SOUTHEAST ALASKA

15019990 TYEE LAKE OUTLET NEAR WRANGELL

LOCATION.--Lat 56°12′00″, long 131°30′24″, in SE¼ SW¼ sec. 28, T. 65 S., R. 90 E. (Bradfield Canal A-5 quad), Hydrologic Unit 19010101, in Tongass National Forest, on left bank at outlet of Tyee Lake, 1.5 mi south of Bradfield Canal and 37 mi southeast of Wrangell, Alaska.

DRAINAGE AREA.--14.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1981 and June 1992 to current year. Records for November 1922 to September 1927 and August 1963 to October 1969, published as Tyee Creek at Mouth near Wrangell (station 15020100) are not equivalent owing to inflow between sites.

GAGE.--Water-stage recorder. Elevation of gage is 1,370 ft above sea level from topographic map. Prior to June 9, 1992, at site 500 ft downstream at datum 13.66 ft lower.

REMARKS.--No estimated daily discharges. Records fair, except for discharges below 10 ft^3/s, which are poor. Water for power generation is diverted from Tyee Lake and discharged into Bradfield Canal. Diversion to hydropower plant began February 1984, and is not included in the discharge records.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	13	20	17	145	0.00	0.00	93	225	143	77	220
2	103	19	78	11	141	0.00	0.00	82	217	147	63	213
3	77	39	192	6.7	109	0.00	0.00	76	201	164	54	190
4	64	129	171	3.7	77	0.00	0.00	77	184	264	68	159
5	213	118	136	1.8	50	0.00	0.00	78	169	331	78	129
6	388	93	103	0.64	27	0.00	0.00	83	161	359	91	121
7	518	71	73	0.00	14	0.00	0.00	92	174	379	86	196
8	446	53	51	0.00	8.1	0.00	0.00	104	190	340	72	252
9	364	36	37	0.00	4.9	0.00	0.00	117	205	284	59	219
10	337	23	25	0.00	3.4	1.1	0.00	136	211	282	48	178
11	311	15	16	0.00	2.3	7.8	0.00	165	220	248	38	142
12	269	10	11	0.00	1.4	12	0.00	188	214	202	30	112
13	390	13	7.2	0.00	0.57	12	0.00	218	205	168	24	102
14	339	42	6.0	0.00	0.00	11	0.00	291	209	186	20	96
15	271	65	5.6	0.00	0.00	9.2	0.00	371	209	265	16	79
16	212	67	36	0.00	0.00	7.2	0.00	360	202	240	12	61
17	161	56	88	0.00	0.00	5.0	0.00	332	198	202	8.4	49
18	120	41	179	0.00	0.00	3.2	0.00	299	207	179	6.9	147
19	85	29	415	0.00	0.00	1.6	0.00	285	221	152	52	220
20	59	35	366	0.00	0.00	0.66	0.00	291	217	126	104	235
21	40	157	291	0.00	0.00	0.20	0.00	288	202	112	173	203
22	28	156	226	8.1	0.00	0.00	0.00	274	176	98	235	165
23	19	126	192	39	0.00	0.00	0.00	250	153	80	258	132
24	14	103	204	78	0.00	0.00	0.00	239	148	69	207	119
25	10	85	192	73	0.00	0.00	2.1	226	138	58	163	131
26	7.0	68	152	83	0.00	0.00	18	218	128	48	172	113
27	4.5	53	116	116	0.00	0.00	62	228	122	63	159	90
28	3.4	40	90	136	0.00	0.00	102	230	119	88	139	213
29	11	31	66	133	---	0.00	112	231	136	83	113	345
30	14	23	45	135	---	0.00	106	226	151	70	119	361
31	12	---	28	163	---	0.00	---	224	---	77	190	---
TOTAL	5026.9	1809	3617.8	1004.94	583.67	70.96	402.10	6372	5512	5507	2935.3	4992
MEAN	162	60.3	117	32.4	20.8	2.29	13.4	206	184	178	94.7	166
MAX	518	157	415	163	145	12	112	371	225	379	258	361
MIN	3.4	10	5.6	0.00	0.00	0.00	0.00	76	119	48	6.9	49
AC-FT	9970	3590	7180	1990	1160	141	798	12640	10930	10920	5820	9900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2005, BY WATER YEAR (WY)#

