	1.5	3.0	1.5	2.0	3.0	2.0	2.5	5.5	4.5	5.0
25	2.0	1.0	1.5	3.0	1.5	2.0	3.0	2.0	2.5	5.5	4.5	5.0
26	2.5	1.0	1.5	2.5	1.0	1.5	3.0	1.0	2.5	5.5	4.5	5.0
27	2.0	1.0	1.5	2.5	1.0	2.0	2.5	0.0	1.0	5.5	4.5	5.0
28	2.5	1.0	1.5	2.5	1.0	1.5	2.5	2.0	2.5	5.5	5.0	5.0
29	2.5	1.0	1.5	2.5	0.5	1.5	3.0	2.0	2.5	5.5	4.5	5.0
30	---	---	---	2.0	0.5	1.0	3.0	2.0	2.5	5.5	4.5	5.0
31	---	---	---	2.5	0.5	1.5	---	---	---	6.0	4.5	5.5
MONTH	2.5	0.5	1.2	3.0	0.5	1.7	4.0	0.0	2.2	6.0	2.0	4.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.0	5.0	5.5	11.0	8.0	10.0	13.5	10.5	12.0	14.5	11.0	13.0
2	6.0	5.5	6.0	12.5	10.0	11.0	11.0	8.0	9.5	14.5	13.0	14.0
3	6.0	5.5	5.5	12.5	10.0	11.0	10.0	8.0	8.5	13.5	8.0	11.5
4	6.5	5.0	5.5	12.5	11.5	12.0	14.5	9.5	13.0	9.0	6.0	7.0
5	6.5	5.5	6.0	12.5	11.5	12.0	15.5	14.0	14.5	7.5	6.0	6.5
6	6.0	5.0	5.5	12.5	8.0	10.0	15.0	12.5	14.5	10.0	7.0	8.5
7	8.0	5.0	6.5	9.0	6.0	7.5	14.5	12.0	13.0	11.0	10.0	10.5
8	7.5	5.5	6.5	8.5	6.0	7.0	16.5	12.5	15.5	11.0	10.0	10.5
9	7.5	5.5	6.5	6.5	5.5	6.0	16.5	15.0	16.0	11.5	10.0	10.5
10	7.5	6.5	7.0	8.0	6.0	7.0	15.5	13.0	14.5	11.5	11.0	11.0
11	7.0	6.5	7.0	10.5	6.5	8.5	16.5	13.0	14.5	12.0	11.0	11.5
12	7.0	6.5	6.5	14.0	10.5	12.5	16.5	15.0	16.0	11.5	11.0	11.5
13	7.0	6.0	6.5	15.5	12.5	14.0	15.5	13.0	14.5	11.5	8.5	10.5
14	8.0	6.5	7.0	15.0	12.5	13.5	15.0	12.0	13.5	10.5	7.0	8.5
15	8.0	7.0	7.5	15.5	14.0	14.5	14.5	12.0	13.5	9.0	6.5	8.0
16	8.0	7.0	7.5	16.0	14.0	15.0	14.5	12.0	13.5	8.5	6.0	7.0
17	8.0	7.0	7.5	16.0	15.0	15.5	17.5	12.5	14.0	8.0	6.0	7.0
18	8.5	7.0	7.5	15.5	14.5	15.0	18.0	15.5	17.0	8.0	7.0	7.5
19	8.0	6.5	7.0	15.5	13.5	14.5	18.0	17.0	17.5	8.0	7.5	7.5
20	8.0	6.0	6.5	15.5	14.0	15.0	17.5	15.0	16.5	8.5	7.5	8.0
21	7.0	6.0	6.5	15.5	14.5	15.0	17.5	14.5	15.5	8.0	7.5	7.5
22	6.5	5.5	6.0	15.0	14.5	15.0	17.5	15.0	16.5	9.0	7.5	8.0
23	6.5	5.5	6.0	15.0	14.0	14.5	17.5	16.5	17.0	9.0	7.0	8.0
24	10.0	5.0	7.5	15.0	14.0	14.5	17.0	16.0	16.5	8.0	7.0	7.5
25	10.5	7.0	9.0	15.0	14.0	14.5	16.5	14.5	16.0	8.5	7.5	8.0
26	11.0	7.5	9.0	14.5	14.0	14.5	16.5	16.0	16.5	8.5	7.5	8.0
27	12.0	9.0	11.0	14.5	14.0	14.5	16.5	13.5	15.0	8.0	7.0	7.5
28	12.0	10.0	11.0	14.5	14.0	14.5	15.0	12.5	14.0	8.0	7.0	7.5
29	10.0	8.5	9.0	14.5	13.5	14.0	14.5	12.5	13.0	8.0	7.0	7.5
30	9.5	7.5	8.5	14.5	13.5	14.0	14.0	10.5	13.0	8.0	7.0	7.5
31	---	---	---	14.5	13.0	14.0	13.5	11.0	12.0	---	---	---
MONTH	12.0	5.0	7.2	16.0	5.5	12.6	18.0	8.0	14.4	14.5	6.0	8.9

15261000 COOPER CREEK AT MOUTH NEAR COOPER LANDING

LOCATION.--Lat 60°28'50", long 149°52'50", in NW¹/₄ SW¹/₄ sec. 31, T. 5 N., R. 3 W. (Seward B-8 quad), Hydrologic Unit 19020302 Kenai Peninsula Borough, on left bank, approximately 0.5 mi upstream from mouth, and 1.5 mi west of Cooper Landing.

DRAINAGE AREA.--48.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to January 1965, August 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 450 ft above sea level, from topographic map. From October 1957 to January 1965, 0.4 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Since July 1959, entire flow from 31.8 mi² of drainage area has been regulated by dam at Cooper Lake outlet. No spilling since 1959 except for period May 1961 to October 1962. 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	33	32	e16	e11	12	10	e9.0	80	115	76	32	17
2	42	32	e16	e11	11	10	e9.0	88	111	70	32	18
3	120	31	e16	e11	11	9.9	e10	83	114	66	32	18
4	102	30	e16	e11	11	9.9	e10	98	120	64	30	17
5	79	30	e16	e11	11	9.8	9.6	119	117	64	29	16
6	112	30	e16	e11	11	e9.5	11	139	121	61	27	16
7	112	30	e16	e11	11	e9.5	13	142	126	62	27	16
8	93	32	e15	e11	14	e9.5	14	135	123	63	26	15
9	79	31	e15	e11	11	e9.5	14	124	107	63	26	15
10	64	30	e15	e11	e12	e9.5	14	110	104	61	25	15
11	59	33	e15	e11	e12	e9.5	14	115	101	56	24	15
12	53	28	e15	e11	12	e9.5	14	122	99	54	24	15
13	49	e24	e15	e11	12	e9.5	14	124	96	53	23	19
14	47	e21	e15	e11	12	e9.5	15	122	92	46	22	16
15	45	e19	e15	e11	12	9.3	17	119	91	45	21	13
16	43	e18	e15	e11	e11	9.7	19	117	116	42	20	13
17	41	e17	e15	e11	e11	e9.5	19	115	145	41	20	13
18	40	e15	e15	e11	e11	e9.0	19	121	151	41	20	13
19	39	e14	e15	e11	e11	e9.0	19	120	143	40	19	14
20	38	e12	e15	e11	e11	e9.0	20	126	131	39	19	15
21	37	e12	e15	e12	e11	e9.0	22	110	124	37	19	12
22	36	e13	e14	e12	e11	e9.5	23	119	121	36	18	14
23	35	e13	e13	e12	11	e9.5	25	180	114	37	18	14
24	36	e14	e13	e12	11	e9.5	25	224	112	35	18	14
25	38	e14	e12	e12	11	e9.5	28	166	106	33	18	15
26	37	e14	e12	e12	10	9.4	32	143	106	37	17	45
27	35	e15	e12	e12	10	9.1	33	142	106	44	21	28
28	33	e15	e11	12	10	9.1	33	139	96	39	21	22
29	32	e15	e11	11	10	8.9	40	125	83	36	19	25
30	33	e15	e11	12	---	e9.0	50	116	79	36	18	31
31	32	---	e11	13	---	e9.0	---	111	---	35	17	---
TOTAL	1674	649	442	352	325	292.1	594.6	3894	3370	1512	702	529
MEAN	54.0	21.6	14.3	11.4	11.2	9.42	19.8	126	112	48.8	22.6	17.6
MAX	120	33	16	13	14	10	50	224	151	76	32	45
MIN	32	12	11	11	10	8.9	9.0	80	79	33	17	12
AC-FT	3320	1290	877	698	645	579	1180	7720	6680	3000	1390	1050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2004, BY WATER YEAR (WY)#

	1958	1958	1958	1958	2003	1958	1958	1961	1958	1961	1961	1961
MEAN	75.9	51.1	26.1	19.6	16.4	11.9	18.5	99.2	181	135	76.4	68.6
MAX	264	285	82.9	58.9	50.5	28.0	50.3	219	412	326	226	309
(WY)	1958	1958	1958	1958	2003	1958	1958	1961	1958	1961	1961	1961
MIN	20.7	11.9	10.0	8.00	6.43	4.50	9.00	42.6	73.7	48.8	22.6	17.6
(WY)	1964	1964	1964	1964	1999	1999	1960	1964	1963	2004	2004	2004

See Period of Record, partial years used in monthly statistics
e Estimated

15261000 COOPER CREEK AT MOUTH NEAR COOPER LANDING—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1958 - 2004#	
ANNUAL TOTAL	15061.5		14335.7			
ANNUAL MEAN	41.3		39.2		65.9	
HIGHEST ANNUAL MEAN					a174	1958
LOWEST ANNUAL MEAN					29.9	1963
HIGHEST DAILY MEAN	187	Feb 5	224	May 24	ab810	Sep 22 1961
LOWEST DAILY MEAN	9.5	Apr 12	8.9	Mar 29	c4.0	Mar 19 1999
ANNUAL SEVEN-DAY MINIMUM	10	Apr 8	9.0	Mar 27	4.0	Mar 19 1999
MAXIMUM PEAK FLOW			260	May 24	d1230	Oct 23 2002
MAXIMUM PEAK STAGE			f10.94	May 24	12.45	Oct 23 2002
INSTANTANEOUS LOW FLOW	g		g		h3.1	Mar 1 1960
ANNUAL RUNOFF (AC-FT)	29870		28430		47730	
10 PERCENT EXCEEDS	87		115		162	
50 PERCENT EXCEEDS	32		18		33	
90 PERCENT EXCEEDS	13		10		10	

- # See Period of Record, partial years used in monthly statistics
a Includes natural flow or spill from area upstream from Cooper Lake dam
b Caused by release of water behind log jam upstream. Site and datum then in use
c From Mar. 19 to Apr. 14, 1999
d From high water mark
e From crest-stage gage
f Not determined. See Lowest Daily Mean
g Caused by temporary storage behind ice jam upstream (observed)

15261000 COOPER CREEK AT MOUTH NEAR COOPER LANDING—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1998 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1998 to current year.

INSTRUMENTATION.--Electronic water-temperature recorder set for 15 minute recording interval.

REMARKS.--Records represent water temperature at the sensor within 0.5°C. Temperature at the sensor was compared with the average for the stream by cross section on April 13 and August 13. Variations found in the cross sections were less than 0.2°C. No variation was found between mean stream temperature and sensor temperature. Heavy shore ice occurs near the gage.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 12.5°C, July 7 and 12, 2004 and August 17, 2004; Minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 12.5°C, July 7, 12 and August 17; Minimum, 0.0°C on many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Stream width, feet (00004)	Location in X-sect. looking downstream, ft from bank (00009)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Sampler type, code (84164)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)
APR									
13...	1215	32.0	6.00	9.82	14	10	8010	1.6	5.6
13...	1218	32.0	12.0	9.82	14	10	8010	1.6	5.6
13...	1221	32.0	18.0	9.82	14	10	8010	1.5	5.6
13...	1224	32.0	24.0	9.82	14	10	8010	1.6	5.6
13...	1227	32.0	30.0	9.82	14	10	8010	1.5	5.6
AUG									
13...	1200	28.0	4.00	9.96	24	10	8010	8.7	17.3
13...	1205	28.0	9.00	9.96	24	10	8010	8.6	17.3
13...	1210	28.0	14.0	9.96	24	10	8010	8.6	17.3
13...	1215	28.0	20.0	9.96	24	10	8010	8.6	17.3
13...	1220	28.0	26.0	9.96	24	10	8010	8.5	17.3

WATER TEMPERATURE, (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.0	7.0	7.5	4.0	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
2	7.0	6.0	6.5	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
3	6.0	5.0	5.5	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
4	5.5	4.5	5.0	3.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
5	6.0	5.0	5.5	3.5	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
6	6.0	5.0	5.5	4.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
7	6.0	4.5	5.5	3.5	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
8	5.0	3.0	4.0	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
9	4.5	3.5	4.5	2.5	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0
10	4.0	2.5	3.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
11	4.5	3.0	3.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	3.5	2.0	2.5	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
13	4.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	4.0	2.0	3.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
16	2.0	0.5	1.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
17	2.0	0.5	1.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0
18	2.5	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	2.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	2.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	2.5	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	3.0	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	3.5	1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	4.5	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	3.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	2.0	0.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	1.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	2.5	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	3.5	1.5	2.5	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
MONTH	8.0	0.0	3.4	4.0	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0

15261000 COOPER CREEK AT MOUTH NEAR COOPER LANDING—Continued

WATER TEMPERATURE, (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	0.0	0.0	0.0	1.5	1.0	1.0	0.0	0.0	0.0	3.0	1.5	2.0
2	0.5	0.0	0.0	1.5	1.0	1.0	0.0	0.0	0.0	3.0	1.5	2.0
3	0.5	0.5	0.5	1.5	1.0	1.0	0.0	0.0	0.0	4.0	1.0	2.5
4	0.5	0.5	0.5	1.0	0.5	1.0	1.0	0.0	0.5	4.5	1.5	2.5
5	0.5	0.5	0.5	0.5	0.0	0.5	1.0	0.5	1.0	4.0	1.5	2.5
6	0.5	0.0	0.5	0.0	0.0	0.0	1.0	0.5	1.0	4.5	1.5	2.5
7	0.5	0.5	0.5	0.0	0.0	0.0	1.5	0.5	1.0	4.5	1.5	2.5
8	1.0	0.0	0.5	0.0	0.0	0.0	2.0	0.5	1.0	4.0	1.5	2.5
9	1.0	0.5	0.5	0.0	0.0	0.0	1.5	1.0	1.0	4.0	1.5	2.5
10	0.5	0.0	0.0	0.0	0.0	0.0	2.5	1.0	1.5	4.5	2.0	3.0
11	0.5	0.0	0.0	0.0	0.0	0.0	2.0	0.5	1.0	4.5	2.5	3.0
12	1.0	0.0	0.5	0.0	0.0	0.0	2.0	0.5	1.0	5.0	2.5	3.0
13	1.0	0.5	1.0	0.0	0.0	0.0	2.5	0.5	1.5	5.5	2.0	3.5
14	1.0	0.5	1.0	1.0	0.0	0.5	2.5	1.0	1.5	5.5	2.0	3.5
15	0.5	0.0	0.0	1.0	0.5	0.5	2.5	0.5	1.5	5.0	2.0	3.0
16	0.0	0.0	0.0	0.5	0.0	0.0	1.5	1.0	1.5	4.0	2.5	3.0
17	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0	1.5	5.0	2.5	3.5
18	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0	1.5	5.5	2.5	3.5
19	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	2.0	5.5	3.0	4.0
20	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	2.0	6.0	2.5	4.0
21	1.0	0.0	0.5	0.0	0.0	0.0	3.0	0.5	1.5	6.0	2.5	4.0
22	1.0	0.5	0.5	0.0	0.0	0.0	3.0	1.0	2.0	6.0	2.5	4.0
23	1.0	0.5	1.0	0.0	0.0	0.0	3.0	1.0	2.0	4.0	3.0	3.5
24	1.5	1.0	1.0	0.0	0.0	0.0	3.0	1.0	2.0	4.0	2.5	3.5
25	1.0	0.5	0.5	0.0	0.0	0.0	3.0	1.5	2.0	4.5	2.5	3.5
26	0.5	0.5	0.5	0.5	0.0	0.5	3.5	1.0	2.0	5.5	3.0	4.0
27	1.0	0.5	1.0	1.0	0.0	0.5	2.0	1.5	1.5	6.0	3.0	4.5
28	1.0	0.5	1.0	0.5	0.0	0.5	2.5	1.5	2.0	4.5	3.0	3.5
29	1.5	0.5	1.0	0.5	0.0	0.5	2.5	1.5	2.0	6.5	3.0	4.0
30	---	---	---	0.0	0.0	0.0	4.0	1.5	2.0	6.5	2.5	4.0
31	---	---	---	0.0	0.0	0.0	---	---	---	6.0	3.5	4.5
MONTH	1.5	0.0	0.4	1.5	0.0	0.2	4.0	0.0	1.4	6.5	1.0	3.3
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.0	2.5	4.5	9.5	6.5	8.0	10.5	7.0	9.0	9.0	7.5	8.5
2	6.5	3.5	4.5	9.5	6.0	7.5	11.0	7.0	9.5	9.5	8.0	8.5
3	7.0	3.5	4.5	10.0	6.5	8.0	11.5	7.0	9.5	9.0	7.0	8.0
4	7.5	3.0	5.0	10.0	7.0	8.0	11.0	8.0	9.5	7.0	4.5	5.5
5	6.0	4.0	5.0	9.0	6.0	7.5	11.5	7.5	9.5	6.5	3.5	5.0
6	6.5	4.0	5.0	11.0	6.0	8.5	10.5	6.5	9.0	7.0	5.0	6.0
7	7.5	3.5	5.0	12.5	6.5	9.5	11.5	7.5	9.5	6.5	4.0	5.0
8	6.0	4.0	5.0	11.5	7.0	9.5	12.0	8.0	10.0	6.0	3.5	5.0
9	6.5	3.5	4.5	11.5	7.0	9.0	11.0	8.0	9.5	6.5	3.5	5.0
10	6.0	3.5	5.0	11.5	6.5	9.0	11.5	7.5	10.0	7.5	5.5	6.5
11	6.5	3.5	5.0	11.5	6.5	9.0	11.5	8.0	10.0	6.5	4.0	5.0
12	6.5	3.5	5.0	12.5	7.5	10.0	11.0	8.0	9.5	6.5	3.5	5.0
13	8.0	4.0	5.5	12.0	7.0	9.5	11.0	7.5	9.5	5.5	4.0	5.0
14	8.0	4.0	5.5	11.0	7.0	9.0	11.0	7.5	9.5	4.0	2.0	3.0
15	6.5	4.5	5.5	12.0	7.5	9.5	11.0	8.0	9.5	4.0	1.5	2.5
16	6.0	4.5	5.0	11.5	7.0	9.5	11.5	8.0	10.0	3.5	1.5	2.5
17	7.5	4.5	5.5	10.5	8.0	9.5	12.5	9.0	10.5	2.5	0.5	1.5
18	8.5	4.5	6.0	10.5	8.0	9.0	12.0	9.0	10.5	3.5	0.5	2.0
19	9.5	4.0	6.5	10.5	8.0	9.0	11.5	9.5	10.5	4.0	3.0	3.5
20	9.5	4.0	6.5	10.5	7.5	9.0	11.0	9.0	10.0	6.0	4.0	5.0
21	10.0	4.5	7.0	9.5	7.5	8.5	10.5	7.5	9.0	5.5	4.0	4.5
22	10.0	4.5	7.0	9.5	7.5	8.5	11.0	7.5	9.0	6.5	4.5	5.0
23	10.5	5.0	7.5	11.0	7.5	9.0	11.5	8.0	9.5	6.0	3.5	5.0
24	10.5	4.5	7.0	11.0	6.5	8.5	11.5	8.5	10.0	3.5	1.0	2.0
25	11.0	5.0	8.0	10.0	7.0	8.5	10.5	7.5	9.0	4.0	2.5	3.0
26	11.5	6.0	8.5	10.0	8.0	9.0	9.5	8.5	9.0	5.5	4.0	4.5
27	10.5	6.0	8.0	9.0	7.5	8.0	9.0	8.5	9.0	4.5	2.5	3.0
28	8.0	6.0	7.0	9.5	7.0	8.0	9.5	7.0	8.0	4.0	2.0	3.0
29	9.0	6.0	7.5	9.5	6.0	8.0	8.5	5.5	7.0	5.0	3.5	4.0
30	11.0	6.5	8.5	9.5	7.0	8.0	9.0	6.5	8.0	6.5	4.5	5.5
31	---	---	---	9.5	6.5	8.0	9.0	6.5	8.0	---	---	---
MONTH	11.5	2.5	6.0	12.5	6.0	8.7	12.5	5.5	9.4	9.5	0.5	4.6

15266110 KENAI RIVER BELOW SKILAK LAKE OUTLET NEAR STERLING

LOCATION.--Lat 60°28'00", long 150°35'56", in SW¹/₄ NW¹/₄ sec. 1, T. 4 N., R. 8 W. (Kenai B-2 quad), Kenai Peninsula Borough, Hydrologic Unit 19020302, on right bank, 3.5 mi downstream from Skilak Lake, 7 mi southeast of Sterling.

DRAINAGE AREA.--1,206 mi².

PERIOD OF RECORD.--June 1997 to current year.

REVISED RECORDS.-- WRD-AK-00-1: Drainage area.

GAGE.--Water stage recorder. Elevation of gage is 240 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Rain gage recorder at station. GOES satellite telemetry and phone modem at station.

WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4030	4000	3320	1550	e1300	e1100	995	1890	8140	14300	15400	10400
2	4610	3860	3100	1510	e1300	e1100	1010	1990	8070	14100	14800	10300
3	6490	3730	2930	1540	1250	e1100	1000	2090	7880	14000	14500	10200
4	8990	3610	2800	1460	1120	e1100	e1000	2230	7660	14200	13900	10000
5	10900	3480	2650	1450	1100	e1100	1050	2400	7510	14000	13600	9720
6	12700	3400	2520	e1350	1110	e1100	e1080	2600	7470	13800	13300	9270
7	14800	3310	2400	e1350	1110	e1100	1090	2850	7500	13300	12800	8860
8	16600	3230	2330	e1350	1110	e1100	1120	3140	7590	13200	12500	8400
9	17700	3130	2400	e1350	1110	e1100	1160	3430	7740	13000	12300	7790
10	17800	3100	2460	e1350	e1100	e1100	1170	3760	8000	13100	12100	7270
11	17200	3040	2400	e1350	e1100	e1100	1170	4070	8000	13200	12000	6860
12	16200	3010	2270	e1300	e1100	e1100	1200	4310	8050	13100	11900	6450
13	15100	3030	2220	e1300	e1100	e1100	1210	4570	7960	13100	11800	6100
14	13900	3080	2180	e1300	e1100	e1100	1230	4840	8000	13300	11600	e6000
15	12700	3290	2130	e1300	e1100	e1100	1260	5140	8300	13500	11500	e5800
16	11600	3810	2040	e1300	e1100	e1100	1290	5420	8590	13400	11300	e5500
17	10600	4660	1980	e1200	e1100	e1100	1350	5550	8920	13400	11200	e5200
18	9700	5460	1940	e1200	e1100	1110	1400	5660	9540	13600	11300	5110
19	8880	5930	1880	e1200	e1100	1100	1400	5800	10600	13000	11400	4880
20	8130	6100	1830	e1200	e1100	1080	1420	5910	11900	13100	11600	4650
21	7430	6090	1780	e1300	e1100	1070	1450	6040	12700	13300	11600	4400
22	6810	5930	1790	e1300	e1100	1070	1480	6220	13600	13000	11600	4280
23	6280	5640	1750	e1300	e1100	1060	1500	6620	13800	13100	11700	4150
24	5840	5350	1740	e1300	e1100	1050	1530	7030	14100	13300	11700	3960
25	5500	4970	1730	e1300	e1100	1030	1550	7430	14300	13700	11800	3830
26	5220	4610	1760	e1300	e1100	1010	1590	7790	14400	13900	11800	3840
27	4940	4310	1610	e1300	e1100	1020	e1650	8020	14500	14400	11900	3790
28	4700	4010	1640	e1300	e1100	1010	e1700	8280	14800	15100	11800	3780
29	4490	3730	1650	e1300	e1100	1000	e1750	8330	14700	15800	11500	3860
30	4300	3540	1610	e1300	---	990	1820	8290	14600	16100	11100	3960
31	4170	---	1590	e1300	---	997	---	8210	---	15900	10700	---
TOTAL	298310	124440	66430	41210	32510	33297	39625	159910	308920	427300	378000	188610
MEAN	9623	4148	2143	1329	1121	1074	1321	5158	10300	13780	12190	6287
MAX	17800	6100	3320	1550	1300	1110	1820	8330	14800	16100	15400	10400
MIN	4030	3010	1590	1200	1100	990	995	1890	7470	13000	10700	3780
AC-FT	591700	246800	131800	81740	64480	66040	78600	317200	612700	847500	749800	374100
CFSM	7.98	3.44	1.78	1.10	0.93	0.89	1.10	4.28	8.54	11.4	10.1	5.21
IN.	9.20	3.84	2.05	1.27	1.00	1.03	1.22	4.93	9.53	13.18	11.66	5.82

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

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MEAN	6907	4751	2631	1846	1598	1180	1112	2860	8419	13140	11970	9285
MAX	9623	14170	7548	2960	2773	1867	1321	5158	10300	15400	13600	13860
(WY)	2004	2003	2003	2001	2003	2003	2004	2004	2004	2001	2001	2001
MIN	3937	2106	1387	1164	891	870	888	2210	6156	11960	10310	5659
(WY)	2001	2002	2002	1999	1998	1998	2002	2001	1997	1999	1998	2000

SUMMARY STATISTICS

	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1997 - 2004#
ANNUAL TOTAL	2004350	2098562	
ANNUAL MEAN	5491	5734	5495
HIGHEST ANNUAL MEAN			6742
LOWEST ANNUAL MEAN			4742
HIGHEST DAILY MEAN	17800	Oct 10	20300
LOWEST DAILY MEAN	a1090	Apr 19	776
ANNUAL SEVEN-DAY MINIMUM	1110	Apr 19	792
MAXIMUM PEAK FLOW		18400	21400
MAXIMUM PEAK STAGE		13.27	13.95
INSTANTANEOUS LOW FLOW		957	b765
ANNUAL RUNOFF (AC-FT)	3976000	4162000	3981000
ANNUAL RUNOFF (CFSM)	4.55	4.75	4.56
ANNUAL RUNOFF (INCHES)	61.83	64.73	61.91
10 PERCENT EXCEEDS	12700	13500	13000
50 PERCENT EXCEEDS	3290	3860	3190
90 PERCENT EXCEEDS	1450	1100	1080

See Period of Record, partial year used in monthly statistics

a Apr. 19 and 23

b Mar. 12 and 13, 1998 and Apr. 20, 2002

e Estimated

15266150 KENAI RIVER BELOW MOUTH OF KILLEY RIVER NEAR STERLING

LOCATION.--Lat 60°29'28", long 150°37'50", in NW¹/₄ SW¹/₄ SE¹/₄ sec. 26, T. 5 N., R. 8 W. (Kenai B-2 quad), Kenai Peninsula Borough, Hydrologic Unit 19020302, on right bank, 1.5 mi downstream from Killey River, 4.5 mi southeast of Sterling.

DRAINAGE AREA.--1,496 mi².

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water stage recorder. Elevation of gage is 230 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. GOES satellite telemetry and phone modem 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	5260	4660	3600	e1850	e1200	e1200	e1000	e2610	e9820	e15800	16600	10900
2	6150	4490	3340	e1850	e1200	e1200	e1000	e2870	e9800	e15600	16000	10900
3	8630	4260	3160	e1650	e1200	e1200	e1000	e3100	e9800	e15400	15600	10900
4	10900	4060	3060	e1650	e1200	e1200	e1050	e3320	e9700	e15000	15100	10500
5	12500	3950	2940	e1650	e1200	e1200	e1100	e3500	e9700	e14500	14700	e10000
6	14800	e3900	2790	e1650	e1200	e1200	e1200	e3650	e9600	e14200	14300	e9500
7	17200	e3850	2670	e1500	e1200	e1200	e1200	e3960	e9700	e14000	13900	e8900
8	18700	3840	2560	e1500	e1200	e1200	e1200	e4370	e9800	14000	13600	e8600
9	20000	3540	2650	e1500	e1200	e1200	e1220	e4680	e9900	14400	13400	8530
10	21100	3460	2810	e1500	e1200	e1200	e1250	e4900	e10000	14400	13300	8150
11	20300	3350	2610	e1400	e1200	e1200	e1260	e5150	e10000	14400	13200	7830
12	19100	3340	2540	e1400	e1200	e1200	e1230	e5420	e10000	14400	13100	e7400
13	17800	3360	2470	e1400	e1200	e1200	e1240	e5700	e10000	14500	12900	6900
14	16300	3340	2390	e1350	e1200	e1200	e1360	e6010	e10000	14500	12700	6600
15	15000	3500	2330	e1350	e1200	e1200	e1520	e6300	e11000	14400	12400	6240
16	13700	4040	2240	e1350	e1200	e1200	e1510	e6520	e11200	14400	12200	5880
17	12500	4990	2210	e1300	e1200	e1150	e1700	e6640	e11400	14400	12300	5530
18	11400	5950	2150	e1300	e1200	e1150	e1790	e6790	e11500	14400	12500	5190
19	10500	6540	2110	e1300	e1200	e1150	e1820	e6980	e12000	14300	12600	4960
20	9610	6740	2070	e1300	e1200	e1100	e1730	e6880	e12500	14200	12800	4660
21	8840	6760	2010	e1300	e1200	e1100	e1600	e7050	e13000	14200	12700	4450
22	8180	6650	2030	e1300	e1200	e1100	e1630	e7380	e13500	14200	12700	4380
23	7560	6370	2000	e1250	e1200	e1100	e1710	e7990	e14000	14500	12800	4360
24	7020	6040	2010	e1250	e1200	e1100	e1760	e9560	e14500	14500	13000	4150
25	6700	5710	e2000	e1250	e1200	e1050	e1860	e10200	e15000	14700	12900	4030
26	6360	5240	e2000	e1250	e1200	e1050	e2000	e10300	e15500	15100	12800	4260
27	6020	4790	e1900	e1250	e1200	e1050	e2170	e10200	e16000	16100	12800	4500
28	5670	4500	e1900	e1250	e1200	e1050	e2240	e10400	e16500	16700	12600	4260
29	5360	4100	e1900	e1250	e1200	e1050	e2430	e10200	e16500	17100	12200	4400
30	5120	3850	1860	e1200	---	e1050	e2530	e10100	e16000	17300	11700	4630
31	4880	---	1840	e1200	---	e1000	---	e9780	---	17100	11300	---
TOTAL	353160	139170	74150	43500	34800	35450	46310	202510	357920	462700	410700	201490
MEAN	11390	4639	2392	1403	1200	1144	1544	6533	11930	14930	13250	6716
MAX	21100	6760	3600	1850	1200	1200	2530	10400	16500	17300	16600	10900
MIN	4880	3340	1840	1200	1200	1000	1000	2610	9600	14000	11300	4030
AC-FT	700500	276000	147100	86280	69030	70320	91860	401700	709900	917800	814600	399700
CFSM	7.62	3.10	1.60	0.94	0.80	0.76	1.03	4.37	7.98	9.98	8.86	4.49
IN.	8.78	3.46	1.84	1.08	0.87	0.88	1.15	5.04	8.90	11.51	10.21	5.01

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

	7619	5351	2932	1959	1683	1256	1283	3399	9716	14620	12990	9766
MEAN	7619	5351	2932	1959	1683	1256	1283	3399	9716	14620	12990	9766
MAX	11390	17110	8687	3140	3034	1914	1544	6533	11930	18240	15930	14240
(WY)	2004	2003	2003	2001	2003	2003	2004	2004	2004	2001	2001	2001
MIN	4291	2139	1633	1126	989	926	1010	2456	7701	12580	11020	6196
(WY)	2001	2002	2002	1999	1998	1999	1999	1999	1997	1999	1998	2000

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1997 - 2004#

ANNUAL TOTAL	2290910	2361860	
ANNUAL MEAN	6276	6453	6067
HIGHEST ANNUAL MEAN			7798
LOWEST ANNUAL MEAN			5010
HIGHEST DAILY MEAN	21100	Oct 10	a24600
LOWEST DAILY MEAN	1140	Apr 14	c800
ANNUAL SEVEN-DAY MINIMUM	1170	Apr 10	836
MAXIMUM PEAK FLOW			22300
MAXIMUM PEAK STAGE		12.65	Oct 9
ANNUAL RUNOFF (AC-FT)	4544000	4685000	4395000
ANNUAL RUNOFF (CFSM)	4.20	4.31	4.06
ANNUAL RUNOFF (INCHES)	56.97	58.73	55.10
10 PERCENT EXCEEDS	14800	14500	14200
50 PERCENT EXCEEDS	3750	4420	3510
90 PERCENT EXCEEDS	1580	1200	1170

See Period of Record, partial year used in monthly statistics

- a Oct. 30 and Nov. 7
- b Mar. 31 to Apr. 3
- c Apr. 19, 1997 and Apr. 6-7, 1999
- e Estimated

SOUTH-CENTRAL ALASKA

15266300 KENAI RIVER AT SOLDOTNA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004#	
ANNUAL TOTAL	2405210		2570500			
ANNUAL MEAN	6590		7023		6010	
HIGHEST ANNUAL MEAN					8810 1977	
LOWEST ANNUAL MEAN					4002 1973	
HIGHEST DAILY MEAN	20000	Oct 10	20000	Oct 10	41400	Sep 24 1995
LOWEST DAILY MEAN	1500	Apr 14	1100	Mar 30	a770	Apr 1 1966
ANNUAL SEVEN-DAY MINIMUM	1520	Apr 9	1140	Mar 24	774	Apr 1 1966
MAXIMUM PEAK FLOW			b20100	Oct 9	42200	Sep 24 1995
MAXIMUM PEAK STAGE			b10.81	Oct 9	14.50	Sep 24 1995
MAXIMUM PEAK STAGE					c22.62	Jan 18 1969
INSTANTANEOUS LOW FLOW					770	Apr 1 1966
ANNUAL RUNOFF (AC-FT)	4771000		5099000		4354000	
ANNUAL RUNOFF (CFSM)	3.38		3.60		3.08	
ANNUAL RUNOFF (INCHES)	45.86		49.01		41.85	
10 PERCENT EXCEEDS	14700		15500		14300	
50 PERCENT EXCEEDS	4260		5290		3300	
90 PERCENT EXCEEDS	2010		1350		1200	

See Period of Record; partial years used in monthly statistics

a Apr. 1 to Apr. 4, 1966

b Oct. 9 and 10

c Backwater from ice

15271000 SIXMILE CREEK NEAR HOPE

LOCATION.--Lat 60°49'15", long 149°25'31", in SW¹/₄ SE¹/₄ sec. 34, T. 8 N., R. 1 W. (Seward D-7 quad), Kenai Peninsula Borough, Hydrologic Unit 19020302, Chugach National Forest, on left bank, 6.0 mi upstream from mouth at Turnagain Arm, and 10.6 mi southeast of Hope.

DRAINAGE AREA.-- 234 mi²

PERIOD OF RECORD.--June 1979 to September 1990, August 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above sea level, from topographic map. Prior to November 26, 1979, recording gage at site 0.8 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Rain gage at station. GOES satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*)

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 03	1345	4360	11.76	May 24	0015	4070	11.64
Oct. 06	1515	*5480	*12.17	Jun. 08	0400	3510	11.39

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	763	e500	e280	e220	e190	185	e150	1060	2160	1780	678	430
2	920	e480	e280	e200	e190	185	e155	1460	2170	1630	704	476
3	2880	e480	e260	e200	e190	182	164	1470	2210	1480	713	457
4	2000	e460	e260	e200	e190	182	160	1490	2270	1490	698	375
5	2150	e440	e280	e200	e190	178	158	1780	2440	1390	649	342
6	4460	e420	e300	e200	e190	e170	196	2140	2600	1260	631	323
7	4080	e440	e280	e200	187	e170	245	2420	2990	1450	643	314
8	2520	e460	e260	e240	187	e170	258	2520	3150	1490	666	303
9	1930	e420	e260	e220	180	e165	264	2240	2720	1410	666	295
10	1520	e400	e240	e200	201	e165	270	1990	2400	1320	632	285
11	1290	e380	e240	e200	209	e165	268	2000	2130	1250	638	279
12	1130	e400	e240	e200	189	e165	266	2150	2030	1220	620	277
13	1000	e400	e240	e200	207	e165	269	2380	2020	1190	587	269
14	922	355	e220	e200	227	e160	274	2450	2100	1100	571	252
15	924	310	e220	e200	197	e160	295	2420	2270	1050	579	242
16	842	341	e220	e200	e190	e160	324	2330	2530	1010	580	234
17	783	e320	e220	e200	e190	e155	341	2260	3120	1020	629	226
18	741	e320	e220	e200	e180	e155	359	2210	2960	996	637	221
19	745	e340	e220	e200	e190	e155	367	2330	2860	995	624	227
20	696	e320	e220	e220	e200	e155	368	2560	2790	939	630	246
21	657	e320	e220	e240	216	e155	380	2750	2680	863	570	281
22	643	e320	e240	e220	217	e160	432	2820	2570	1110	571	268
23	e600	e340	e220	e220	206	e165	463	3250	2480	1020	564	279
24	e600	e320	e220	e200	210	e160	455	3600	2430	843	533	250
25	e650	e320	e220	e200	205	160	525	3430	2350	773	500	251
26	e650	e300	e220	e200	195	157	607	2870	2380	917	506	1000
27	e600	e300	e220	e190	193	156	621	2720	2330	983	602	605
28	e550	e300	e240	e190	188	154	601	2650	2180	893	536	451
29	e550	e280	e220	e190	185	154	634	2370	2050	790	455	491
30	e500	e280	e220	e190	---	152	679	2290	1870	726	435	918
31	e500	---	e220	e190	---	e150	---	2240	---	685	423	---
TOTAL	38796	11066	7420	6330	5689	5070	10548	72650	73240	35073	18470	10867
MEAN	1251	369	239	204	196	164	352	2344	2441	1131	596	362
MAX	4460	500	300	240	227	185	679	3600	3150	1780	713	1000
MIN	500	280	220	190	180	150	150	1060	1870	685	423	221
AC-FT	76950	21950	14720	12560	11280	10060	20920	144100	145300	69570	36640	21550
CFSM	5.35	1.58	1.02	0.87	0.84	0.70	1.50	10.0	10.4	4.83	2.55	1.55
IN.	6.17	1.76	1.18	1.01	0.90	0.81	1.68	11.55	11.64	5.58	2.94	1.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2004, BY WATER YEAR (WY)#

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	933	485	299	240	192	158	258	1329	2696	2168	1248	964														
MAX	1777	1735	687	528	433	240	397	2344	3957	3986	2699	1556														
(WY)	1981	2003	2003	1981	2003	1984	1990	2004	2001	1980	1981	1999														
MIN	500	221	198	133	113	106	119	748	1736	1131	596	362														
(WY)	1998	1986	1999	1999	1999	1999	1985	1985	1989	2004	2004	2004														

See Period of Record; partial years used in monthly statistics
e Estimated

15271000 SIXMILE CREEK NEAR HOPE—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1979 - 2004#	
ANNUAL TOTAL	306329		295219			
ANNUAL MEAN	839		807		923	
HIGHEST ANNUAL MEAN					1335	1980
LOWEST ANNUAL MEAN					675	1986
HIGHEST DAILY MEAN	4460	Oct 6	4460	Oct 6	7570	Jul 12 1980
LOWEST DAILY MEAN	170	Apr 7	a150	Mar 31	b80	Apr 1 1986
ANNUAL SEVEN-DAY MINIMUM	172	Apr 3	153	Mar 27	80	Apr 1 1986
MAXIMUM PEAK FLOW			5480	Oct 6	10800	Oct 24 2002
MAXIMUM PEAK STAGE			12.17	Oct 6	13.56	Oct 24 2002
INSTANTANEOUS LOW FLOW					c29	Nov 26 1979
ANNUAL RUNOFF (AC-FT)	607600		585600		668400	
ANNUAL RUNOFF (CFSM)	3.59		3.45		3.94	
ANNUAL RUNOFF (INCHES)	48.70		46.93		53.57	
10 PERCENT EXCEEDS	2220		2340		2420	
50 PERCENT EXCEEDS	480		390		524	
90 PERCENT EXCEEDS	218		184		146	

See Period of Record; partial years used in monthly statistics

a Mar. 31 to Apr. 1

b Apr. 1 to Apr. 9, 1986

c Sometime between Nov. 26, 1979 and Jan. 9, 1980, during release from storage behind snow-avalanche dam upstream from former gage site, site and datum then in use

15272280 PORTAGE CREEK AT PORTAGE LAKE OUTLET NEAR WHITTIER

LOCATION.--Lat 60°47'07", long 148°50'20", in SW¹/₄ NE¹/₄ sec. 13, T. 8 N., R. 3 E. (Seward D-5 SW quad), Municipality of Anchorage, Hydrologic Unit 19020302, on left bank at lake outlet, 5.0 mi west of Whittier, 5.8 mi southeast of Portage, and 6.5 mi upstream from mouth.

DRAINAGE AREA.--40.5 mi².