MEAN	156	51.7	20.8	10.0	1.80	0.18	3.89	94.2	266	178	105	186
MAX	264	108	117	61.4	20.8	2.29	24.8	251	367	305	216	298
(WY)	2000	1993	2005	2003	2005	2005	1993	2004	1999	1999	2000	2001
MIN	66.1	5.10	0.00	0.00	0.00	0.00	0.00	0.00	176	55.2	19.2	41.5
(WY)	2003	1997	1995	1993	1993	1993	1994	2002	1994	1998	2003	1993

See Period of Record; partial year was used in monthly statistics and break in record. Record for 1980 and 1981 water years, prior to diversion of 1984, not included.

15019990 TYEE LAKE OUTLET NEAR WRANGELL—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1992 - 2005#	
ANNUAL TOTAL	39391.39		37833.67			
ANNUAL MEAN	108		104		89.1	
HIGHEST ANNUAL MEAN					113	2001
LOWEST ANNUAL MEAN					56.5	1995
HIGHEST DAILY MEAN	669	Sep 24	518	Oct 7	789	Oct 26 2003
LOWEST DAILY MEAN	a0.00	Jan 1	b0.00	Jan 7	c0.00	Dec 30 1992
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Jan 7	0.00	Dec 30 1992
MAXIMUM PEAK FLOW			540	Oct 7	d975	Oct 26 1993
MAXIMUM PEAK STAGE			24.10	Oct 7	28.62	Oct 26 1993
INSTANTANEOUS LOW FLOW			f		f0.00	Dec 30 1992
ANNUAL RUNOFF (AC-FT)	78130		75040		64550	
10 PERCENT EXCEEDS	339		243		278	
50 PERCENT EXCEEDS	49		77		23	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

PRIOR TO DIVERSION OF 1984

SUMMARY STATISTICS	WATER YEARS 1980 - 1981	
ANNUAL MEAN	179	
HIGHEST ANNUAL MEAN	213	1981
LOWEST ANNUAL MEAN	146	1980
HIGHEST DAILY MEAN	1690	Oct. 7 1980
LOWEST DAILY MEAN	g1.4	Apr. 2 1980
ANNUAL SEVEN-DAY MINIMUN	2.0	Mar. 31 1980
INSTANTANEOUS PEAK FLOW	1910	Oct. 7 1980
INSTANTANEOUS PEAK STAGE	12.72	Oct. 7 1980
ANNUAL RUNOFF (AC-FT)	130000	
10 PERCENT EXCEEDS	457	
50 PERCENT EXCEEDS	86	
90 PERCENT EXCEEDS	11	

\# See Period of Record; partial year was used in monthly statistics and break in record. Record for 1980 and 1981 water years, prior to diversion of 1984, not included.
a Jan. 1-14 and Feb. 5 to Apr. 23.
b Jan. 7-21, Feb. 14 to Mar. 9, and Mar. 22 to Apr. 24
c No flow many days during winter months most years.
d From rating extended above 400 cfs.
f Not determined, see lowest daily mean
g Apr. 2-3 1980.

15019990 TYEE LAKE OUTLET NEAR WRANGELL—Continued

LAKE-STAGE RECORDS

PERIOD OF RECORD.--June of 1992 to September 2002 (fragmentary) during many winter months when lake level was below the point of zero flow at the outlet. 2003 to current year, the record is complete.

GAGE.--Water-stage recorder. Datum of gage is mean low low water (GPS survey of August 21, 2003 by USGS using NAD83) lake outlet at a datum of 1,368.80 ft above mean low low water at the point of zero flow.