PERIOD OF RECORD.--March 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 95 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s, August 19, 1984 (elevation about 97.05 ft above sea level from USFS levels) by contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 4,600 ft³/s and maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage Height	Date	Time	Discharge (ft ³ /s)	Gage Height
Oct 3	u	*9370	*a9.40	Jul 22	2345	6730	8.37
Oct 7	u	be8500	u	Jul 27	0830	6190	8.13
Jun 17	0800	4760	7.44				

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	e4500	223	51	144	63	101	39	409	816	1650	1470	1140
2	e6500	202	49	123	58	101	45	488	861	1590	1620	1540
3	e9000	188	65	107	56	122	80	487	1110	1490	1680	1680
4	e6000	174	109	94	56	113	86	450	1120	1760	1620	1270
5	e5000	161	100	83	60	101	133	466	1050	1740	1440	931
6	e7500	167	88	72	70	91	284	505	1040	1510	1330	764
7	e8500	203	80	60	74	84	777	550	1210	1810	1370	681
8	3710	229	83	54	80	77	960	561	1340	2070	1480	604
9	1970	227	148	67	78	75	937	524	1290	2100	1490	553
10	1430	197	320	84	120	93	696	480	1190	1950	1490	543
11	1080	178	363	80	192	90	457	466	1310	1840	1560	519
12	781	165	394	71	169	96	322	500	1340	1830	1650	525
13	595	149	363	65	164	86	242	538	1160	1870	1550	535
14	587	130	298	61	220	86	199	557	1080	1750	1390	473
15	859	114	261	57	201	83	176	587	1260	1620	1420	390
16	662	102	221	50	166	71	163	716	2600	1580	1510	327
17	486	91	193	42	138	61	159	975	4390	1690	1690	282
18	383	84	158	35	116	57	169	965	3090	2630	1720	248
19	489	79	147	32	108	56	179	873	2360	3680	1730	264
20	490	77	136	43	135	52	165	826	2140	2550	1860	535
21	414	83	134	110	221	48	152	844	2190	2190	1600	706
22	353	79	173	203	353	45	194	869	2070	4310	1540	686
23	342	76	162	187	309	41	231	1020	1890	5230	1570	685
24	636	70	145	157	285	39	253	1380	1890	2750	1460	549
25	804	64	123	131	249	37	285	1740	1910	1870	1320	467
26	890	59	105	118	197	38	296	1430	1960	2930	1340	1740
27	872	58	93	103	161	39	313	1160	2010	5740	1730	1440
28	635	56	86	86	137	39	386	1140	1970	3880	1870	806
29	433	55	147	74	115	38	431	1170	1900	2520	1310	560
30	325	55	200	65	---	39	383	1010	1750	1880	1130	596
31	262	---	171	63	---	41	---	898	---	1570	1130	---
TOTAL	66488	3795	5166	2721	4351	2140	9192	24584	51297	73580	47070	22039
MEAN	2145	126	167	87.8	150	69.0	306	793	1710	2374	1518	735
MAX	9000	229	394	203	353	122	960	1740	4390	5740	1870	1740
MIN	262	55	49	32	56	37	39	409	816	1490	1130	248
AC-FT	131900	7530	10250	5400	8630	4240	18230	48760	101700	145900	93360	43710
CFSM	53.0	3.12	4.11	2.17	3.70	1.70	7.57	19.6	42.2	58.6	37.5	18.1
IN.	61.07	3.49	4.75	2.50	4.00	1.97	8.44	22.58	47.12	67.58	43.23	20.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)#

	736	303	163	146	136	82.8	229	604	1472	2102	2024	1719
MEAN	736	303	163	146	136	82.8	229	604	1472	2102	2024	1719
MAX	2145	1456	482	460	407	189	393	1158	1728	2518	3164	3583
(WY)	2004	2003	2003	2001	2003	1998	1995	1995	1990	1990	1989	1995
MIN	136	90.5	26.3	26.0	26.0	26.0	36.7	286	1178	1714	1409	649
(WY)	1997	1991	1991	1991	1991	1991	2002	2001	2001	1999	1998	1992

See Period of Record: partial years used in monthly statistics
a From floodmark
b Mean daily discharge
e Estimated

15272280 PORTAGE CREEK AT PORTAGE LAKE OUTLET NEAR WHITTIER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004#	
ANNUAL TOTAL	329193		312423			
ANNUAL MEAN	902		854		803	
HIGHEST ANNUAL MEAN					1010	
LOWEST ANNUAL MEAN					656	
HIGHEST DAILY MEAN	e9000	Oct 3	e9000	Oct 3	10700	Sep 20 1995
LOWEST DAILY MEAN	33	Apr 7	32	Jan 19	b26	Dec 5 1990
ANNUAL SEVEN-DAY MINIMUM	35	Apr 2	38	Mar 24	26	Dec 5 1990
MAXIMUM PEAK FLOW			9370	Oct 3	13000	Sep 20 1995
MAXIMUM PEAK STAGE			c9.40	Oct 3	10.66	Sep 20 1995
INSTANTANEOUS LOW FLOW			27	Jan 19	26	Dec 5 1990
ANNUAL RUNOFF (AC-FT)	653000		619700		581500	
ANNUAL RUNOFF (CFSM)	22.3		21.1		19.8	
ANNUAL RUNOFF (INCHES)	302.37		286.97		269.26	
10 PERCENT EXCEEDS	2170		1890		1990	
50 PERCENT EXCEEDS	328		384		323	
90 PERCENT EXCEEDS	65		61		55	

See Period of Record: partial years used in monthly statistics
b From Dec. 5, 1990 to Mar. 31, 1991
c From floodmark
e Estimated

15272380 TWENTYMILE RIVER BELOW GLACIER RIVER NEAR PORTAGE

LOCATION.--Lat 60°53'53", long 148°55'19", in NE¹/₄ NW¹/₄ SE¹/₄ sec. 4, T. 9 N., R. 3 E. (Seward D-6 quad), Hydrologic Unit 19020401, on right bank, 0.1 miles downstream from Glacier River, 4.0 miles upstream from mouth at Seward Highway, and 6.0 miles northeast of Portage.

DRAINAGE AREA.--141 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 2001 to current year.

REVISED RECORDS.--WDR AK-02-1: 2001.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Rain gage at station.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	7920	276	e55	e200	e75	199	e40	e1700	2160	3340	3030	2480
2	7660	253	e50	e180	e70	219	e60	e1700	2150	3210	3130	2880
3	12900	226	e100	e160	e65	260	e100	e1800	2230	3040	3260	2880
4	8640	206	e120	e140	e75	248	211	e1700	2210	3280	3180	2290
5	5420	186	e110	e130	e85	189	248	e1650	2260	3290	2950	1760
6	10300	188	e90	e120	e100	174	391	e1600	2390	2880	2910	1410
7	9500	189	e90	e110	e110	139	718	e1550	2930	3570	3040	1300
8	5670	204	e170	e100	e130	135	1060	e1500	3080	3990	3160	1280
9	3170	205	e400	e120	e170	e200	1220	1560	2830	4060	3210	1130
10	2270	193	e500	e160	e200	e175	1180	1490	2510	3970	3120	1070
11	1620	199	e450	e190	e290	e130	924	1490	2370	3940	3310	994
12	1100	186	e380	e180	e420	e120	739	1410	2350	4010	3400	951
13	816	170	e320	e160	e370	e110	564	1450	2410	3990	3240	891
14	677	139	254	e150	352	e100	416	1510	2450	3700	2970	798
15	746	e130	217	e130	324	e95	333	1540	2490	3570	3010	696
16	658	e120	202	e110	308	e90	282	1590	3920	3410	3100	557
17	525	e110	174	e100	345	e80	289	1590	7250	3510	3490	498
18	430	e100	169	e70	295	e70	e290	1650	6240	4440	3600	426
19	548	e90	e140	e48	204	e60	e320	1830	5200	5400	3530	376
20	624	e85	e130	e110	230	e55	e340	1940	4750	4380	3730	490
21	545	e95	e150	e250	486	e55	e380	2120	4490	3920	3250	880
22	456	e95	e190	e320	613	e50	e410	2190	4380	6030	3200	900
23	399	e85	e180	e280	525	e45	e450	2330	4170	7890	3310	951
24	798	e80	e160	e250	522	e42	e500	2770	4160	4880	3040	825
25	1070	e75	e140	e220	411	e40	e550	3040	4140	3530	2800	675
26	1190	e70	e120	e180	299	e38	e650	2670	4190	4620	2900	2760
27	1060	e65	e110	e160	223	e36	e750	2470	4280	9490	3960	2300
28	757	e60	e150	e130	210	e36	e950	2370	4060	7440	4280	1410
29	526	e55	e230	e110	209	e36	e1300	2290	3690	5010	2950	1110
30	402	e55	e260	e90	---	e36	e1600	2160	3520	3800	2600	1680
31	325	---	e240	e80	---	e38	---	2110	---	3230	2470	---
TOTAL	88722	4190	6051	4738	7716	3300	17265	58770	105260	134820	99130	38648
MEAN	2862	140	195	153	266	106	576	1896	3509	4349	3198	1288
MAX	12900	276	500	320	613	260	1600	3040	7250	9490	4280	2880
MIN	325	55	50	48	65	36	40	1410	2150	2880	2470	376
MED	816	125	169	140	230	90	433	1700	3300	3940	3160	1030
AC-FT	176000	8310	12000	9400	15300	6550	34250	116600	208800	267400	196600	76660
CFSM	20.3	0.99	1.38	1.08	1.89	0.75	4.08	13.4	24.9	30.8	22.7	9.14
IN.	23.41	1.11	1.60	1.25	2.04	0.87	4.56	15.51	27.77	35.57	26.15	10.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2004, BY WATER YEAR (WY)#

MEAN	2327	1026	621	441	440	137	346	1313	2976	3535	3580	1921
MAX	2883	2496	906	735	932	229	576	1896	3509	4349	4603	2613
(WY)	2003	2003	2003	2002	2003	2003	2004	2004	2004	2004	2003	2001
MIN	1235	140	195	153	127	77.1	121	796	2513	2796	2700	1288
(WY)	2002	2004	2004	2004	2002	2002	2002	2001	2002	2002	2002	2004

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 2001 - 2004#

ANNUAL TOTAL	592759	568610		
ANNUAL MEAN	1624	1554	1565	
HIGHEST ANNUAL MEAN			1880	2003
LOWEST ANNUAL MEAN			1263	2002
HIGHEST DAILY MEAN	12900	Oct 3	12900	Oct 3 2003
LOWEST DAILY MEAN	50	Dec 2	a36	Mar 27 2004
ANNUAL SEVEN-DAY MINIMUM	59	Nov 26	37	Mar 25 2004
MAXIMUM PEAK FLOW			14400	Oct 3 2003
MAXIMUM PEAK STAGE			25.88	Oct 3 2003
ANNUAL RUNOFF (AC-FT)	1176000	1128000	1134000	
ANNUAL RUNOFF (CFSM)	11.5	11.0	11.1	
ANNUAL RUNOFF (INCHES)	156.39	150.02	150.85	
10 PERCENT EXCEEDS	3980	3960	3700	
50 PERCENT EXCEEDS	724	560	878	
90 PERCENT EXCEEDS	150	88	100	

See Period of Record, partial years used in monthly statistics

a Mar. 27-30

e Estimated

15272380 TWENTYMILE RIVER BELOW GRANITE RIVER NEAR PORTAGE—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 2002 to current year.

INSTRUMENTATION.--Electronic water-temperature recorder set for 15 minute recording interval.

REMARKS.--Records represent water temperature at the sensor within 0.5°C. Probe malfunction caused missing record July 18, 22-23, and 25-30, and September 13-24. Temperature at the sensor was compared with the average for the stream by cross section on July 30. No variation more than 0.1°C was found within the cross section. No variation more than 0.3°C was found between mean stream temperature and sensor temperature. Heavy shore ice occurs near the gage.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 10.0°C, July 16, 2004; Minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 10.0°C, July 16; Minimum, 0.0°C on many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Stream width, feet (00004)	Sample location, cross section ft from rt bank (72103)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Sampler type, code (84164)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)
JUL									
30...	1332	208	20.0	19.71	3410	10	8010	7.0	9.6
30...	1334	208	60.0	19.71	3410	10	8010	7.0	9.6
30...	1336	208	100.0	19.71	3410	10	8010	7.1	9.6
30...	1338	208	140.0	19.71	3410	10	8010	7.1	9.6
30...	1340	208	180.0	19.71	3410	10	8010	7.0	9.6

WATER TEMPERATURE, (DEGREES CELSIUS) WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.0	4.5	5.0	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	6.0	5.0	5.0	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	6.5	5.0	6.0	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	5.5	4.5	5.0	3.5	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	5.0	4.5	5.0	3.5	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6	6.0	5.0	5.5	4.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7	5.5	4.5	5.0	4.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
8	5.5	4.0	5.0	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	5.5	4.5	5.0	3.0	2.5	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	5.5	4.0	4.5	2.5	2.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11	5.0	4.0	4.5	2.5	1.5	2.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	
12	4.5	3.5	4.0	2.5	1.5	2.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	
13	4.5	3.5	4.0	1.5	1.0	1.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	
14	4.5	4.0	4.5	1.0	0.5	1.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	
15	5.0	3.5	4.5	0.5	0.0	0.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	
16	4.0	2.5	3.0	0.0	0.0	0.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	
17	3.5	2.0	3.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	4.0	3.0	3.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	
19	4.5	3.5	4.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22	4.5	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
23	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
24	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
25	4.5	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26	4.5	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
27	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
28	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29	2.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
30	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
31	3.0	2.0	2.5	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTH	6.5	2.0	4.1	4.0	0.0	1.3	1.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	

15272380 TWENTYMILE RIVER BELOW GRANITE RIVER NEAR PORTAGE—Continued

WATER TEMPERATURE, (DEGREES CELSIUS) WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	0.0	0.0	0.0	1.5	0.5	1.0	0.5	0.0	0.0	3.5	2.0	2.5
2	0.0	0.0	0.0	1.0	0.5	1.0	0.0	0.0	0.0	4.5	1.5	2.5
3	0.0	0.0	0.0	2.0	0.5	1.0	1.0	0.0	0.5	6.0	1.0	3.5
4	0.0	0.0	0.0	1.0	0.0	0.5	1.0	0.5	0.5	6.5	1.5	3.5
5	0.0	0.0	0.0	2.0	0.0	0.5	1.5	0.5	1.0	6.0	1.5	3.5
6	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.5	1.0	6.0	1.5	3.5
7	0.0	0.0	0.0	0.5	0.0	0.0	1.0	0.5	0.5	6.5	1.5	3.5
8	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.5	0.5	6.5	2.0	3.5
9	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.5	1.0	6.5	2.0	4.0
10	0.0	0.0	0.0	0.5	0.0	0.0	3.5	0.5	1.5	6.0	2.5	4.0
11	0.0	0.0	0.0	1.5	0.0	0.5	3.5	0.0	1.5	6.0	3.0	4.0
12	0.0	0.0	0.0	1.0	0.0	0.5	4.0	0.0	1.5	6.5	3.0	4.5
13	0.5	0.0	0.5	2.0	0.5	1.0	4.0	0.5	2.0	7.5	2.5	4.5
14	0.5	0.0	0.5	1.5	0.0	0.5	5.0	1.0	2.5	7.0	2.5	4.5
15	0.5	0.0	0.0	2.5	0.5	1.0	5.0	0.5	2.5	6.0	3.5	4.5
16	0.0	0.0	0.0	1.5	0.0	0.5	3.0	1.5	2.0	5.0	3.5	4.0
17	0.0	0.0	0.0	1.0	0.0	0.5	4.5	1.0	2.5	5.0	3.5	4.0
18	0.0	0.0	0.0	0.5	0.0	0.0	4.0	1.5	2.5	7.0	3.0	5.0
19	0.5	0.0	0.5	0.5	0.0	0.0	4.5	1.0	2.5	8.0	3.5	5.5
20	0.5	0.5	0.5	0.0	0.0	0.0	5.5	1.0	3.0	8.0	3.0	5.5
21	0.5	0.5	0.5	0.0	0.0	0.0	4.5	0.5	2.5	8.0	3.0	5.0
22	0.5	0.5	0.5	0.5	0.0	0.0	3.5	1.5	2.5	7.5	3.5	5.5
23	0.5	0.5	0.5	1.0	0.0	0.5	4.5	1.0	2.5	5.0	4.0	4.5
24	0.5	0.5	0.5	1.5	0.0	0.5	4.0	1.5	2.5	6.0	4.0	4.5
25	0.5	0.0	0.5	2.0	0.0	1.0	4.0	1.5	2.5	6.5	4.0	5.0
26	0.5	0.0	0.0	1.5	0.0	1.0	5.5	0.5	3.0	6.5	4.0	5.0
27	1.0	0.5	0.5	1.5	0.0	0.5	3.0	2.0	2.0	5.0	4.0	4.5
28	1.0	0.5	0.5	1.5	0.0	0.5	3.0	1.5	2.5	4.5	4.0	4.5
29	1.0	0.0	0.5	2.5	0.0	1.0	5.0	2.0	3.0	7.5	4.0	5.0
30	---	---	---	1.5	0.0	0.0	6.0	1.5	3.5	8.5	3.5	6.0
31	---	---	---	0.0	0.0	0.0	---	---	---	6.5	4.5	5.0
MONTH	1.0	0.0	0.2	2.5	0.0	0.4	6.0	0.0	1.9	8.5	1.0	4.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.5	3.5	5.5	7.5	4.5	6.0	7.5	5.0	6.5	6.5	5.5	6.0
2	6.0	4.5	5.0	7.0	5.0	6.0	9.0	5.0	6.5	6.0	5.0	5.5
3	8.0	4.0	5.5	7.0	5.0	6.0	8.5	5.0	6.5	6.5	5.0	5.5
4	8.5	4.0	6.0	7.5	5.0	6.0	8.5	5.5	7.0	7.5	4.0	5.5
5	6.5	4.5	5.5	6.0	5.0	5.5	8.5	5.5	6.5	7.5	4.0	5.5
6	7.5	4.5	5.5	8.5	4.5	6.5	9.0	5.0	6.5	8.0	4.5	6.0
7	8.5	4.0	6.0	9.0	5.0	7.0	9.0	5.0	6.5	8.0	4.0	5.5
8	6.0	4.5	5.5	8.5	5.0	6.5	9.0	5.5	7.0	7.5	4.0	5.5
9	7.0	4.5	5.5	9.0	5.0	6.5	7.5	5.0	6.5	8.0	4.0	5.5
10	6.5	4.0	5.5	9.0	5.0	7.0	8.5	5.0	6.5	7.0	4.5	5.5
11	6.5	4.5	5.5	9.0	5.0	7.0	9.0	5.5	7.0	7.5	4.0	5.5
12	8.0	4.0	6.0	9.5	5.0	7.0	8.5	5.5	6.5	8.0	4.5	5.5
13	8.5	4.5	6.0	9.0	5.5	7.0	8.5	5.0	6.5	7.0	4.5	5.5
14	8.0	4.5	6.5	9.0	5.5	7.0	8.5	5.0	6.5	---	---	---
15	6.0	5.0	5.5	9.0	6.0	7.0	7.5	5.0	6.0	---	---	---
16	6.0	4.5	5.0	10.0	5.5	7.0	8.5	5.0	6.5	---	---	---
17	6.0	3.5	5.0	7.5	4.5	6.5	8.0	5.0	6.5	---	---	---
18	8.0	4.5	6.0	---	5.5	---	8.0	5.0	6.5	---	---	---
19	8.0	4.0	6.0	8.0	5.5	6.5	7.0	5.5	6.0	---	---	---
20	8.5	4.5	6.5	7.5	5.5	7.0	7.5	5.5	6.0	---	---	---
21	8.5	4.5	6.0	8.0	5.5	6.0	8.0	5.0	6.0	---	---	---
22	8.5	4.5	6.5	---	---	---	8.0	5.0	6.5	---	---	---
23	9.0	4.5	6.5	---	4.5	6.0	8.5	5.0	6.5	---	---	---
24	9.0	5.0	6.5	9.0	5.5	7.0	8.0	5.0	6.0	5.5	---	---
25	9.0	5.0	6.5	---	---	---	8.0	5.0	6.0	4.5	4.0	4.0
26	9.0	5.0	7.0	5.5	---	---	6.5	5.5	6.0	6.0	4.5	5.0
27	8.5	5.5	7.0	---	---	---	6.0	5.0	5.5	5.0	4.0	4.5
28	7.0	5.0	6.0	---	---	---	6.0	5.0	5.5	4.0	3.5	4.0
29	6.5	5.0	5.5	---	---	---	7.5	4.5	6.0	4.5	4.0	4.0
30	6.5	5.0	5.5	8.0	---	---	8.0	4.5	6.0	5.0	4.0	4.5
31	---	---	---	9.0	5.0	7.0	8.0	5.0	6.0	---	---	---
MONTH	9.0	3.5	---	---	---	---	9.0	4.5	6.3	---	---	---

15276000 SHIP CREEK NEAR ANCHORAGE

LOCATION.--Lat 61°13'32", long 149°38'06", in SW¹/₄ SE¹/₄ sec. 9, T. 13 N., R. 2 W. (Anchorage A-8 quad), Municipality of Anchorage, Hydrologic Unit 19020401, in Fort Richardson Military Reservation, on left bank, 800 ft downstream from diversion dam, 3.3 mi upstream from North Fork Ship Creek, and 7.8 mi east of intersection of Seward and Glenn Highways in Anchorage.

DRAINAGE AREA.--89.5 mi², revised. (area at site used prior to October 1, 2003, 90.5 mi², revised).

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1936: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 490 ft above sea level, from topographic map. Prior to August 22, 1985, water-stage recorder at dam 800 ft upstream. See WSP 1936 for history of changes prior to October 1, 1954.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Discharge data represent the net flow remaining after diversion for water supply to Fort Richardson, Elmendorf Air Force Base, and Municipality of Anchorage. Average diversion for water year 2004 was 5.86 ft³/s. Diversion began in 1944. Magnitude of discharges downstream of dam may be affected by periodic spillway adjustment.

COOPERATION.--Gage inspected and records of diversion provided by Office of Post Engineers, Fort Richardson.

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	109	e100	e85	e60	e46	e36	e28	e180	389	236	90	80
2	112	e100	e80	e55	e44	e36	e32	e190	372	223	84	80
3	288	e100	e75	e60	e44	e36	e33	e250	358	211	81	78
4	394	e95	e85	e60	e44	e36	e34	e300	369	201	74	75
5	e300	e100	e90	e60	e44	e34	e36	344	389	192	77	71
6	e300	e100	e80	e60	e44	e32	e38	393	405	181	75	68
7	e280	e105	e80	e60	e43	e32	e40	390	455	173	73	66
8	e260	e110	e85	e55	e42	e36	e42	454	495	165	71	65
9	e250	e110	e85	e60	e42	e30	e40	365	456	151	70	64
10	e220	e110	e82	e60	e42	e36	e40	358	406	146	69	62
11	e200	e110	e82	e60	e44	e36	e42	366	371	141	66	62
12	e190	e110	e80	e55	e40	e36	e44	405	338	132	65	60
13	e180	e110	e80	e55	e44	e34	e46	449	330	129	65	65
14	e165	e90	e75	e55	e42	e34	e50	488	322	127	64	60
15	e160	e65	e75	e55	e38	e34	e50	402	329	134	64	59
16	e150	e50	e75	e50	e32	e34	e50	411	326	132	61	57
17	e140	e46	e70	e50	e34	e34	e55	394	369	130	51	56
18	e140	e34	e70	e50	e38	e34	e60	409	390	127	52	56
19	e130	e46	e70	e50	e40	e30	e65	434	391	122	57	56
20	e130	e65	e70	e52	e44	e30	e70	469	385	115	63	60
21	e120	e95	e70	e50	e42	e34	e70	480	374	117	60	71
22	e120	e85	e70	e50	e42	e36	e75	482	361	114	57	68
23	e110	e82	e65	e50	e42	e36	e80	572	341	109	55	75
24	e110	e85	e60	e46	e40	e34	e85	629	329	106	54	68
25	e120	e80	e60	e46	e38	e34	e90	574	315	103	53	69
26	e120	e65	e55	e48	e36	e30	e95	526	303	100	62	161
27	e110	e70	e55	e48	e38	e30	e110	465	298	100	128	147
28	e110	e75	e65	e46	e36	e30	e130	445	287	110	132	126
29	e110	e80	e70	e46	e36	e32	e150	410	272	101	110	147
30	e100	e85	e70	e42	---	e30	e170	394	248	96	94	488
31	e100	---	e65	e46	---	e26	---	410	---	93	84	---
TOTAL	5328	2558	2279	1640	1181	1032	1950	12838	10773	4317	2261	2720
MEAN	172	85.3	73.5	52.9	40.7	33.3	65.0	414	359	139	72.9	90.7
MAX	394	110	90	60	46	36	170	629	495	236	132	488
MIN	100	34	55	42	32	26	28	180	248	93	51	56
AC-FT	10570	5070	4520	3250	2340	2050	3870	25460	21370	8560	4480	5400

ADJUSTED TO INCLUDE DIVERSION

MEAN	177	90.4	78.6	58.2	46.3	39.3	70.2	420	365	149	79.9	95.4
CFSM	1.98	1.01	0.88	0.65	0.52	0.44	0.78	4.69	4.08	1.66	0.89	1.07
IN	2.28	1.13	1.01	0.75	0.56	0.50	0.87	5.40	4.55	1.92	1.03	1.19
AC-FT	10900	5380	4830	3580	2660	2410	4180	25810	21710	9160	4910	5680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2004, BY WATER YEAR (WY)#

MEAN	153	79.6	49.5	32.5	23.3	17.7	26.1	172	450	301	204	207
MAX	356	199	154	79.4	61.6	50.2	69.7	456	798	645	510	471
(WY)	2003	2003	2003	2003	2003	2003	1990	1990	1977	1980	1981	1967
MIN	48.7	24.3	13.9	7.13	5.36	3.61	4.77	39.9	132	72.0	72.9	55.8
(WY)	1969	1969	1969	1956	1983	1956	1954	1971	1996	1996	2004	1969

See Period of Record and Remarks. Values shown on this page are unadjusted for diversion, unless otherwise noted
e Estimated

15276000 SHIP CREEK NEAR ANCHORAGE—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1947 - 2004#	
ANNUAL TOTAL	47925		48877			
ANNUAL MEAN	131		134		143	
ANNUAL MEAN	*137		*139		*161	
HIGHEST ANNUAL MEAN					223 1980	
LOWEST ANNUAL MEAN					67.3 1969	
HIGHEST DAILY MEAN	480	Jun 14	629	May 24	1420	Aug 9 1971
LOWEST DAILY MEAN	a34	Apr 10	26	Mar 31	b0.00	Jan 2 1956
ANNUAL SEVEN-DAY MINIMUM	35	Apr 9	29	Mar 26	0.43	Jan 9 1956
MAXIMUM PEAK FLOW			c750	May 23	1860	Jun 21 1949
MAXIMUM PEAK STAGE			c5.91	May 23	d3.44	Jun 21 1949
MAXIMUM PEAK STAGE					f6.52	Jun 21 1949
MAXIMUM PEAK STAGE					g8.54	Dec 29 2002
ANNUAL RUNOFF (AC-FT)	95060		96950		103800	
ANNUAL RUNOFF (AC-FT)	*99480		*101200		*116600	
ANNUAL RUNOFF (CFSM)	*1.53		*1.55		*1.79	
ANNUAL RUNOFF (IN)	*20.8		*21.2		*24.4	
10 PERCENT EXCEEDS	282		373		368	
50 PERCENT EXCEEDS	101		75		78	
90 PERCENT EXCEEDS	48		36		14	

- # See Period of Record and Remarks. Values shown on this page are unadjusted for diversion, unless otherwise noted
- * Adjusted to account for diversion, see Remarks
- a Apr. 10 and Apr. 11
- b No flow during one or more days in water years 1956, 1960, 1969, and 1971
- c Maximum discharge, 805 ft³/s, Sep. 30, stage rising, peak occurred Oct. 1, 2004; maximum peak discharge, 750 ft³/s, May 23, gage height, 5.91 ft.
- d Site and datum then in use
- f Current site and datum
- g From CSG mark from ice-affected winter breakout event, at current site and datum

15276320 SHIP CREEK BELOW FISH HATCHERY NEAR ANCHORAGE

LOCATION.--Lat 61°14'36", long 149°43'19", in SW¹/₄ NE¹/₄ SE¹/₄ sec. 1, T. 13 N., R. 3 W. (Anchorage A-8NE quad), Municipality of Anchorage, Hydrologic Unit 19020401, in Fort Richardson Military Reservation, on left bank, 0.5 mi downstream from fish hatchery, 0.8 mi upstream of the Fort Richardson Elmendorf border, 3.3 mi downstream from diversion dam, and 6.0 mi east of intersection of Seward and Glenn Highways in Anchorage.

DRAINAGE AREA.--104.6 mi².

PERIOD OF RECORD.--October 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Discharge data represent the net flow remaining after diversion for water supply to Fort Richardson, Elmendorf Air Force Base, and Municipality of Anchorage. Average diversion for water year 2004 was 5.86 ft³/s. Diversion began in 1944. Magnitude of discharges downstream of dam may be affected by periodic spillway adjustment.

COOPERATION.--Gage inspected and records of diversion provided by Office of Post Engineers, Fort Richardson.

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	109	e100	76	50	41	33	26	128	411	233	90	96
2	111	104	71	47	40	33	30	153	392	218	86	96
3	288	100	65	52	39	33	30	157	377	206	84	94
4	400	94	78	53	38	33	30	172	386	190	79	92
5	305	96	80	53	38	31	30	204	409	183	83	87
6	302	98	70	52	38	22	32	253	418	172	82	84
7	278	102	71	50	37	27	37	310	463	164	80	83
8	256	111	76	49	38	33	39	357	517	156	78	81
9	252	111	76	52	37	25	36	347	474	144	78	80
10	223	e106	74	52	38	33	37	336	426	139	78	78
11	e200	e105	74	51	40	34	37	346	391	133	75	77
12	e190	e105	71	49	35	33	37	356	360	124	75	76
13	e180	e100	68	47	39	31	38	392	348	119	75	82
14	e165	e85	68	47	38	31	40	418	343	117	73	77
15	e160	e60	67	45	34	31	44	423	360	120	74	75
16	e150	e48	65	44	25	30	49	414	351	117	73	74
17	e140	e42	63	44	28	27	49	396	393	114	63	72
18	e140	e32	63	44	32	29	50	411	422	113	64	71
19	e130	31	58	44	37	21	52	431	418	106	71	71
20	e130	49	63	46	40	26	55	456	411	101	77	75
21	e120	81	63	47	39	29	58	489	393	105	74	87
22	e120	83	63	47	38	33	65	514	357	104	72	84
23	e110	73	60	45	36	33	71	629	345	102	70	92
24	111	78	55	41	35	32	73	620	330	99	68	84
25	123	75	46	39	34	30	75	529	314	96	68	86
26	121	56	43	43	33	28	82	499	305	95	79	170
27	e113	49	43	43	34	28	89	449	299	96	140	170
28	e110	63	51	41	33	27	92	450	284	104	149	149
29	e110	74	60	40	33	28	108	413	268	100	126	163
30	e100	77	64	36	---	26	117	405	244	97	111	423
31	e100	---	63	39	---	21	---	421	---	93	101	---
TOTAL	5347	2388	2008	1432	1047	911	1608	11878	11209	4060	2596	3129
MEAN	172	79.6	64.8	46.2	36.1	29.4	53.6	383	374	131	83.7	104
MAX	400	111	80	53	41	34	117	629	517	233	149	423
MIN	100	31	43	36	25	21	26	128	244	93	63	71
AC-FT	10610	4740	3980	2840	2080	1810	3190	23560	22230	8050	5150	6210
CFSM	1.65	0.76	0.62	0.44	0.35	0.28	0.51	3.66	3.57	1.25	0.80	1.00
IN.	1.90	0.85	0.71	0.51	0.37	0.32	0.57	4.22	3.99	1.44	0.92	1.11

ADJUSTED TO INCLUDE DIVERSION

MEAN	178	84.8	69.8	51.5	41.7	35.4	58.8	389	379	141	90.7	109
CFSM	1.70	0.81	0.67	0.49	0.40	0.34	0.56	3.72	3.63	1.34	0.87	1.04
IN	1.89	0.90	0.77	0.57	0.43	0.39	0.63	4.28	4.04	1.55	1.00	1.20
AC-FT	10920	5040	4290	3170	2400	2170	3500	23900	22600	8650	5580	6490

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)#

MEAN	255	134	106	60.3	46.2	39.0	50.5	274	356	164	118	108
MAX	337	188	148	74.4	56.6	48.7	53.6	383	374	196	153	113
(WY)	2003	2003	2003	2003	2003	2003	2004	2004	2004	2003	2003	2003
MIN	172	79.6	64.8	46.2	36.1	29.4	47.5	165	339	131	83.7	104
(WY)	2004	2004	2004	2004	2004	2004	2003	2003	2003	2004	2004	2004

See Period of Record and Remarks. Values shown on this page are unadjusted for diversion, unless otherwise noted

e Estimated

15276320 SHIP CREEK BELOW FISH HATCHERY NEAR ANCHORAGE—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2003 - 2004#	
ANNUAL TOTAL	46051		47613			
ANNUAL MEAN	126		130		143	
ANNUAL MEAN	*132		*136		*149	
HIGHEST ANNUAL MEAN					156 2003	
LOWEST ANNUAL MEAN					130 2004	
HIGHEST DAILY MEAN	517	Jun 14	629	May 23	680	Dec 28 2002
LOWEST DAILY MEAN	31	Nov 19	a21	Mar 19	a21	Mar 19 2004
ANNUAL SEVEN-DAY MINIMUM	35	Apr 9	26	Mar 26	26	Mar 26 2004
MAXIMUM PEAK FLOW			876	May 23	876	May 23 2004
MAXIMUM PEAK STAGE			5.08	May 23	5.08	May 23 2004
INSTANTANEOUS LOW FLOW			b16	Mar 6	b16	Mar 6 2004
ANNUAL RUNOFF (AC-FT)	91340		94440		103600	
ANNUAL RUNOFF (AC-FT)	*95760		*98700		*108000	
ANNUAL RUNOFF (CFSM)	*1.26		*1.30		*1.42	
ANNUAL RUNOFF (INCHES)	*17.08		*17.65		*19.34	
10 PERCENT EXCEEDS	269		380		345	
50 PERCENT EXCEEDS	100		78		100	
90 PERCENT EXCEEDS	46		33		38	

See Period of Record and Remarks. Values shown on this page are unadjusted for diversion, unless otherwise noted

a Mar. 19 and 31

b Mar. 6 and 19

* Adjusted to account for diversion, see Remarks

15278000 EKLUTNA LAKE NEAR PALMER

LOCATION.--Lat 61°24'39", long 149°07'20", in NE¹/₄ NE¹/₄ sec. 18, T. 15 N., R. 2 E. (Anchorage B-6 quad), Municipality of Anchorage, Hydrologic Unit 19020402, on north shore, 0.7 mi upstream from lake outlet, 12 mi upstream from mouth of Eklutna River, and 14 mi south of Palmer.

DRAINAGE AREA.--119 mi².

PERIOD OF RECORD.--November 1946 to September 1962 (fragmentary after January 1955), June 1983 to current year. Fragmentary records for the period October 1962 to June 1983 available from Eklutna Hydroelectric Project.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by Alaska Power Administration). Prior to June 1983, non-recording gage at lake outlet at datum of 859.8 ft above sea level.

REMARKS.--Lake outlet consists of earth and rockfill dam with uncontrolled spillway crest at an elevation of 871 ft. Prior to 1965, control structure 1400 ft upstream with spillway crest at elevation of 867.5 ft which could be flash-boarded to elevation of 871 ft. Outflow was controlled by the flash boards and sluice gates. Dead storage below elevation of 859 ft. Reservoir is used for power generation and water supply. Rain gage at station. GOES satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 877.68 ft, September 25, 1995; minimum observed, 814.2 ft, June 1, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 869.08 ft, October 14; minimum, 832.39 ft, May 3.

GAGE-HEIGHT, FEET, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	865.21	867.07	859.41	854.00	849.25	---	837.92	832.61	835.32	847.40	861.25	868.73
2	865.55	866.86	859.20	853.81	849.09	844.13	837.73	832.50	835.38	847.98	861.45	868.78
3	866.48	866.61	859.03	853.55	848.93	843.89	837.55	832.45	835.46	848.56	861.65	868.87
4	867.70	866.35	858.91	853.37	848.78	843.70	837.35	832.56	835.54	849.14	861.92	868.91
5	868.13	866.10	858.69	853.15	848.62	843.51	837.09	832.68	835.62	849.71	862.17	868.82
6	868.44	865.84	858.47	852.99	848.51	843.33	836.95	832.83	835.79	850.14	862.42	868.70
7	868.68	865.57	858.26	852.85	848.32	843.13	836.79	832.99	836.00	850.57	862.70	868.66
8	868.79	865.32	858.06	852.71	848.14	842.92	836.62	833.16	836.28	---	863.02	868.60
9	868.85	865.09	857.85	852.58	847.96	842.69	836.43	833.27	836.52	---	863.33	868.50
10	868.92	864.83	857.63	852.50	847.87	842.44	836.26	833.33	836.77	---	863.60	868.43
11	868.98	864.55	857.46	852.40	847.78	842.21	836.08	833.41	836.96	---	863.88	868.37
12	869.02	864.31	857.34	852.31	847.65	842.01	835.91	833.44	837.10	---	864.19	868.27
13	869.03	864.04	857.19	852.17	847.53	841.77	835.72	833.48	837.33	---	864.42	868.10
14	869.03	863.78	857.03	851.98	847.39	841.51	835.51	833.49	837.54	854.49	864.62	867.92
15	868.98	863.49	856.85	851.81	847.19	841.26	835.31	833.51	837.78	854.93	864.84	867.77
16	868.92	863.20	856.68	851.60	846.95	841.06	835.10	833.54	838.03	855.37	865.08	867.61
17	868.85	862.90	856.50	851.41	846.80	840.85	834.91	833.55	838.37	855.87	865.41	867.42
18	868.67	862.61	856.32	851.25	846.62	840.65	834.69	833.56	838.87	856.36	865.81	867.21
19	868.47	862.34	856.13	851.10	846.44	840.44	834.53	833.60	839.46	856.81	866.23	866.98
20	868.29	862.06	855.99	850.89	846.29	840.22	834.35	833.67	840.12	857.25	866.66	866.78
21	868.18	861.79	855.85	850.69	846.14	839.99	834.12	833.76	840.77	857.64	866.96	866.65
22	868.09	861.56	855.68	850.53	845.92	839.79	833.95	833.89	841.40	858.09	867.23	866.48
23	867.96	861.33	855.48	850.43	845.69	839.58	833.79	834.04	842.00	858.54	867.57	866.31
24	867.83	861.09	855.31	850.31	845.51	839.39	833.63	834.26	842.63	858.88	867.78	866.14
25	867.74	860.87	855.17	850.17	845.29	839.20	833.47	834.47	843.27	859.19	867.89	865.99
26	867.64	860.63	855.01	850.03	845.06	839.00	833.29	834.63	843.94	859.47	868.06	865.92
27	867.52	860.37	854.80	849.92	---	838.82	833.12	834.76	844.64	859.85	868.37	865.80
28	867.44	860.10	854.60	849.79	---	838.63	832.96	834.91	845.43	860.22	868.65	865.62
29	867.35	859.83	854.42	849.66	---	838.43	832.81	835.05	846.10	860.53	868.73	865.43
30	867.30	859.61	854.28	849.53	---	838.26	832.71	835.15	846.78	860.79	868.75	865.34
31	867.23	---	854.14	849.39	---	838.11	---	835.26	---	861.01	868.74	---
MEAN	868.04	863.34	856.70	851.58	---	---	835.22	833.67	839.24	---	865.27	867.44
MAX	869.03	867.07	859.41	854.00	---	---	837.92	835.26	846.78	---	868.75	868.91
MIN	865.21	859.61	854.14	849.39	---	---	832.71	832.45	835.32	---	861.25	865.34

15280200 EKLUTNA RIVER AT OLD GLENN HIGHWAY AT EKLUTNA

LOCATION.--Lat 61°27'01", long 149°22'02", in NE¹/₄ SW¹/₄ NE¹/₄ sec. 25, T. 16 N., R. 1 W. (Anchorage B-7 quad), Municipality of Anchorage, Hydrologic Unit 19020402, on right bank, 1.3 mi upstream from mouth, 0.7 mi south of Eklutna.

DRAINAGE AREA.--172 mi².

PERIOD OF RECORD.--May 1 2002 to current year

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records are fair except for estimated daily discharges, which are poor. Flow regulated by Eklutna Reservoir, 11 mi upstream, for power generation and water supply. 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	26	e30	e21	e16	e14	12	e11	29	80	62	28	51
2	26	e30	e20	e16	e14	13	e11	28	78	60	29	51
3	32	29	e20	e16	e14	14	e12	24	78	58	28	49
4	36	28	e20	e15	e14	12	e12	25	81	57	28	47
5	52	28	e20	e15	e14	12	12	27	85	55	e28	44
6	72	27	e20	e15	e14	e13	13	30	87	53	27	43
7	62	27	e19	e15	e14	e12	13	35	90	53	26	43
8	52	29	e19	e15	e14	e12	e13	36	83	52	25	47
9	54	27	e19	e15	e13	e12	e14	34	88	50	24	43
10	47	23	e19	e16	e13	e12	e15	32	90	49	25	43
11	45	24	e18	e17	e13	e12	e17	34	89	47	24	41
12	43	28	e18	e17	e13	11	e19	35	90	46	24	39
13	41	24	e18	e17	13	11	18	35	65	45	25	41
14	41	e14	e18	e17	13	11	20	47	68	43	23	37
15	41	e8	e18	e16	e13	11	21	44	73	42	23	40
16	40	e6	e18	e16	e13	e12	21	41	71	41	e24	39
17	38	e7	e17	e16	e12	e11	22	46	78	40	e24	40
18	37	e10	e16	e16	e12	e11	20	56	82	40	25	39
19	37	e19	e11	e15	e12	e11	19	e54	88	41	25	37
20	34	e26	e10	e15	e13	e11	20	e55	92	39	29	37
21	35	e27	e13	e16	e13	e11	21	e60	92	35	28	39
22	37	e29	16	e16	e14	e11	22	62	89	32	28	36
23	35	e30	16	e16	14	e11	22	65	86	31	28	35
24	33	e30	e16	e16	13	e11	21	71	83	29	29	33
25	34	e28	e16	e16	14	e11	21	e71	82	29	26	34
26	33	e26	e16	e16	13	e11	20	e82	78	28	28	48
27	32	e24	e16	e15	12	e11	20	e81	73	28	38	45
28	30	e22	e16	e15	12	e11	20	77	67	29	37	44
29	e29	e22	e16	e15	12	e11	23	82	64	28	46	47
30	e32	e21	e16	e15	---	e11	24	80	63	27	57	72
31	e30	---	e16	e15	---	e11	---	79	---	29	53	---
TOTAL	1216	703	532	487	382	357	537	1557	2413	1298	912	1284
MEAN	39.2	23.4	17.2	15.7	13.2	11.5	17.9	50.2	80.4	41.9	29.4	42.8
MAX	72	30	21	17	14	14	24	82	92	62	57	72
MIN	26	6.0	10	15	12	11	11	24	63	27	23	33
AC-FT	2410	1390	1060	966	758	708	1070	3090	4790	2570	1810	2550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)#

	2002	2003	2004	2002	2003	2004	2002	2003	2004	2002	2003	2004
MEAN	52.7	33.4	20.3	18.5	17.6	13.6	19.8	41.2	76.6	54.0	44.1	45.8
MAX	66.1	43.3	23.5	21.3	22.1	15.7	21.6	52.5	80.4	67.0	63.2	64.4
(WY)	2003	2003	2003	2003	2003	2003	2003	2002	2004	2003	2002	2002
MIN	39.2	23.4	17.2	15.7	13.2	11.5	17.9	21.0	71.9	41.9	29.4	30.3
(WY)	2004	2004	2004	2004	2004	2004	2004	2003	2003	2004	2004	2003

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 2002 - 2004#
ANNUAL TOTAL	11887.0	11678					
ANNUAL MEAN	32.6	31.9					34.5
HIGHEST ANNUAL MEAN							37.0
LOWEST ANNUAL MEAN							31.9
HIGHEST DAILY MEAN	111	Jun 15	92	Jun 20	111	Jun 15	2003
LOWEST DAILY MEAN	6.0	Nov 16	6.0	Nov 16	6.0	Nov 16	2003
ANNUAL SEVEN-DAY MINIMUM	11	Mar 9	11	Mar 17	11	Mar 17	2004
MAXIMUM PEAK FLOW			a104	Jun 20	131	Jun 21	2003
MAXIMUM PEAK STAGE			a85.82	Jun 20	85.87	Jun 21	2003
MAXIMUM PEAK STAGE			b87.13	Dec 26	b87.13	Dec 26	2003
ANNUAL RUNOFF (AC-FT)	23580	23160			24970		
10 PERCENT EXCEEDS	62	67			68		
50 PERCENT EXCEEDS	26	26			27		
90 PERCENT EXCEEDS	16	12			13		

See Period of Record. Partial years used in monthly statistics

a Maximum discharge, 118 ft³/s, gage-height, 85.86 ft., Sep. 30, stage rising, peak occurred Oct. 1, 2004; maximum peak discharge, 104 ft³/s, Jun. 20 to Jun. 22, gage height, 85.82 ft.

b Backwater from ice

e Estimated

15281000 KNIK RIVER NEAR PALMER—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004#	
ANNUAL MEAN			7004	
HIGHEST ANNUAL MEAN			8889	2003
LOWEST ANNUAL MEAN			5590	1973
HIGHEST DAILY MEAN	52600	Oct 4	341000	Jul 26 1961
LOWEST DAILY MEAN			a260	Mar 1 1962
ANNUAL SEVEN-DAY MINIMUM			260	Mar 1 1962
MAXIMUM PEAK FLOW	60400	Oct 3	bc355000	Jul 26 1961
MAXIMUM PEAK STAGE	14.70	Oct 3	b24.35	Jul 17 1960
ANNUAL RUNOFF (AC-FT)			5074000	
ANNUAL RUNOFF (CFSM)			5.94	
ANNUAL RUNOFF (INCHES)			80.65	
10 PERCENT EXCEEDS			21100	
50 PERCENT EXCEEDS			2100	
90 PERCENT EXCEEDS			500	

- # See Period of Record; partial years used in monthly statistics
a Mar. 1-31, 1962
b Site then in use, caused by release of stored water (Lake George) behind Knik Glacier
c Gage height, 24.3 ft

15281000 KNIK RIVER NEAR PALMER—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-58, 1961-72, 1974-75, 1989, 2003 and current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Water years 1962-66.

I

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Medium code	Stream width, feet (00004)	Location in X-sect. looking downstrm ft from l bank (00009)	Gage height, feet (00065)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Instantaneous discharge, cfs (00061)	Sampler type, code (84164)	Sam-pling method, code (82398)	Temper-ature, water, deg C (00010)	Temper-ature, air, deg C (00020)	Sus-pended sedi-ment concentration mg/L (80154)
NOV													
04...	1315	9	382	--	6.44	1315.00	1348.00	3520	3055	20	1.0	1.5	27
04...	1405	9	382	304	6.44	1405.00	1505.00	3510	1100	1000	1.0	1.5	--
04...	1520	H	382	--	6.44	1520.00	1802.00	3510	8010	--	1.0	1.5	--

Date	Sus-pended sedi-ment discharge, tons/d (80155)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Bedload discharge, tons/d (80225)	Bedload sedimnt dschrge average unit t/d/ft (04122)	Compstd samples in x-sec bedload measmnt number (04118)	Number of sam-pling points, count (00063)	Verti-cals in com-posite sample, number (04119)	Hori-zontal width of verti-cal, feet (04121)	Rest time on bed for bed load sample, seconds (04120)	Bag mesh size, bedload sampler mm (30333)	Tether line used in sampling (yes=1) code (04117)	Bedload sedi-ment, sieve diametr percent <.125mm (80227)	Bedload sedi-ment, sieve diametr percent <.25mm (80228)
NOV													
04...	256	90	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	24	.06	2	1	18	4.0	60	.025	1	.0	1
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Bedload sedi-ment, sieve diametr percent <.5 mm (80229)	Bedload sedi-ment, sieve diametr percent <1 mm (80230)	Bedload sedi-ment, sieve diametr percent <2 mm (80231)	Bedload sedi-ment, sieve diametr percent <4 mm (80232)	Bedload sedi-ment, sieve diametr percent <8 mm (80233)	Bedload sedi-ment, sieve diametr percent <16 mm (80234)	Bed sedi-ment, wsv nat field, percent <.031mm (49286)	Bed sedi-ment, dry svd sve dia percent <.063mm (80164)	Bed sedi-ment, dry svd sve dia percent <.125mm (80165)	Bed sedi-ment, dry svd sve dia percent <.25mm (80166)	Bed sedi-ment, dry svd sve dia percent <.5 mm (80167)	Bed sedi-ment, dry svd sve dia percent <1 mm (80168)	Bed sedi-ment, dry svd sve dia percent <2 mm (80169)
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	38	63	83	92	98	100	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	.0	1	7	34	72	86	92

Date	Bed sedi-ment, dry svd sve dia percent <4 mm (80170)	Bed sedi-ment, dry svd sve dia percent <8 mm (80171)	Bed sedi-ment, dry svd sve dia percent <16 mm (80172)
NOV			
04...	--	--	--
04...	--	--	--

15281500 CAMP CREEK NEAR SHEEP MOUNTAIN LODGE

LOCATION.--Lat 61°50'20", long 147°24'31", in SE¹/₄ SE¹/₄ NW¹/₄ sec. 11, T. 20 N., R. 11 E. (Anchorage D-2 quad), Matanuska-Susitna Borough, Hydrologic Unit 19020402, on left bank 5 ft downstream from culvert on old alignment (1/2 mile upstream from new alignment) Glenn Highway, and 3.5 mi northeast of Sheep Mountain Lodge.

DRAINAGE AREA.--1.09 mi²

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual maximum, water years 1968-69, 1971, 1989-95. October 1995 to September 2004 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 2,950 ft above sea level, from topographic map. Prior to 1971 crest-stage gage at site above culvert at different datum, June 2, 1989 to September 30, 1995, crest-stage gage at same site and datum.

REMARKS.--Records are poor. GOES satellite telemetry at station. Rain gauge 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	0.27	e0.19	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	2.1	0.14	0.46	0.39
2	0.25	e0.19	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.7	0.12	0.47	0.46
3	0.27	e0.19	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.5	0.16	0.46	0.89
4	0.26	e0.19	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.3	0.16	0.45	0.97
5	0.29	e0.18	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.2	0.42	0.39	0.95
6	0.29	e0.18	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.1	1.3	0.35	0.94
7	0.29	e0.18	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.2	1.2	0.34	0.95
8	0.29	e0.18	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.2	1.0	0.32	0.91
9	0.28	e0.17	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	1.2	1.0	0.30	0.87
10	0.27	e0.17	e0.05	e0.00	e0.00	e0.00	e0.00	e0.10	1.1	0.93	0.28	0.83
11	0.26	e0.16	e0.05	e0.00	e0.00	e0.00	e0.00	e0.15	1.1	0.85	0.28	0.81
12	0.25	e0.15	e0.05	e0.00	e0.00	e0.00	e0.00	e0.30	1.1	0.82	0.28	0.76
13	0.24	e0.14	e0.05	e0.00	e0.00	e0.00	e0.00	e0.45	1.1	0.77	0.26	0.79
14	e0.23	e0.13	e0.05	e0.00	e0.00	e0.00	e0.00	e0.70	1.0	0.65	0.24	0.76
15	e0.23	e0.12	e0.05	e0.00	e0.00	e0.00	e0.00	e1.0	0.91	0.48	0.25	0.80
16	e0.23	e0.11	e0.05	e0.00	e0.00	e0.00	e0.00	e1.3	0.84	0.43	0.25	0.79
17	e0.23	e0.10	e0.05	e0.00	e0.00	e0.00	e0.00	e1.6	0.75	0.40	0.24	0.80
18	e0.22	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	e1.9	0.58	0.41	0.24	0.78
19	e0.22	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	e2.7	0.42	0.38	0.25	0.77
20	e0.22	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	3.3	0.29	0.53	0.27	0.77
21	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	3.3	0.26	0.45	0.25	0.83
22	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	3.3	0.23	0.44	0.23	0.90
23	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	2.2	0.22	0.46	0.22	0.96
24	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	1.8	0.21	0.45	0.23	1.1
25	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	2.0	0.20	0.45	0.40	0.98
26	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	3.4	0.18	0.43	0.42	0.86
27	e0.21	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	4.2	0.15	0.43	0.43	0.63
28	e0.20	e0.05	e0.00	e0.00	e0.00	e0.00	e0.00	3.3	0.14	0.45	0.41	0.57
29	e0.20	e0.05	e0.00	e0.00	e0.00	e0.00	e0.05	2.1	0.14	0.40	0.47	0.54
30	e0.20	e0.05	e0.00	e0.00	---	e0.00	e0.05	1.8	0.14	0.51	0.41	0.66
31	e0.20	---	e0.00	e0.00	---	e0.00	---	2.2	---	0.46	0.38	---
TOTAL	7.36	3.38	0.85	0.00	0.00	0.00	0.10	43.55	23.56	17.08	10.23	24.02
MEAN	0.24	0.11	0.03	0.00	0.00	0.00	0.00	1.40	0.79	0.55	0.33	0.80
MAX	0.29	0.19	0.05	0.00	0.00	0.00	0.05	4.2	2.1	1.3	0.47	1.1
MIN	0.20	0.05	0.00	0.00	0.00	0.00	0.00	0.05	0.14	0.12	0.22	0.39
AC-FT	15	6.7	1.7	0.00	0.00	0.00	0.2	86	47	34	20	48
CFSM	0.22	0.10	0.03	0.00	0.00	0.00	0.00	1.29	0.72	0.51	0.30	0.73
IN.	0.25	0.12	0.03	0.00	0.00	0.00	0.00	1.49	0.80	0.58	0.35	0.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2004, BY WATER YEAR (WY)#

	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	0.46	0.21	0.08	0.01	0.00	0.00	0.01	0.93	3.35
MAX	1.12	0.65	0.39	0.04	0.01	0.01	0.06	1.55	8.58
(WY)	1998	1998	1998	1999	2003	2003	1996	1998	2001
MIN	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.56
(WY)	1997	2001	2001	1996	1996	1996	1999	1999	1996

See Period of Record
e Estimated

15281500 CAMP CREEK NEAR SHEEP MOUNTAIN LODGE—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1996 - 2004#	
ANNUAL TOTAL	129.12		130.13			
ANNUAL MEAN	0.35		0.36		0.72	
HIGHEST ANNUAL MEAN					1.46 2000	
LOWEST ANNUAL MEAN					0.26 2002	
HIGHEST DAILY MEAN	4.5 Jun 10		4.2 May 27		17 Jun 7 1997	
LOWEST DAILY MEAN	a0.00 Dec 18		b0.00 Dec 18		c0.00 Dec 6 1995	
ANNUAL SEVEN-DAY MINIMUM	0.00 Dec 18		0.00 Dec 18		0.00 Dec 6 1995	
MAXIMUM PEAK FLOW			7.9 May 27		d46 Jul 21 1992	
MAXIMUM PEAK STAGE			14.81 May 27		15.49 Jun 28 2000	
ANNUAL RUNOFF (AC-FT)	256		258		522	
ANNUAL RUNOFF (CFSM)	0.325		0.326		0.661	
ANNUAL RUNOFF (INCHES)	4.41		4.44		8.98	
10 PERCENT EXCEEDS	0.85		0.99		2.0	
50 PERCENT EXCEEDS	0.16		0.14		0.20	
90 PERCENT EXCEEDS	0.01		0.00		0.00	

See Period of Record

a Dec. 18 - 31

b Dec. 18 to Apr. 28

c No flow most days during winter

d From rating curve extended above 2 ft³/s

15281500 CAMP CREEK NEAR SHEEP MOUNTAIN LODGE—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to September 2004 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1996 to September 2004 (discontinued).

INSTRUMENTATION.--Electronic water-temperature recorder set for 1-hour recording interval.

REMARKS.--No record from December 18 to April 28 due to probe froze in ice or no flow conditions. Records represent water temperature at the sensor within 0.5°C. Temperature at the sensor was compared with the stream average by cross section on August 25. No variation was found within the cross section. No variation was found between mean stream temperature and temperature at the sensor. Large stream icing forms near the gage.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 10.0°C, on July 15, 2003; minimum, 0.0°C, on many days during fall, winter, and spring breakup periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 8.5°C, several days in July and August; minimum, 0.0°C, on many days during fall, winter, and spring breakup period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Stream width, feet (00004)	Sample location, cross section ft from rt bank (72103)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Sampler type, code (84164)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)
AUG									
25...	1355	2.70	.3	14.11	.42	10	8010	7.1	12.3
25...	1356	2.70	.8	14.11	.42	10	8010	7.1	12.3
25...	1357	2.70	1.4	14.11	.42	10	8010	7.1	12.3
25...	1358	2.70	1.9	14.11	.42	10	8010	7.1	12.3
25...	1400	2.70	2.4	14.11	.42	10	8010	7.1	12.3

WATER TEMPERATURE, (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	4.0	3.0	3.0	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---
2	3.5	3.0	3.0	0.5	0.5	0.5	0.0	0.0	0.0	---	---	---
3	3.5	2.5	3.0	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---
4	2.5	1.5	2.0	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---
5	3.0	2.0	2.5	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---
6	3.0	2.0	2.5	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---
7	2.5	2.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---
8	2.5	1.5	2.0	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---
9	2.5	1.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---
10	2.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
11	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
12	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
13	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
14	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
15	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
16	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
17	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
18	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
19	0.5	0.5	0.5	0.0	0.0	0.0	---	---	---	---	---	---
20	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
21	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---	---	---	---
22	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---	---	---	---
23	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---	---	---	---
24	0.5	0.5	0.5	0.0	0.0	0.0	---	---	---	---	---	---
25	1.0	0.5	0.5	0.0	0.0	0.0	---	---	---	---	---	---
26	1.0	0.5	0.5	0.0	0.0	0.0	---	---	---	---	---	---
27	0.5	0.0	0.5	0.0	0.0	0.0	---	---	---	---	---	---
28	0.5	0.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
29	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
30	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---	---	---	---
31	0.0	0.0	0.0	---	---	---	---	---	---	---	---	---
MONTH	4.0	0.0	1.0	0.5	0.0	0.1	---	---	---	---	---	---

SOUTH-CENTRAL ALASKA

15281500 CAMP CREEK NEAR SHEEP MOUNTAIN LODGE—Continued

WATER TEMPERATURE, (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
2	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
3	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
4	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
5	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
6	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
7	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
8	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
9	---	---	---	---	---	---	---	---	---	0.0	0.0	0.0
10	---	---	---	---	---	---	---	---	---	0.5	0.0	0.0
11	---	---	---	---	---	---	---	---	---	1.0	0.0	0.5
12	---	---	---	---	---	---	---	---	---	2.5	0.0	1.0
13	---	---	---	---	---	---	---	---	---	2.5	0.0	1.0
14	---	---	---	---	---	---	---	---	---	2.5	0.0	1.0
15	---	---	---	---	---	---	---	---	---	2.5	0.0	1.0
16	---	---	---	---	---	---	---	---	---	2.5	0.0	1.5
17	---	---	---	---	---	---	---	---	---	3.5	0.0	1.5
18	---	---	---	---	---	---	---	---	---	4.0	0.5	1.5
19	---	---	---	---	---	---	---	---	---	4.5	0.5	2.0
20	---	---	---	---	---	---	---	---	---	4.5	0.5	2.0
21	---	---	---	---	---	---	---	---	---	4.5	0.5	2.5
22	---	---	---	---	---	---	---	---	---	4.5	1.0	2.5
23	---	---	---	---	---	---	---	---	---	3.0	1.0	2.0
24	---	---	---	---	---	---	---	---	---	3.0	1.0	2.0
25	---	---	---	---	---	---	---	---	---	2.5	1.5	2.0
26	---	---	---	---	---	---	---	---	---	3.5	1.5	2.0
27	---	---	---	---	---	---	---	---	---	5.5	1.5	3.0
28	---	---	---	---	---	---	---	---	---	4.5	2.0	3.0
29	---	---	---	---	---	---	0.0	0.0	0.0	4.0	1.5	2.5
30	---	---	---	---	---	---	0.0	0.0	0.0	4.5	1.0	3.0
31	---	---	---	---	---	---	---	---	---	5.0	2.5	3.0
MONTH	---	---	---	---	---	---	---	---	---	5.5	0.0	1.3

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.0	2.0	3.0	6.5	5.0	5.5	7.0	6.0	6.5	7.0	5.5	6.0
2	3.5	2.0	2.5	7.0	5.5	6.0	7.5	5.5	6.5	6.5	5.5	6.0
3	4.0	1.5	2.5	6.5	5.5	6.0	8.0	5.5	6.5	6.0	5.0	5.5
4	5.5	1.5	3.5	7.0	5.5	6.0	7.5	6.0	6.5	6.0	4.5	5.0
5	5.5	2.5	4.0	5.5	5.5	5.5	8.0	5.5	6.5	5.5	4.5	5.0
6	6.5	3.0	4.5	7.0	5.0	6.0	8.0	5.5	6.5	5.5	4.0	4.5
7	5.5	3.5	4.5	8.0	5.0	6.5	8.0	6.0	7.0	5.0	3.5	4.0
8	4.5	3.5	4.0	8.0	5.5	6.5	8.0	6.0	7.0	5.0	3.0	4.0
9	5.5	3.0	4.0	6.5	6.0	6.0	8.0	6.0	7.0	5.0	3.0	4.0
10	4.5	3.0	3.5	7.0	5.0	6.0	8.0	6.0	7.0	5.0	3.0	4.0
11	3.5	2.5	3.0	8.0	5.0	6.5	8.0	6.5	7.0	4.5	3.0	4.0
12	5.5	2.0	3.5	8.5	5.5	7.0	8.0	6.5	7.0	5.0	3.0	4.0
13	5.5	2.5	4.0	8.5	6.0	7.0	8.5	6.0	7.0	4.0	3.5	3.5
14	7.0	3.0	4.5	8.0	6.0	7.0	8.0	6.0	7.0	4.0	2.5	3.0
15	6.0	3.5	4.5	8.0	5.5	7.0	7.5	6.5	7.0	3.5	2.5	3.0
16	5.0	3.5	4.5	8.5	6.0	7.0	8.0	6.5	7.0	3.0	2.5	3.0
17	6.5	3.5	5.0	7.5	6.0	6.5	8.0	6.5	7.0	3.0	2.0	2.5
18	7.0	3.5	5.0	8.0	6.0	7.0	8.5	6.5	7.5	3.5	2.0	2.5
19	7.5	4.0	5.5	8.0	6.0	7.0	8.0	6.5	7.0	3.0	2.0	2.5
20	7.5	4.5	6.0	7.5	6.5	7.0	7.5	6.5	7.0	3.5	2.5	3.0
21	8.0	4.5	6.0	8.0	6.5	7.0	8.0	6.0	7.0	3.5	2.5	3.0
22	8.0	4.5	6.0	7.0	6.0	6.5	8.5	6.5	7.0	3.0	2.0	2.5
23	8.0	4.5	6.0	7.5	6.0	6.5	8.0	6.0	7.0	3.0	2.0	2.5
24	8.0	5.0	6.0	8.0	5.5	7.0	7.5	6.0	6.5	3.0	1.5	2.0
25	8.0	5.0	6.5	7.5	6.0	6.5	7.0	6.0	6.5	2.0	1.5	2.0
26	8.0	5.5	6.5	6.5	6.0	6.0	7.0	6.0	6.5	2.5	1.0	2.0
27	8.0	6.0	6.5	7.0	5.5	6.0	7.5	6.0	6.5	2.0	0.5	1.5
28	7.5	5.5	6.5	7.0	6.0	6.5	7.0	6.0	6.5	1.5	0.5	1.0
29	7.5	6.0	6.5	7.5	5.5	6.5	7.0	6.0	6.5	1.5	1.0	1.5
30	6.5	5.5	6.0	7.5	6.0	6.5	7.5	5.0	6.0	2.0	1.5	2.0
31	---	---	---	7.5	6.0	6.5	7.5	5.0	6.0	---	---	---
MONTH	8.0	1.5	4.8	8.5	5.0	6.5	8.5	5.0	6.8	7.0	0.5	3.3

15284000 MATANUSKA RIVER AT PALMER

LOCATION.--Lat 61°36'33", long 149°04'15", in SE¹/₄ NW¹/₄ sec. 34, T. 18 N., R. 2 E. (Anchorage C-6 quad), Matanuska-Susitna Borough, Hydrologic Unit 19020402, on downstream left bank of Old Glenn Highway bike path bridge, and 1 mi east of Palmer.

DRAINAGE AREA.--2,070 mi², approximately.

PERIOD OF RECORD.--April 1949 to September 1973, May 1985 to September 1986, October 1991 to September 1992, and May 2000 to current year. Annual maximum, water year 1974 and 1995.

GAGE.--Water-stage recorder. Datum of gage is 170.92 ft above National Geodetic Vertical Datum of 1929 (Alaska Railroad Commission benchmark, prior to Mar. 27, 1964 earthquake). Prior to Nov. 2, 1950, non-recording gage at bridge 20 ft upstream at same datum. Nov. 2, 1950 to Apr. 30, 1952, non-recording gage at current site and same datum. May 1, 1952 to Sep. 30, 1973, July 19 to Oct. 20, 1987, and Oct. 1, 1991 to Sep. 30, 1992, water-stage recorder at site 100 ft downstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Precipitation gage at station. GOES satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 21,000 ft³/s and maximums (*).

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
June 8	0530	a26,000	12.21	June 21	0800	*a45,000	13.34

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	3170	1170	e1000	e750	e600	467	e445	1120	4210	18900	10500	5700
2	3610	1340	e950	e700	e600	472	445	1500	4150	18300	9900	5530
3	10100	1380	e950	e700	e600	469	436	1780	3380	18600	9950	6380
4	15100	1270	e950	e700	e600	472	468	2210	3120	17900	10300	5940
5	11000	1240	e950	e700	e600	458	467	2490	4250	17500	10400	4310
6	8120	1220	e900	e700	e600	e460	481	3090	5940	16800	10400	3550
7	6140	1200	e900	e700	e600	e460	525	5120	11400	15700	11200	3260
8	5060	1240	e900	e700	e600	e460	526	10300	16600	15600	11100	2940
9	4560	1270	e900	e700	e600	e460	549	8710	10700	14700	10800	2730
10	3900	1160	e850	e700	e600	e460	552	3200	9450	12400	11100	2600
11	3200	1170	e850	e700	e580	e460	545	2220	8300	11500	11600	2470
12	2820	e1100	e850	e700	e560	e458	577	2200	6900	12300	11600	2350
13	2520	e1100	e850	e650	562	463	587	2400	7430	13500	11200	2270
14	2370	e1000	e850	e650	539	458	600	2620	9280	14300	10500	2210
15	2310	e900	e850	e650	e540	453	647	2930	11700	13600	10100	2180
16	2130	e800	e850	e650	e540	464	675	2700	8160	13200	10100	2180
17	1970	e750	e850	e650	e540	469	680	2350	8950	13300	10300	2170
18	1820	e700	e800	e650	e540	e465	739	2350	13100	12300	11500	2160
19	1850	e700	e800	e650	e540	465	705	2500	19300	12100	12000	2160
20	1810	e750	e800	e650	545	e470	706	2790	29900	13500	12000	2160
21	1690	e800	e800	e650	538	e475	751	3020	31300	13600	10300	2170
22	1670	e850	e800	e650	543	484	783	3570	28600	12900	9800	2170
23	1620	e850	e800	e650	505	496	797	4710	26200	11400	9810	2170
24	1620	e900	e800	e650	496	487	800	5920	24400	11500	9090	2150
25	1590	e900	e750	e600	494	469	827	4290	23900	12000	8380	2160
26	1580	e950	e750	e600	482	488	836	4590	23900	11800	8560	2190
27	1480	e950	e750	e600	471	444	929	5260	24500	10400	9390	2180
28	1350	e1000	e750	e600	482	e440	791	5630	22900	10100	8540	2170
29	1230	e1000	e750	e600	475	433	797	3870	21500	9580	7270	2180
30	1210	e1000	e750	e600	---	452	951	3170	21500	9950	6720	2360
31	1150	---	e750	e600	---	e450	---	4110	---	10400	6120	---
TOTAL	109750	30660	26050	20450	15972	14381	19617	112720	444920	419630	310530	87150
MEAN	3540	1022	840	660	551	464	654	3636	14830	13540	10020	2905
MAX	15100	1380	1000	750	600	496	951	10300	31300	18900	12000	6380
MIN	1150	700	750	600	471	433	436	1120	3120	9580	6120	2150
AC-FT	217700	60810	51670	40560	31680	28520	38910	223600	882500	832300	615900	172900
CFSM	1.71	0.49	0.41	0.32	0.27	0.22	0.32	1.76	7.16	6.54	4.84	1.40
IN.	1.97	0.55	0.47	0.37	0.29	0.26	0.35	2.03	8.00	7.54	5.58	1.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2004, BY WATER YEAR (WY)#

	2005	1005	738	623	527	476	648	2750	10240	13130	9843	4796
MEAN	2005	1005	738	623	527	476	648	2750	10240	13130	9843	4796
MAX	3540	1793	1024	821	708	583	985	6019	17250	18750	15730	8966
(WY)	2004	1972	1972	1961	2003	2001	1964	1960	1964	2000	1971	1951
MIN	1166	568	440	349	381	360	465	1007	5415	9206	4992	2123
(WY)	1992	1959	1969	1959	1971	1971	1972	1966	1965	1973	1969	1969

See Period of Record; partial years used in monthly statistics
a Peak discharge adjusted to exclude surge; peak gage-height not adjusted to exclude surge
e Estimated

15284000 MATANUSKA RIVER AT PALMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1949 - 2004#	
ANNUAL TOTAL	1381553		1611830			
ANNUAL MEAN	3785		4404		3842	
HIGHEST ANNUAL MEAN					4815 1957	
LOWEST ANNUAL MEAN					2562 1969	
HIGHEST DAILY MEAN	20900	Jul 21	31300	Jun 21	40700	Aug 10 1971
LOWEST DAILY MEAN	440	Mar 13	433	Mar 29	234	Apr 25 1956
ANNUAL SEVEN-DAY MINIMUM	457	Mar 9	443	Mar 28	304	Apr 20 1956
MAXIMUM PEAK FLOW			a45000	Jun 21	b82100	Aug 10 1971
MAXIMUM PEAK STAGE			a13.56	Jun 20	c13.60	Aug 10 1971
ANNUAL RUNOFF (AC-FT)	2740000		3197000		2783000	
ANNUAL RUNOFF (CFPM)	1.83		2.13		1.86	
ANNUAL RUNOFF (INCHES)	24.83		28.97		25.21	
10 PERCENT EXCEEDS	11500		12000		11700	
50 PERCENT EXCEEDS	1380		1270		1200	
90 PERCENT EXCEEDS	591		482		480	

- # See Period of Record; partial years used in monthly statistics
a Peak discharge adjusted to exclude surge; peak stage not adjusted to exclude surge
b From rating curve extended above 34,000 ft³/s on basis of velocity-area study,
from break-out of natural reservoir on Granite Creek tributary
c Site then in use

15266300 MATANUSKA RIVER AT PALMER—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-54, 1957-68, 1985-1987, and 2003 to current year (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Water years 1953-54, and 1959-1966.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Medium code	Stream width, feet (000004)	Location in X-sect. looking dwnstrm ft from l bank (000009)	Gage height, feet (00065)	Startng time, 24 hour clock, hr:min (82073)	Ending time, 24 hour clock, hr:min (82074)	Instan-taneous dis-charge, cfs (00061)	Sampler type, code (84164)	Sam-pling method, code (82398)	Temper-ature, water, deg C (00010)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT													
24...	1349	9	142	--	9.31	1349.00	1421.00	1840	3055	20	2.0	75	372
24...	1458	9	142	26.0	9.32	1458.00	1626.00	1840	1170	1000	2.0	--	--
24...	1635	H	--	--	--	1635.00	1650.00	--	8010	--	--	--	--

Date	Time	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Bedload sedi-ment discharge, tons/d (80225)	Bedload sedi-ment average unit composit t/d/ft (04122)	Compstd samples in x-sec bedload measmnt number (04118)	Number of sam-pling points, count (00063)	Verti-cals in com-posite sample, number (04119)	Hori-zontal width of verti-cal, feet (04121)	Rest time on bed load sample, seconds (04120)	Bag mesh size, bedload sampler mm (30333)	Bedload sedi-ment, sieve diametr percent <.25mm (80228)	Bedload sedi-ment, sieve diametr percent <.5 mm (80229)	Bedload sedi-ment, sieve diametr percent <1 mm (80230)	Bedload sedi-ment, sieve diametr percent <2 mm (80231)
OCT														
24...	92	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	27	.19	2	1	19	3.0	60	.025	.0	18	43	50
24...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Bedload sedi-ment, sieve diametr percent <4 mm (80232)	Bedload sedi-ment, sieve diametr percent <8 mm (80233)	Bedload sedi-ment, sieve diametr percent <16 mm (80234)	Bedload sedi-ment, sieve diametr percent <32 mm (80235)	Bedload sedi-ment, sieve diametr percent <64 mm (80236)	Bed sedi-ment, dry svd sve dia percent <.063mm (80164)	Bed sedi-ment, dry svd sve dia percent <.125mm (80165)	Bed sedi-ment, dry svd sve dia percent <.25mm (80166)	Bed sedi-ment, dry svd sve dia percent <.5 mm (80167)	Bed sedi-ment, dry svd sve dia percent <1 mm (80168)	Bed sedi-ment, dry svd sve dia percent <2 mm (80169)	Bed sedi-ment, dry svd sve dia percent <4 mm (80170)	Bed sedi-ment, dry svd sve dia percent <8 mm (80171)
OCT														
24...	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	58	--	68	85	99	100	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	1	4	19	42	42	42	42	43

Date	Time	Bed sedi-ment, dry svd sve dia percent <16 mm (80172)	Bed sedi-ment, dry svd sve dia percent <32 mm (80173)	Bed sedi-ment, dry svd sve dia percent <64 mm (80174)
OCT				
24...	--	--	--	--

15290000 LITTLE SUSITNA RIVER NEAR PALMER—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1948 - 2004#	
ANNUAL TOTAL	67741		55261			
ANNUAL MEAN	186		151		202	
HIGHEST ANNUAL MEAN					316 1949	
LOWEST ANNUAL MEAN					95.8 1969	
HIGHEST DAILY MEAN	1260	Jun 13	888	Sep 30	5040	Aug 10 1971
LOWEST DAILY MEAN	a21	Apr 9	b21	Mar 1	c8.0	Apr 1 1956
ANNUAL SEVEN-DAY MINIMUM	22	Apr 4	21	Feb 27	8.0	Apr 1 1956
MAXIMUM PEAK FLOW			2080		d7840 Aug 10 1971	
MAXIMUM PEAK STAGE			5.95		f13.00 Aug 10 1971	
INSTANTANEOUS LOW FLOW					8.0 Apr 1 1956	
ANNUAL RUNOFF (AC-FT)	134400		109600		146500	
ANNUAL RUNOFF (CFSM)	3.00		2.44		3.27	
ANNUAL RUNOFF (INCHES)	40.71		33.21		44.39	
10 PERCENT EXCEEDS	451		380		555	
50 PERCENT EXCEEDS	98		101		70	
90 PERCENT EXCEEDS	28		23		21	

See Period of Record for remark on low-flow records; partial years used in monthly statistics

a Apr. 9 and 10

b Mar. 1 to 4

c Apr. 1 to Apr. 20, 1956; and Mar. 11 and 12, 1957

d From rating curve extended above 4,600 ft³/s on basis of slope-area measurement of peak flow

f Gage height about 13.0 ft, from floodmarks; 9.84 ft in gage well; 12.30 ft at top of needle peak in gage well; at prior datum (WY 1974-91) at sites then in use

SOUTH-CENTRAL ALASKA

15292000 SUSITNA RIVER AT GOLD CREEK

LOCATION.--Lat 62°46'04", long 149°41'28", in NW¼ sec. 20, T. 31 N., R. 2 W. (Talkeetna Mts. D-6 quad), Matanuska-Susitna Borough, Hydrologic Unit 19020501, near left bank under Alaska Railroad bridge, 0.1 mi downstream from Gold Creek, 0.9 mi north of Gold Creek railroad station, and 2.0 mi. downstream from Indian River.

DRAINAGE AREA.--6,160 mi², approximately.

PERIOD OF RECORD.--August 1949 to 1996 and May 2001 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 676.50 ft above sea level. Prior to June 6, 1957, non-recording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mi upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. GOES satellite telemetry at station. Rain gage at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES

Table with 13 columns (DAY, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP) showing daily discharge values from 1 to 31 days. Includes summary statistics like TOTAL, MEAN, MAX, MIN, AC-FT, CFSM, IN. at the bottom of the table.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2004, BY WATER YEAR (WY)#

Table with 13 columns showing monthly mean data statistics for water years 1949 through 1999, including MEAN, MAX, (WY), MIN, and (WY) for each year.

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1949 - 2004#

Summary statistics table comparing 2003 calendar year, 2004 water year, and historical data (1949-2004) for metrics like ANNUAL TOTAL, ANNUAL MEAN, HIGHEST ANNUAL MEAN, etc.

See Period of Record; partial years used in monthly statistics
a Apr. 6-9
b Mar. 22-31
c Feb. 16-20, 1950
d Maximum observed, ice jam
e Estimated

SOUTH-CENTRAL ALASKA

15292700 TALKEETNA RIVER NEAR TALKEETNA—Continued
(Hydrologic Bench-Mark Station)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1964 - 2004#	
ANNUAL TOTAL	1426220		1319670		4030	
ANNUAL MEAN	3907		3606		5389	
HIGHEST ANNUAL MEAN					2249	
LOWEST ANNUAL MEAN					1969	
HIGHEST DAILY MEAN	22900	Jul 17	10900	Jun 8	63200	Oct 11 1986
LOWEST DAILY MEAN	a350	Apr 4	b460	Mar 24	c260	Feb 27 1982
ANNUAL SEVEN-DAY MINIMUM	353	Apr 2	460	Mar 24	260	Feb 27 1982
MAXIMUM PEAK FLOW			12100	Jun 8	75700	Oct 11 1986
MAXIMUM PEAK STAGE			7.65	Jun 8	17.38	Oct 11 1986
ANNUAL RUNOFF (AC-FT)	2829000		2618000		2919000	
ANNUAL RUNOFF (CFSM)	1.96		1.81		2.02	
ANNUAL RUNOFF (INCHES)	26.58		24.60		27.43	
10 PERCENT EXCEEDS	10100		8840		10500	
50 PERCENT EXCEEDS	2120		1910		1400	
90 PERCENT EXCEEDS	400		500		500	

See Period of Record; partial years used in monthly statistics

a Apr. 4-8

b Mar. 24-31

c From Feb. 27 to Mar. 20, 1982

15294005 WILLOW CREEK NEAR WILLOW

LOCATION.--Lat 61°46'51", long 149°53'04", in NW¹/₄ SE¹/₄ sec. 31, T.20 N., R.3 W. (Anchorage D-8 quad), Matanuska-Susitna Borough, Hydrologic Unit 19020505, on the right bank, 0.9 mi downstream from unnamed tributary, 5.5 mi northeast of Willow, and 6.7 mi upstream from Deception Creek.

DRAINAGE AREA.--166 mi².

PERIOD OF RECORD.--June 1978 to September 1993, and May 2001 to current year.

REVISED RECORDS.--WRD-AK-80-1: 1979 (M).

GAGE.--Water-stage recorder. Elevation of gage is 350 ft above sea level from topographic map. Prior to Apr. 2, 1981 at site 0.2 mi upstream at different datum.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Rain gage at station. GOES satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge 2,300 ft³/s and maximums (*).

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jun 17	0915	*a1890	*b4.47	No peaks greater than base discharge			

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	690	253	e70	e80	e60	e55	e48	483	779	319	210	307
2	540	297	e70	e80	e60	e55	e50	482	783	300	185	358
3	828	267	e70	e75	e60	e55	e50	383	708	389	160	346
4	1190	248	e70	e75	e60	e55	e50	472	659	409	159	349
5	806	240	e70	e75	e60	e55	e55	534	717	405	158	302
6	685	251	e75	e75	e60	e50	53	574	777	332	152	275
7	616	272	e75	e75	e60	e50	52	674	860	290	145	256
8	560	331	e80	e75	e60	e50	53	770	769	266	138	241
9	552	315	e85	e75	e60	e50	53	749	678	250	134	230
10	511	271	e90	e75	e60	e50	54	620	619	236	132	221
11	460	189	e95	e70	e60	e50	54	732	595	218	130	214
12	424	241	e95	e70	e60	e50	57	742	542	206	136	208
13	398	209	e95	e70	e60	e50	59	798	578	196	129	243
14	383	169	e95	e70	e60	e50	60	847	618	189	123	235
15	366	140	e90	e70	e60	e50	65	859	587	182	120	212
16	342	e130	e90	e70	e55	e50	71	848	539	177	119	201
17	318	e120	e90	e70	e55	e50	71	836	1310	174	114	194
18	309	e110	e90	e70	e55	e50	70	864	928	176	108	187
19	306	e100	e90	e70	e55	e50	69	950	769	168	108	187
20	294	e100	e85	e70	e55	e50	73	977	699	162	159	221
21	276	e95	e85	e65	e55	e50	76	989	632	187	159	305
22	270	e90	e85	e65	e55	e48	83	1030	568	171	134	326
23	260	e85	e85	e65	e55	e48	95	1150	512	158	122	417
24	273	e85	e85	e65	e55	e48	104	1280	475	157	115	301
25	362	e80	e85	e65	e55	e48	116	1370	440	160	110	279
26	475	e80	e85	e65	e55	e48	137	1150	416	150	257	497
27	353	e80	e80	e65	e55	e48	150	996	393	151	728	513
28	294	e75	e80	e65	e55	e48	139	1010	370	172	836	393
29	222	e75	e80	e65	e55	e48	189	858	353	234	524	384
30	298	e75	e80	e65	---	e46	301	815	336	250	392	1810
31	269	---	e80	e65	---	e46	---	846	---	244	327	---
TOTAL	13930	5073	2580	2175	1670	1551	2557	25688	19009	7078	6523	10212
MEAN	449	169	83.2	70.2	57.6	50.0	85.2	829	634	228	210	340
MAX	1190	331	95	80	60	55	301	1370	1310	409	836	1810
MIN	222	75	70	65	55	46	48	383	336	150	108	187
AC-FT	27630	10060	5120	4310	3310	3080	5070	50950	37700	14040	12940	20260
CFSM	2.71	1.02	0.50	0.42	0.35	0.30	0.51	4.99	3.82	1.38	1.27	2.05
IN.	3.12	1.14	0.58	0.49	0.37	0.35	0.57	5.76	4.26	1.59	1.46	2.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)#

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	417	163	107	84.6	75.5	62.6	90.9	630	1018	665	594	629															
MAX	1197	364	152	112	134	97.5	205	1578	1500	1287	1286	1177															
(WY)	1987	1980	1980	1980	2003	1990	1990	1990	1990	1980	1981	1993															
MIN	177	81.5	57.3	57.1	52.9	33.7	45.8	328	484	228	210	259															
(WY)	1985	1985	1981	1981	1981	1982	2002	2003	1981	2004	2004	1978															

See Period of Record; partial years used in monthly statistics

a Maximum discharge, 3,590 ft³/s, Sep. 30, stage rising, peak occurred Oct. 1, 2004

b Maximum stage, 5.63 ft., Sep. 30, stage rising, peak occurred Oct. 1, 2004

e Estimated

SOUTH-CENTRAL ALASKA

15294005 WILLOW CREEK NEAR WILLOW—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004#	
ANNUAL TOTAL	108849		98046			
ANNUAL MEAN	298		268		386	
HIGHEST ANNUAL MEAN					536 1990	
LOWEST ANNUAL MEAN					268 2004	
HIGHEST DAILY MEAN	1290	Jun 13	1810	Sep 30	8670	Oct 11 1986
LOWEST DAILY MEAN	30	Apr 6	c46	Mar 30	30	Apr 6 2003
ANNUAL SEVEN-DAY MINIMUM	32	Apr 1	47	Mar 25	32	Apr 1 2003
MAXIMUM PEAK FLOW			d1890	Jun 17	f12000	Oct 11 1986
MAXIMUM PEAK STAGE			d4.47	Jun 17	9.01	Oct 11 1986
MAXIMUM PEAK STAGE			d5.63	Sep 30	g9.40	Dec 18 1986
ANNUAL RUNOFF (AC-FT)	215900		194500		279300	
ANNUAL RUNOFF (CFSM)	1.80		1.61		2.32	
ANNUAL RUNOFF (INCHES)	24.39		21.97		31.56	
10 PERCENT EXCEEDS	683		729		966	
50 PERCENT EXCEEDS	241		150		195	
90 PERCENT EXCEEDS	70		55		60	

See Period of Record; partial years used in monthly statistics

c Mar. 30, 31

d Maximum discharge, 3,590 ft³/s, Sep. 30, gage-height 5.63 ft., stage rising, peak occurred Oct. 1, 2004; maximum peak discharge, 1,890 ft³/s, Jun. 17, gage-height 4.47 ft.

f From rating curve extended above 3,900 ft³/s on basis of slope-area measurement of peak flow

g Backwater from ice

15294700 JOHNSON RIVER ABOVE LATERAL GLACIER NEAR TUXEDNI BAY

LOCATION.--Lat 60°05'41", long 152°54'38", in SW¹/₄ NW¹/₄ NW¹/₄ sec. 16, T. 1 S., R. 21 W. (Kenai A-8 quad), Kenai Peninsula Borough, Hydrologic Unit 19020602, on the right bank about 20 mi upstream from mouth, 10 mi south of Tuxedni Bay, and 60 mi northeast of Iliamna.

DRAINAGE AREA.--24.8 mi².

PERIOD OF RECORD.--July 1995 to September 2004 (discontinued) (no winter record).

GAGE.--Water-stage recorder. Elevation of gage is 450 ft above sea level, from topographic map. July 1995 to June 1996, at site 300 ft downstream at same datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 11,900 ft³/s, October 1, 2003, from rating curve extended above 3,500 ft³/s on the basis of slope-area measurement, gage height 17.49 ft., minimum not determined, occurs during the winter.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for the period October 2003 and May through September 2004; 11,900 ft³/s, October 1, from rating curve extended above 3,500 ft³/s on the basis of slope-area measurement, gage height 17.49 ft. from high-water mark; minimum not determined, occurs during the winter.

REMARKS.--Records are fair except for estimated discharges, which are poor. Rain gage at station. 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	e11000	---	---	---	---	---	---	24	369	761	600	537
2	e9000	---	---	---	---	---	---	25	381	671	701	781
3	e4000	---	---	---	---	---	---	27	377	638	606	704
4	e3000	---	---	---	---	---	---	e30	475	741	567	412
5	e2000	---	---	---	---	---	---	e35	535	801	538	317
6	e1500	---	---	---	---	---	---	e50	589	848	618	386
7	965	---	---	---	---	---	---	e70	636	914	698	395
8	546	---	---	---	---	---	---	e60	536	992	674	284
9	241	---	---	---	---	---	---	e50	476	902	606	193
10	180	---	---	---	---	---	---	e60	477	899	739	223
11	e150	---	---	---	---	---	---	e80	491	864	803	231
12	e120	---	---	---	---	---	---	e100	452	900	658	232
13	e100	---	---	---	---	---	---	e140	480	786	521	193
14	e130	---	---	---	---	---	---	e160	531	655	498	140
15	e250	---	---	---	---	---	---	180	518	604	598	116
16	e210	---	---	---	---	---	---	278	1200	549	758	105
17	e190	---	---	---	---	---	---	346	1770	682	833	94
18	e170	---	---	---	---	---	---	235	1620	1210	796	84
19	e150	---	---	---	---	---	---	211	1310	1120	755	111
20	121	---	---	---	---	---	---	283	1260	784	742	129
21	113	---	---	---	---	---	---	367	1090	589	628	105
22	106	---	---	---	---	---	---	449	997	686	582	151
23	98	---	---	---	---	---	---	842	910	768	574	121
24	97	---	---	---	---	---	---	713	810	576	586	85
25	99	---	---	---	---	---	---	554	878	539	610	76
26	191	---	---	---	---	---	---	455	1110	2210	643	90
27	152	---	---	---	---	---	---	429	1160	3010	595	69
28	115	---	---	---	---	---	---	435	977	1950	598	63
29	97	---	---	---	---	---	---	385	813	928	543	70
30	94	---	---	---	---	---	---	378	823	648	633	197
31	94	---	---	---	---	---	---	367	---	543	554	---
TOTAL	35279	---	---	---	---	---	---	7818	24051	28768	19855	6694
MEAN	1138	---	---	---	---	---	---	252	802	928	640	223
MAX	11000	---	---	---	---	---	---	842	1770	3010	833	781
MIN	94	---	---	---	---	---	---	24	369	539	498	63
AC-FT	69980	---	---	---	---	---	---	15510	47710	57060	39380	13280
CFSM	45.9	---	---	---	---	---	---	10.2	32.3	37.4	25.8	9.00
IN.	52.92	---	---	---	---	---	---	11.73	36.08	43.15	29.78	10.04

e Estimated

15294700 JOHNSON RIVER ABOVE LATERAL GLACIER NEAR TUXEDNI BAY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1998 to 2001, and June 2004 to September 2004(discontinued)

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June to September 2004.
 SPECIFIC CONDUCTANCE: June to September 2004.
 pH: June to September 2004.
 DISSOLVED OXYGEN: June to September 2004.
 TURBIDITY: June to September 2004.

INSTRUMENTATION.--Water-quality monitor set for 15 minute recording interval.

REMARKS.-- Record from June 3 to September 22. Interruptions in record were due to malfunction of the monitoring instruments. Water temperature: Records represent water temperature at the sensor within 0.5°C. Temperature at the sensor was compared with the average for the stream by cross section on June 3, and 24, July 20, August 17, and September 8, and 15. No variation more than 0.5°C was found within the cross section. No variation was found between mean stream temperature and sensor temperature.

Specific Conductance: Records represent specific conductance at the sensor within 5%. Specific conductance at the sensor was compared with the average for the stream by cross section on June 3, and 24, July 20, August 17, and September 8, and 15. Variation more than 5% was found within the cross section on June 3 and 24. Variation was less than 5% between mean stream and sensor specific conductance.

pH: Records represent pH at the sensor within 0.2 pH units. pH at the sensor was compared with the average for the stream by cross section on June 24, July 20, August 17, and September 8, and 15. No variation more than 0.2 pH units was found within the cross section. No variation more than 0.2 pH units was found between mean stream and sensor pH.

Dissolved Oxygen: Records represent dissolved oxygen at the sensor within 0.3 mg/l. Dissolved Oxygen concentrations at the sensor was compared with the average for the stream by cross section on June 24, July 20, August 17, and September 8, and 15. Variation more than 0.3 mg/l units was found within the cross section on August 17. No variation more than 0.3 mg/l was found between mean stream and sensor dissolved oxygen concentrations.

Turbidity: Records represent turbidity at the sensor within 10%. No values over 328 FNU were logged due to equipment malfunction. Values were greater than 328 FNU on June 7, 17-20, July 9-10, 18-19, and 26-28. Turbidity at the sensor was compared with the average for the stream by cross section on June 3, and 24, July 20, August 17, and September 8, and 15. Variation more than 10% was found within the cross section on June 24, July 20, and August 17. No variation more than 10% was found between mean stream and sensor turbidity.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 7.0°C, August 1 and September 6, 11, 16, and 21; Minimum recorded, 1.0°C, several days in June and September.

SPECIFIC CONDUCTANCE: Maximum recorded, 82 microsiemens per centimeter, September 19-20; minimum recorded, 28 microsiemens per centimeter, July 8, and August 18-19.

pH: Maximum recorded, 9.1 units, July 27; minimum recorded, 7.2 units, several days in June.

DISSOLVED OXYGEN: Maximum recorded, 14.2 mg/L, June 6-8; minimum recorded, 12.1 mg/L, August 21, September 11, and 16-17.

TURBIDITY: Maximum recorded, undetermined; minimum recorded, 1.74 FNU, September 22.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Minimum observed, 0.0°C, May 17, 1999.

SPECIFIC CONDUCTANCE: Maximum observed, 105 microsiemens per centimeter, May 9, 2000.

pH: Minimum observed, 6.9 units, September 27, 2001.

DISSOLVED OXYGEN: Maximum observed, 15.3 mg/L, June 15, 2000; minimum observed, 11.5 mg/L, September 3, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Medium code	Stream width, feet (000004)	Sample location, cross section, ft from rt bank (72103)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Specific conductance, uS/cm wat unf 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)
JUN													
03...	1250	9	99.5	9.5	11.57	407	10	65	--	2.5	8.2	755	--
03...	1251	9	99.5	29.5	11.57	407	10	63	--	2.6	8.2	755	--
03...	1252	9	99.5	49.5	11.57	407	10	62	--	2.6	8.2	755	--
03...	1253	9	99.5	69.5	11.57	407	10	61	--	2.6	8.2	755	--
03...	1254	9	99.5	89.5	11.57	407	10	60	--	2.7	8.2	755	--
24...	1501	9	144	5.0	11.86	789	10	48	7.6	3.2	9.9	755	13.4
24...	1503	9	144	39.0	11.86	789	10	45	7.7	2.8	9.9	755	13.4
24...	1504	9	144	73.0	11.86	789	10	44	7.7	2.9	9.9	755	13.5
24...	1505	9	144	107.0	11.86	789	10	44	7.7	3.0	9.9	755	13.4
24...	1506	9	144	141.0	11.86	789	10	44	7.7	3.1	9.9	755	13.3
JUL													
20...	1330	9	100	5.0	11.84	778	10	38	7.5	3.6	16.2	749	13.1
20...	1335	9	100	25.0	11.84	778	10	37	7.5	3.6	16.2	749	13.3
20...	1337	9	100	45.0	11.84	778	10	37	7.5	3.6	16.2	749	13.3
20...	1338	9	100	65.0	11.84	778	10	37	7.5	3.6	16.2	749	13.3
20...	1339	9	100	85.0	11.84	778	10	37	7.5	3.7	16.2	749	13.3
20...	1340	9	100	96.0	11.84	778	10	38	7.6	3.8	16.2	749	13.2
AUG													
17...	1116	9	102	8.0	11.80	665	10	32	7.2	3.9	24.0	751	12.8
17...	1117	9	102	28.0	11.80	665	10	32	7.1	3.8	24.0	751	13.0
17...	1118	9	102	48.0	11.80	665	10	32	7.2	3.8	24.0	751	13.1
17...	1119	9	102	68.0	11.80	665	10	32	7.2	3.8	24.0	751	13.2
17...	1120	9	102	96.0	11.80	665	10	32	7.2	3.8	24.0	751	13.1

15294700 JOHNSON RIVER ABOVE LATERAL GLACIER NEAR TUXEDNI BAY—Continued

Temperature, water, degrees Celsius
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	2.5	2.0	2.5	7.0	2.5	4.0	5.5	2.5	3.5
2	---	---	---	3.5	2.0	2.5	6.0	2.5	4.0	4.0	2.0	3.0
3	3.5	---	---	4.0	2.0	3.0	5.5	2.5	3.5	5.5	2.0	3.0
4	4.0	1.0	2.0	6.0	2.0	3.5	5.5	2.5	3.5	6.0	1.0	3.0
5	3.0	1.0	1.5	6.5	2.0	3.5	6.5	2.5	4.0	5.5	1.5	3.0
6	3.5	1.0	2.0	6.0	2.0	3.5	6.5	2.0	4.0	7.0	1.5	3.5
7	3.0	1.0	1.5	6.0	2.0	3.5	6.0	2.0	3.5	6.5	1.5	3.0
8	3.5	1.0	2.0	5.5	2.0	3.5	6.0	2.0	3.5	6.5	1.5	3.0
9	3.0	1.0	1.5	6.0	2.0	3.5	3.5	2.0	3.0	5.5	1.5	3.0
10	2.0	1.0	1.5	6.0	2.0	3.5	6.0	2.5	4.0	4.0	2.5	3.0
11	2.5	1.5	2.0	6.0	2.0	3.5	6.0	2.0	3.5	7.0	1.5	3.5
12	3.5	1.0	2.5	6.0	2.0	3.5	6.5	2.5	3.5	6.0	1.5	3.0
13	4.5	1.5	2.5	6.0	2.0	3.5	6.0	2.0	3.5	6.0	1.5	3.0
14	2.5	1.5	2.0	6.0	2.0	3.5	6.5	2.0	4.0	6.5	1.0	3.0
15	3.0	1.5	2.0	5.0	2.5	3.5	5.5	2.0	3.5	6.5	1.0	3.0
16	1.5	1.0	1.0	4.0	2.5	3.0	5.5	2.5	3.5	7.0	1.0	3.0
17	1.5	1.0	1.0	3.5	2.5	3.0	5.5	2.5	3.5	6.5	1.0	2.5
18	1.5	1.0	1.0	3.0	2.5	2.5	5.5	2.5	3.5	5.0	1.0	2.5
19	4.0	1.0	2.5	4.5	2.0	3.0	4.5	2.5	3.0	3.0	2.5	2.5
20	4.5	1.0	2.5	3.5	2.0	2.5	4.0	2.5	3.0	6.0	3.0	3.5
21	5.0	1.0	3.0	4.5	2.0	3.0	6.0	2.0	3.5	7.0	2.0	4.0
22	5.5	1.5	3.0	3.5	2.5	3.0	4.5	2.0	3.0	5.0	2.5	3.5
23	6.0	1.5	3.0	4.5	2.0	3.0	3.0	2.5	2.5	---	---	---
24	3.0	1.5	2.5	5.0	1.5	3.0	5.0	2.0	3.0	---	---	---
25	6.5	1.5	3.5	3.5	2.5	3.0	5.5	2.0	3.0	---	---	---
26	6.0	2.0	3.5	4.0	2.5	3.5	4.5	2.0	3.0	---	---	---
27	5.5	2.0	3.0	3.5	2.5	3.0	3.5	2.0	2.5	---	---	---
28	4.5	1.5	3.0	4.0	2.5	3.0	5.0	2.0	3.0	---	---	---
29	4.5	1.5	3.0	5.5	2.5	3.5	6.0	2.0	3.5	---	---	---
30	6.0	1.5	3.5	6.5	2.5	4.0	5.5	1.5	3.0	---	---	---
31	---	---	---	6.5	2.5	4.0	5.0	2.0	3.0	---	---	---
MONTH	---	---	---	6.5	1.5	3.2	7.0	1.5	3.4	---	---	---

Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	41	38	40	44	36	40	46	39	43
2	---	---	---	42	41	42	38	34	36	39	36	37
3	---	---	---	43	41	42	39	36	37	42	36	39
4	66	62	65	41	36	39	39	37	38	50	42	46
5	62	59	61	39	34	37	41	37	39	55	47	51
6	60	54	58	37	33	35	41	35	38	55	44	50
7	58	53	55	35	31	33	40	34	37	56	46	51
8	60	57	59	33	31	32	39	34	37	58	46	52
9	62	59	60	40	31	35	42	36	38	58	50	54
10	62	59	61	41	33	36	39	32	36	53	48	50
11	60	59	59	36	31	33	36	32	34	54	45	50
12	61	59	60	34	30	32	38	33	36	55	42	49
13	61	57	59	35	32	34	41	35	38	55	45	52
14	58	57	57	38	34	36	42	35	39	61	54	58
15	57	56	57	37	35	36	39	33	36	66	60	63
16	56	39	47	39	36	38	36	30	33	69	62	66
17	43	37	40	38	31	36	34	28	31	72	65	69
18	49	41	45	35	29	32	33	28	31	76	68	74
19	49	45	48	37	33	35	33	30	32	82	73	78
20	49	44	46	40	35	37	34	30	32	82	74	78
21	48	44	46	42	39	41	37	30	34	79	73	75
22	48	45	46	41	36	39	38	33	35	75	58	69
23	49	45	47	38	36	37	36	34	35	---	---	---
24	49	46	47	41	38	39	39	33	35	---	---	---
25	47	41	45	42	38	40	38	31	34	---	---	---
26	41	36	39	38	30	33	36	33	33	---	---	---
27	39	36	37	36	28	31	41	35	39	---	---	---
28	40	36	39	37	29	33	44	39	41	---	---	---
29	42	40	41	42	37	40	44	35	40	---	---	---
30	41	38	40	43	41	42	44	35	40	---	---	---
31	---	---	---	45	42	43	45	40	42	---	---	---
MONTH	---	---	---	45	28	37	45	28	36	---	---	---

15294700 JOHNSON RIVER ABOVE LATERAL GLACIER NEAR TUXEDNI BAY—Continued

pH, water, unfiltered, field, standard units
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.5	7.4	7.5	7.6	7.5	7.6	7.5	7.4	7.4
2	---	---	---	7.5	7.4	7.5	7.6	7.5	7.6	7.5	7.4	7.4
3	---	---	---	7.5	7.4	7.5	7.6	7.5	7.6	7.5	7.4	7.5
4	7.3	7.2	7.2	7.5	7.4	7.5	7.6	7.5	7.5	7.5	7.4	7.5
5	7.2	7.2	7.2	7.6	7.4	7.5	7.6	7.5	7.5	7.5	7.4	7.4
6	7.3	7.2	7.2	7.7	7.4	7.5	7.6	7.5	7.5	7.5	7.4	7.4
7	7.5	7.2	7.3	7.5	7.4	7.5	7.7	7.4	7.5	7.5	7.4	7.4
8	7.6	7.4	7.5	7.7	7.4	7.5	7.7	7.5	7.5	7.5	7.4	7.4
9	7.4	7.4	7.4	8.9	7.4	7.8	7.6	7.4	7.5	7.6	7.4	7.5
10	7.5	7.4	7.4	9.0	7.6	8.2	7.6	7.4	7.5	7.5	7.4	7.4
11	7.4	7.3	7.4	7.7	7.5	7.6	7.6	7.4	7.5	7.6	7.4	7.5
12	7.4	7.3	7.4	7.7	7.5	7.6	7.6	7.5	7.5	7.6	7.4	7.5
13	7.4	7.3	7.4	7.6	7.5	7.6	7.6	7.4	7.5	7.6	7.4	7.5
14	7.4	7.3	7.4	7.7	7.5	7.6	7.6	7.4	7.5	7.6	7.4	7.5
15	7.4	7.4	7.4	7.6	7.5	7.6	7.5	7.4	7.5	7.6	7.4	7.5
16	7.4	7.2	7.3	7.6	7.5	7.6	7.6	7.4	7.5	7.6	7.4	7.5
17	7.5	7.3	7.3	7.6	7.5	7.5	7.6	7.4	7.5	7.6	7.4	7.5
18	8.3	7.5	7.7	8.7	7.5	8.0	7.5	7.4	7.4	7.6	7.4	7.5
19	8.4	7.6	7.8	8.9	8.1	8.5	7.4	7.3	7.4	7.5	7.4	7.4
20	8.4	7.4	7.6	8.1	7.5	7.8	7.5	7.3	7.4	7.5	7.4	7.4
21	7.4	7.3	7.4	7.8	7.7	7.8	7.5	7.4	7.4	7.5	7.4	7.5
22	7.4	7.3	7.4	7.8	7.6	7.7	7.5	7.4	7.5	7.5	7.4	7.4
23	7.4	7.3	7.4	7.8	7.6	7.7	7.5	7.4	7.4	---	---	---
24	7.5	7.4	7.4	7.8	7.6	7.7	7.5	7.4	7.5	---	---	---
25	7.5	7.4	7.4	7.7	7.6	7.7	7.5	7.4	7.5	---	---	---
26	7.4	7.3	7.4	8.9	7.6	7.9	7.5	7.4	7.4	---	---	---
27	7.6	7.4	7.5	9.1	7.8	8.5	7.5	7.4	7.5	---	---	---
28	7.6	7.4	7.5	8.0	7.7	7.7	7.5	7.4	7.4	---	---	---
29	7.6	7.5	7.5	7.7	7.6	7.7	7.5	7.4	7.4	---	---	---
30	7.6	7.4	7.5	7.7	7.6	7.6	7.5	7.4	7.4	---	---	---
31	---	---	---	7.6	7.6	7.6	7.5	7.4	7.4	---	---	---
MONTH	---	---	---	9.1	7.4	7.7	7.7	7.3	7.5	---	---	---

Dissolved oxygen, water, unfiltered, milligrams per liter

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	13.2	13.1	13.1	13.2	12.3	12.9	13.1	12.6	12.9
2	---	---	---	13.2	12.9	13.1	13.3	12.5	13.0	13.0	12.7	12.8
3	---	---	13.7	13.2	12.8	13.1	13.3	12.6	13.0	13.2	12.3	12.8
4	14.0	13.2	13.7	13.2	12.3	12.9	13.2	12.7	13.0	13.5	12.3	13.1
5	14.0	13.6	13.8	13.2	12.3	12.9	13.2	12.3	13.0	13.4	12.5	13.1
6	14.2	13.5	13.9	13.3	12.5	13.0	13.4	12.5	13.0	13.4	12.3	13.1
7	14.2	13.6	14.0	13.3	12.5	13.0	13.6	12.7	13.2	13.7	12.3	13.1
8	14.2	13.6	13.9	13.3	12.6	13.0	13.6	12.7	13.2	13.6	12.2	13.0
9	14.1	13.6	13.8	13.3	12.4	12.9	13.6	13.2	13.3	13.2	12.2	12.8
10	13.9	13.7	13.8	13.4	12.5	12.9	13.4	12.5	13.1	12.9	12.7	12.8
11	13.8	13.4	13.6	13.2	12.4	12.9	13.4	12.7	13.2	13.1	12.1	12.8
12	13.8	13.1	13.5	13.2	12.5	12.9	13.5	12.7	13.2	13.2	12.3	12.9
13	13.8	13.0	13.5	13.3	12.4	12.9	13.5	12.7	13.2	13.3	12.2	13.0
14	13.8	13.5	13.7	13.2	12.4	12.9	13.5	12.6	13.2	13.3	12.2	12.9
15	13.9	13.5	13.7	13.1	12.6	12.9	13.5	12.7	13.2	13.4	12.1	12.9
16	14.2	13.7	14.0	13.2	12.8	13.0	13.4	12.8	13.2	13.4	12.1	13.0
17	14.2	13.9	14.1	13.1	12.9	13.0	13.4	12.4	13.0	13.5	12.1	13.0
18	14.2	14.0	14.1	13.2	12.9	13.1	13.0	12.2	12.7	13.4	12.3	12.9
19	14.1	13.2	13.7	13.2	12.6	13.0	12.8	12.3	12.6	12.9	12.5	12.7
20	13.9	13.0	13.5	13.2	12.8	13.0	12.9	12.5	12.8	12.6	11.9	12.4
21	13.8	12.8	13.4	13.2	12.7	13.0	12.9	12.1	12.7	12.9	11.8	12.4
22	13.8	12.5	13.2	13.1	12.9	13.0	12.9	12.4	12.7	12.8	12.4	12.6
23	13.6	12.5	13.2	13.3	12.8	13.1	12.8	12.6	12.7	---	---	13.0
24	13.5	13.1	13.3	13.4	12.6	13.0	12.9	12.3	12.6	---	---	---
25	13.4	12.3	12.9	13.2	13.0	13.1	13.0	12.2	12.7	---	---	---
26	13.3	12.4	12.9	13.2	12.8	13.0	13.0	12.4	12.8	---	---	---
27	13.4	12.6	13.1	13.3	12.9	13.1	13.0	12.6	12.9	---	---	---
28	13.4	12.7	13.1	13.0	12.7	12.9	12.9	12.3	12.8	---	---	---
29	13.4	12.6	13.1	13.1	12.5	12.9	13.1	12.3	12.8	---	---	---
30	13.3	12.4	12.9	13.2	12.3	12.9	13.2	12.4	12.9	---	---	---
31	---	---	---	13.2	12.2	12.9	13.3	12.7	13.0	---	---	---
MONTH	---	---	---	13.4	12.2	13.0	13.6	12.1	13.0	---	---	---

15294700 JOHNSON RIVER ABOVE LATERAL GLACIER NEAR TUXEDNI BAY—Continued

Turbidity, water, monochrome near infra-red LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees,
 Formalin Nephelometric Units (FNU) WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	41.7	33.4	37.5	62.6	23.7	39.2	22.1	7.91	13.1
2	---	---	---	58.6	31.0	36.8	68.3	34.6	46.2	44.6	11.8	29.7
3	---	---	---	73.7	30.8	37.0	46.1	28.7	35.5	44.3	14.3	23.5
4	28.6	10.6	15.9	73.7	35.9	43.9	33.8	24.2	28.0	23.9	9.82	15.4
5	45.9	19.3	25.6	78.9	36.1	54.0	42.0	21.5	25.2	18.6	8.38	11.7
6	293	19.2	48.1	79.2	44.9	56.6	51.3	20.4	30.3	20.4	7.06	12.1
7	---	35.4	61.9	79.1	41.0	57.3	95.5	23.3	32.1	22.4	7.37	11.0
8	228	53.8	96.0	107	53.0	66.0	95.5	19.4	26.7	14.9	5.31	10.0
9	93.5	42.5	60.6	---	57.0	---	36.4	18.2	21.3	10.5	7.41	8.78
10	81.9	38.7	56.4	---	65.8	---	51.1	18.2	29.6	19.6	8.12	12.1
11	47.0	20.8	31.1	83.0	52.8	65.9	49.2	23.6	31.7	18.1	8.24	11.2
12	106	20.1	34.1	86.9	53.2	65.9	32.6	20.9	26.0	21.1	7.45	12.1
13	73.8	23.6	35.5	72.4	41.4	50.4	26.1	17.2	20.9	19.9	7.57	10.4
14	32.3	19.1	22.7	54.0	32.5	42.1	31.8	13.7	20.0	8.39	6.46	7.24
15	23.1	16.6	19.3	54.9	28.4	35.3	36.1	17.5	26.1	7.59	5.26	6.20
16	163	20.3	87.6	38.4	25.4	30.7	56.7	22.8	35.8	7.30	4.46	5.43
17	---	74.5	---	124	26.4	50.3	94.9	24.4	43.5	6.09	3.65	4.46
18	---	194	---	---	124	---	63.5	22.6	35.4	4.87	2.44	3.16
19	---	174	---	---	143	---	49.2	20.6	28.4	7.74	2.14	3.99
20	---	105	---	199	54.5	91.7	75.4	17.8	31.8	3.37	2.24	2.53
21	106	56.1	78.3	56.6	36.6	45.7	42.2	16.5	26.0	3.37	1.84	2.48
22	71.0	48.8	54.8	94.2	33.9	47.0	35.0	14.6	21.6	70.1	1.74	13.0
23	50.4	39.9	44.0	71.3	48.7	57.2	35.9	13.9	22.8	---	---	---
24	65.2	37.3	46.2	77.6	30.4	39.8	38.4	14.9	23.7	---	---	---
25	91.9	33.5	48.7	48.9	28.0	33.3	66.6	13.7	23.1	---	---	---
26	95.3	44.1	64.4	---	38.1	---	33.2	16.3	23.3	---	---	---
27	142	57.6	77.3	---	288	---	29.6	11.8	19.4	---	---	---
28	102	54.2	64.7	---	107	195	26.3	10.7	16.7	---	---	---
29	80.6	46.3	56.8	114	50.9	74.2	29.6	6.95	15.3	---	---	---
30	62.3	39.8	50.0	55.4	34.0	43.4	33.7	10.8	16.6	---	---	---
31	---	---	---	43.1	26.6	32.2	19.4	8.21	13.5	---	---	---
MONTH	---	---	---	---	25.4	---	95.5	6.95	27.0	---	---	---

15295700 TERROR RIVER AT MOUTH NEAR KODIAK

LOCATION.--Lat 57°41'41", long 153°09'42", in SW¹/₄ NE¹/₄ sec. 5, T. 29 S., R. 24 W. (Kodiak C-4 quad), Kodiak Island Borough, Hydrologic Unit 19020701, on Kodiak Island, in Kodiak National Wildlife Refuge, on right bank, 0.9 mi upstream from mouth, 7.5 mi downstream from Terror Lake Dam, and 29 mi southwest of Kodiak.

DRAINAGE AREA.--30.7 mi², 45.7 mi² prior to partial diversion of Terror Lake to hydropower plant in February 1985.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1964 to October 1968, October 1981 to current year.

REVISED RECORDS.--WDR AK-84-1: 1982-83. WDR AK-96-1: 1995(M).

GAGE.--Water-stage recorder. Elevation of gage is 30 ft above sea level, from topographic map. Prior to October 1, 1981 at site 0.2 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Flow from 15 mi² at headwaters regulated by Terror Lake Dam and some flow diverted from Terror Lake to Kizhuyak River. Regulation for construction began in November 1982. Began filling reservoir April 29, 1984. Diversion to hydropower plant began February 12, 1985. 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	2260	268	143	136	137	92	109	459	440	329	175	184
2	1480	241	142	135	136	153	118	309	526	260	173	190
3	468	195	154	126	137	119	121	232	607	264	181	210
4	322	192	190	135	137	104	123	267	533	254	188	189
5	989	196	165	140	137	94	145	322	539	223	178	177
6	1310	198	146	134	135	88	207	463	482	230	181	179
7	780	188	142	134	136	80	180	558	460	264	171	176
8	529	194	137	131	151	85	282	443	359	267	172	171
9	365	192	155	129	150	102	406	330	293	262	186	170
10	256	199	136	126	307	94	216	281	307	247	186	172
11	205	199	146	124	219	88	157	325	710	225	183	173
12	198	193	148	119	198	85	130	295	1270	224	179	169
13	202	188	142	121	551	82	127	276	811	226	179	170
14	2080	188	151	120	288	82	135	257	503	206	177	172
15	3780	184	146	116	203	82	140	280	443	205	180	179
16	1940	160	135	116	182	83	142	384	483	215	181	169
17	749	147	130	112	145	83	144	382	463	212	182	157
18	415	142	132	117	119	80	133	315	681	197	177	157
19	271	148	133	160	104	79	131	444	524	208	196	166
20	248	135	129	151	96	80	137	457	440	211	186	165
21	263	136	129	167	96	81	173	406	382	225	192	159
22	377	131	145	151	90	81	206	543	379	433	189	157
23	452	149	145	147	91	81	167	869	399	294	201	156
24	365	152	143	145	101	82	157	1310	412	246	193	154
25	364	142	144	143	88	82	187	762	367	258	188	170
26	337	142	142	142	83	81	175	479	361	254	190	176
27	296	145	142	143	85	86	188	483	357	202	188	172
28	284	151	169	141	82	89	192	475	351	180	190	170
29	275	147	393	139	82	88	245	606	386	188	185	169
30	263	146	164	138	---	91	254	652	406	190	182	171
31	265	---	137	137	---	96	---	515	---	187	187	---
TOTAL	22388	5188	4755	4175	4466	2773	5227	14179	14674	7386	5696	5149
MEAN	722	173	153	135	154	89.5	174	457	489	238	184	172
MAX	3780	268	393	167	551	153	406	1310	1270	433	201	210
MIN	198	131	129	112	82	79	109	232	293	180	171	154
AC-FT	44410	10290	9430	8280	8860	5500	10370	28120	29110	14650	11300	10210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)#

MEAN	302	207	153	131	117	101	172	330	491	359	276	280
MAX	722	631	313	267	205	152	247	457	872	1070	662	707
(WY)	2004	2003	1986	2003	2003	1998	1993	2004	1987	1987	1988	1995
MIN	192	93.8	78.4	81.8	72.6	60.9	115	231	305	228	183	172
(WY)	1998	1995	1988	1989	1989	1986	1986	2003	1990	1989	1994	2004

See Period of Record and Remarks

15295700 TERROR RIVER AT MOUTH NEAR KODIAK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1986 - 2004#	
ANNUAL TOTAL	98637		96056			
ANNUAL MEAN	270		262		244	
HIGHEST ANNUAL MEAN					369 1987	
LOWEST ANNUAL MEAN					193 2000	
HIGHEST DAILY MEAN	3780	Oct 15	3780	Oct 15	4610 Sep 20 1995	
LOWEST DAILY MEAN	79	Feb 22	79	Mar 19	a26 Dec 11 1996	
ANNUAL SEVEN-DAY MINIMUM	85	Feb 21	81	Mar 18	39 Nov 19 1985	
MAXIMUM PEAK FLOW			4910	Oct 15	b10000 Sep 19 1995	
MAXIMUM PEAK STAGE			5.82	Oct 15	7.67 Sep 19 1995	
INSTANTANEOUS LOW FLOW			c67	Mar 7	a9.8 Dec 11 1996	
ANNUAL RUNOFF (AC-FT)	195600		190500		176600	
10 PERCENT EXCEEDS	480		463		464	
50 PERCENT EXCEEDS	195		180		186	
90 PERCENT EXCEEDS	108		100		86	

PRIOR TO CONSTRUCTION OF TERROR LAKE DAM

SUMMARY STATISTICS, WATER YEARS 1965 - 1983

ANNUAL MEAN	293	
HIGHEST ANNUAL MEAN	421	1983
LOWEST ANNUAL MEAN	230	1967
HIGHEST DAILY MEAN	2600	Oct 2 1965
LOWEST DAILY MEAN	d19	Feb 23 1967
ANNUAL SEVEN-DAY MINIMUM	20	Feb 23 1967
INSTANTANEOUS PEAK FLOW	3820	Sep 26 1966
INSTANTANEOUS PEAK STAGE	f6.48	Sep 26 1966
INSTANTANEOUS PEAK STAGE	g7.54	Mar 28 1964
ANNUAL RUNOFF (AC-FT)	212200	
ANNUAL RUNOFF (CFSM)	9.54	
ANNUAL RUNOFF (IN)	129.66	
10 PERCENT EXCEEDS	774	
50 PERCENT EXCEEDS	157	
90 PERCENT EXCEEDS	39	

See Period of Record and Remarks

a Occurred while dam release valve was closed for repair

b From rating curve extended above 960 ft³/s on basis of slope-area measurement of peak flow

c Mar. 7-8

d Feb. 23 and Mar. 1, 1967

f Site and datum then in use

g Site and datum then in use; from tidal wave

15295700 TERROR RIVER AT MOUTH NEAR KODIAK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968, 1982 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1981 to current year.

INSTRUMENTATION.--Water-temperature recorder since December 10, 1981. Electronic water temperature recorder set for 1-hour recording interval.

REMARKS.--Records represent water temperature at sensor within 0.5°C. Temperature at the sensor was compared with the average for the river by cross section on June 19, and July 29. A gravel bar running parallel to the channel formed in the 2003 water year and remained in place for the entire year. This bar caused two channels to form at the sensor location. The June 19 cross section found 25 percent of the discharge on the left side of this bar opposite of the sensor. This channel has much lower velocities and much more backwater which resulted in an increase of 1.0°C water temperature in this channel. The July 29 cross section measurement found 7 percent of the discharge on the left side of this bar. The water temperature was found to be 2.0°C higher than the right side of this bar which carries a majority of the flow. No variation was found between median stream temperature and sensor temperature.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 15.0°C, July 15, 2003; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 13.5°C, July 12, 2004; minimum, 0.0°C on many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Stream width, feet (000004)	Sample location, cross section ft from rt bank (72103)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)
JUN							
19...	1215	86.0	2.0	2.36	457	6.1	12.8
19...	1216	86.0	16.0	2.36	457	6.1	12.8
19...	1217	86.0	26.0	2.36	457	6.1	12.8
19...	1218	86.0	36.0	2.36	457	6.1	12.8
19...	1219	86.0	46.0	2.36	457	6.2	12.8
19...	1220	86.0	56.0	2.36	457	6.6	12.8
19...	1221	86.0	66.0	2.36	457	7.0	12.8
19...	1222	86.0	76.0	2.36	457	7.2	12.8
19...	1223	86.0	84.0	2.36	457	7.2	12.8

Date	Time	Stream width, feet (00004)	Sample location, cross section ft from rt bank (72103)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Temperature, air, deg C (00020)
JUL							
29...	1100	68.8	1.3	1.72	187	7.5	14.6
29...	1102	68.8	14.3	1.72	187	7.5	14.6
29...	1104	68.8	24.3	1.72	187	7.5	14.6
29...	1106	68.8	34.3	1.72	187	7.5	14.6
29...	1108	68.8	44.3	1.72	187	7.5	14.6
29...	1110	68.8	54.3	1.72	187	7.5	14.6
29...	1112	68.8	64.3	1.72	187	9.5	14.6

SOUTH-CENTRAL ALASKA

15295700 TERROR RIVER AT MOUTH NEAR KODIAK—Continued

TEMPERATURE, WATER (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.0	7.0	7.5	6.5	6.0	6.5	2.0	1.0	1.5	0.0	0.0	0.0
2	7.5	5.5	7.0	7.0	6.5	6.5	1.5	0.5	1.0	0.5	0.0	0.0
3	7.0	5.0	6.0	6.5	6.0	6.0	2.5	0.5	1.5	0.5	0.0	0.5
4	6.5	6.0	6.0	6.5	6.0	6.0	2.0	1.5	2.0	0.5	0.0	0.0
5	7.5	6.5	7.0	6.5	6.0	6.0	1.5	1.0	1.5	1.5	0.5	1.0
6	8.0	6.5	7.5	6.0	5.5	6.0	1.0	0.5	0.5	1.0	0.5	0.5
7	8.0	7.5	7.5	5.5	5.0	5.0	1.5	0.5	1.0	0.5	0.0	0.5
8	7.5	6.5	7.0	6.0	5.0	5.5	2.5	1.0	2.0	1.0	0.5	0.5
9	6.5	5.0	6.0	5.0	4.5	5.0	2.5	1.5	2.0	1.0	0.5	1.0
10	5.5	4.5	5.0	5.0	4.5	4.5	2.0	1.0	1.5	1.0	0.5	0.5
11	5.0	4.0	4.5	5.0	4.0	4.5	2.0	1.5	2.0	1.0	0.0	0.5
12	5.0	3.5	4.0	4.0	3.0	3.5	2.0	1.5	1.5	1.0	0.0	0.0
13	5.0	3.5	4.5	3.0	2.5	2.5	2.0	0.5	1.5	0.0	0.0	0.0
14	7.0	4.5	6.0	3.0	2.5	3.0	1.5	0.5	1.5	0.0	0.0	0.0
15	7.0	6.5	6.5	3.0	2.5	2.5	2.5	1.5	2.0	0.0	0.0	0.0
16	6.5	5.0	6.0	2.5	2.0	2.5	2.5	1.5	2.0	0.0	0.0	0.0
17	6.0	5.0	5.5	2.5	1.0	1.5	1.5	0.0	1.0	0.0	0.0	0.0
18	5.5	4.5	5.5	3.5	1.0	2.5	1.5	0.0	1.0	0.0	0.0	0.0
19	4.5	4.0	4.5	4.0	3.5	3.5	1.5	1.0	1.5	1.0	0.0	0.0
20	5.0	3.5	4.0	4.0	3.5	3.5	1.0	0.5	0.5	2.0	1.0	1.5
21	5.5	4.5	5.0	4.0	3.5	4.0	1.5	0.5	1.0	2.5	1.5	2.0
22	5.5	5.0	5.5	3.5	2.0	2.5	1.0	0.5	1.0	2.0	1.0	1.0
23	5.5	5.0	5.0	4.0	2.0	3.5	0.5	0.0	0.0	1.5	1.0	1.0
24	6.0	4.5	5.0	4.0	3.0	3.5	0.0	0.0	0.0	1.5	0.5	1.0
25	6.0	5.0	5.5	3.0	1.5	2.0	0.0	0.0	0.0	2.5	1.5	2.0
26	5.5	4.0	5.0	1.5	1.0	1.0	0.5	0.0	0.0	2.0	1.0	2.0
27	4.5	3.5	4.0	3.0	1.0	2.0	2.0	0.5	1.0	2.0	0.0	1.0
28	4.5	3.5	4.0	3.0	2.0	2.5	2.5	1.5	2.0	2.5	2.0	2.0
29	5.5	3.5	4.5	2.5	2.0	2.5	1.5	0.5	1.0	2.0	1.0	1.5
30	5.5	5.0	5.5	2.5	2.0	2.0	1.0	0.5	1.0	2.0	0.5	1.5
31	6.5	5.5	6.0	---	---	---	0.5	0.0	0.0	2.0	1.5	2.0
MONTH	9.0	3.5	5.6	7.0	1.0	3.7	2.5	0.0	1.2	2.5	0.0	0.8

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.5	1.5	2.0	3.0	2.0	2.5	0.5	0.0	0.0	4.0	2.0	3.0
2	2.5	1.0	1.5	3.0	2.0	2.5	0.5	0.0	0.0	4.0	1.5	3.0
3	3.0	2.0	2.5	2.5	1.5	2.0	3.0	0.5	1.5	5.0	2.5	3.5
4	3.0	2.0	2.5	2.0	0.5	1.5	3.5	1.0	2.0	7.5	2.0	4.0
5	2.5	0.0	2.0	2.0	1.0	1.5	2.0	1.5	2.0	6.0	2.0	3.5
6	1.0	0.0	0.5	1.5	0.5	1.0	3.5	1.5	2.0	6.5	2.5	4.0
7	2.5	1.0	1.5	2.0	0.5	1.0	4.0	1.0	2.0	6.5	2.0	3.5
8	2.5	2.0	2.0	0.5	0.0	0.0	2.0	1.0	1.5	6.0	2.0	3.5
9	3.0	2.0	2.5	1.0	0.0	0.5	2.5	1.0	1.5	5.0	2.0	3.5
10	2.0	1.5	1.5	3.0	0.5	1.5	4.0	1.0	2.0	7.0	2.5	4.5
11	2.5	1.5	2.0	2.5	1.0	1.5	3.5	1.0	2.0	6.5	2.5	4.0
12	2.5	2.0	2.5	3.0	1.0	2.0	4.0	0.5	2.0	6.5	2.5	4.0
13	2.5	1.5	1.5	3.0	1.0	1.5	4.5	1.5	3.0	6.0	2.5	4.0
14	2.0	1.5	2.0	2.5	1.5	2.0	5.0	1.0	3.0	6.0	3.0	4.0
15	2.5	2.0	2.0	3.0	1.0	1.5	4.0	1.5	3.0	5.5	3.0	4.0
16	2.5	1.5	2.0	3.5	1.0	2.0	5.0	2.0	3.5	5.5	2.5	3.5
17	1.5	0.5	1.0	3.0	1.5	2.0	5.0	1.5	3.0	4.5	2.0	3.5
18	1.5	0.5	1.0	2.0	0.5	1.0	4.5	2.0	3.0	6.0	2.5	4.0
19	2.5	1.5	2.0	1.0	0.5	0.5	6.0	2.0	3.5	6.5	3.0	4.0
20	2.0	1.0	1.5	1.5	0.5	0.5	5.5	1.5	3.5	7.0	2.5	4.5
21	3.0	1.5	2.0	2.5	1.0	1.5	4.0	2.0	3.0	7.0	2.5	4.5
22	2.5	1.5	2.0	4.0	1.5	2.0	4.5	2.0	3.0	6.0	2.5	4.0
23	2.5	1.5	2.0	4.0	1.0	2.0	5.5	1.5	3.5	5.0	2.5	3.5
24	2.5	1.5	2.0	3.5	0.5	2.0	5.0	2.5	3.5	3.5	2.5	3.0
25	2.5	1.0	1.5	3.5	1.0	2.0	5.0	2.5	3.5	4.0	2.5	3.0
26	2.0	1.0	1.5	3.5	1.0	2.0	4.5	1.5	3.0	5.5	3.0	4.0
27	3.0	1.5	2.0	2.0	0.5	1.0	5.5	2.5	3.5	6.5	3.0	4.5
28	3.0	1.5	2.0	2.5	0.0	1.0	4.5	2.0	3.0	4.5	3.0	4.0
29	3.5	2.0	2.5	1.0	0.0	0.5	4.0	2.5	3.0	4.5	3.0	3.5
30	---	---	---	0.5	0.0	0.0	5.5	2.0	3.5	4.5	3.0	3.5
31	---	---	---	0.5	0.0	0.0	---	---	---	5.5	3.0	4.0
MONTH	3.5	0.0	1.8	4.0	0.0	1.4	6.0	0.0	2.5	7.5	1.5	3.8

15295700 TERROR RIVER AT MOUTH NEAR KODIAK—Continued

TEMPERATURE, WATER (DEGREES CELSIUS), WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	JUNE			JULY			AUGUST			SEPTEMBER		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.0	3.0	4.0	9.5	5.5	7.0	11.0	7.0	9.0	8.0	6.5	7.5			
2	4.5	3.0	4.0	8.0	6.5	7.0	11.5	7.5	9.0	8.5	7.0	7.5			
3	4.5	3.5	4.0	7.5	6.5	7.0	10.0	7.5	8.5	9.0	6.5	8.0			
4	5.5	3.5	4.0	8.5	6.5	7.0	9.0	8.0	8.5	8.0	5.5	6.5			
5	5.0	3.0	4.0	9.5	6.5	8.0	8.5	8.0	8.0	8.0	5.0	6.5			
6	8.5	3.5	5.5	11.5	7.0	9.0	10.0	8.0	8.5	8.5	5.5	6.5			
7	5.5	3.5	4.5	12.0	7.0	9.5	10.5	7.0	8.5	8.0	5.5	6.5			
8	6.0	3.0	4.5	12.0	7.5	9.5	11.0	7.5	9.0	7.5	5.5	6.5			
9	6.0	3.5	4.5	12.5	7.5	9.5	9.5	8.0	8.5	7.5	6.0	6.5			
10	5.5	3.5	4.5	13.0	7.5	10.0	11.5	8.0	9.5	7.5	6.5	7.0			
11	4.5	3.5	4.0	13.0	8.0	10.5	10.5	7.5	9.0	7.5	6.0	6.5			
12	5.0	4.0	4.5	13.5	8.5	10.5	10.0	7.0	8.5	8.0	5.5	6.5			
13	6.0	4.0	4.5	11.5	8.0	9.5	10.0	6.5	8.0	7.5	5.5	6.5			
14	6.0	3.5	4.5	9.0	8.0	8.5	10.0	7.0	8.0	7.5	5.0	6.0			
15	5.5	4.0	4.5	11.0	8.0	9.0	10.0	6.5	8.0	7.5	6.0	6.5			
16	7.0	4.0	5.0	10.5	8.5	9.5	10.5	7.0	8.5	7.0	5.0	6.0			
17	7.0	4.5	5.5	10.5	8.0	9.0	10.5	7.0	8.5	7.0	5.0	5.5			
18	6.0	4.0	5.0	9.5	8.0	9.0	9.0	7.5	8.0	7.0	5.0	6.0			
19	8.5	4.0	5.5	9.0	8.0	8.5	10.0	7.5	8.5	8.0	6.0	7.0			
20	9.0	4.0	6.0	9.5	8.0	8.5	8.5	7.5	8.0	7.5	6.0	7.0			
21	9.5	4.5	6.5	9.0	7.5	8.0	9.0	7.5	8.0	7.0	6.0	6.5			
22	8.5	5.0	6.5	9.0	8.0	8.5	8.0	7.5	7.5	7.5	6.0	6.5			
23	9.0	5.0	6.5	9.5	8.0	8.5	8.0	7.5	8.0	7.0	5.5	6.0			
24	9.0	5.5	7.0	10.0	8.0	9.0	9.5	7.5	8.5	6.5	4.5	5.5			
25	9.5	5.5	7.0	9.5	8.0	8.5	10.0	7.5	8.5	6.5	6.0	6.5			
26	10.5	6.0	8.0	10.5	8.5	9.0	8.0	7.5	7.5	6.5	5.5	6.0			
27	7.5	6.0	7.0	11.0	8.0	9.0	8.5	7.0	7.5	7.0	5.0	5.5			
28	9.0	5.5	7.0	9.0	8.0	8.5	7.0	6.5	6.5	7.0	6.0	6.5			
29	8.5	6.0	7.0	9.0	7.5	8.0	8.5	5.5	7.0	7.5	6.5	7.0			
30	8.0	6.0	7.0	9.5	7.5	8.5	8.0	6.0	7.0	7.5	7.0	7.0			
31	---	---	---	10.0	7.5	8.5	8.5	6.0	7.0	---	---	---			
MONTH	10.5	3.0	5.4	13.5	5.5	8.7	11.5	5.5	8.2	9.0	4.5	6.5			