REMARKS.--Lake outlet consists of large boulders and log jams with uncontrolled spillway at elevation 1368.80 ft. Water for power generation is diverted from Tyee lake and discharged into Bradfield Canal. Diversion to power plant began in February 1984.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1983.02 ft, October 26, 1993: minimum observed unknown until 2003 WY.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1378.25 ft, October 7, 2004; minimum 1364.61 ft, April 18,2005.

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1373.15	1370.37	1370.69	1370.59	1373.29	1365.12	1366.44	1372.45	1374.53	1373.25	1372.05	1374.45
2	1372.55	1370.68	1371.97	1370.26	1373.22	1365.20	1366.25	1372.25	1374.40	1373.32	1371.77	1374.35
3	1372.06	1371.15	1374.02	1369.95	1372.65	1365.50	1366.07	1372.14	1374.16	1373.58	1371.58	1373.99
4	1371.79	1373.02	1373.70	1369.63	1372.06	1365.96	1365.92	1372.16	1373.91	1375.07	1371.87	1373.51
5	1374.30	1372.82	1373.13	1369.33	1371.48	1366.18	1365.75	1372.20	1373.67	1375.97	1372.08	1373.01
6	1376.69	1372.38	1372.55	1369.06	1370.92	1366.20	1365.61	1372.31	1373.55	1376.34	1372.33	1372.87
7	1378.25	1371.93	1371.98	1368.77	1370.45	1366.28	1365.49	1372.50	1373.75	1376.59	1372.24	1374.07
8	1377.41	1371.55	1371.52	1368.49	1370.07	1366.65	1365.39	1372.73	1374.00	1376.10	1371.96	1374.90
9	1376.40	1371.16	1371.17	1368.21	1369.78	1367.31	1365.35	1372.97	1374.22	1375.35	1371.69	1374.44
10	1376.05	1370.80	1370.86	1367.94	1369.58	1368.16	1365.34	1373.31	1374.32	1375.32	1371.44	1373.81
11	1375.71	1370.48	1370.55	1367.66	1369.42	1370.02	1365.33	1373.79	1374.44	1374.86	1371.21	1373.24
12	1375.14	1370.21	1370.26	1367.35	1369.26	1370.34	1365.25	1374.16	1374.36	1374.18	1371.00	1372.71
13	1376.73	1370.35	1369.99	1367.01	1369.03	1370.36	1365.13	1374.57	1374.23	1373.66	1370.84	1372.53
14	1376.08	1371.29	1369.89	1366.67	1368.75	1370.27	1365.00	1375.49	1374.29	1373.93	1370.71	1372.43
15	1375.17	1371.81	1369.85	1366.36	1368.45	1370.15	1364.87	1376.48	1374.29	1375.09	1370.55	1372.09
16	1374.32	1371.86	1371.01	1366.09	1368.19	1369.99	1364.78	1376.34	1374.18	1374.73	1370.33	1371.72
17	1373.55	1371.62	1372.27	1366.13	1367.94	1369.78	1364.70	1375.98	1374.12	1374.19	1370.09	1371.47
18	1372.86	1371.29	1373.77	1366.45	1367.68	1369.55	1364.61	1375.55	1374.26	1373.82	1369.97	1373.30
19	1372.22	1370.97	1377.03	1367.32	1367.43	1369.30	1364.76	1375.36	1374.46	1373.40	1371.41	1374.45
20	1371.69	1371.10	1376.42	1367.75	1367.19	1369.07	1365.14	1375.45	1374.41	1372.96	1372.57	1374.67
21	1371.26	1373.48	1375.44	1367.89	1366.93	1368.82	1365.64	1375.41	1374.18	1372.72	1373.73	1374.20
22	1370.96	1373.47	1374.53	1369.31	1366.66	1368.59	1366.34	1375.22	1373.78	1372.46	1374.66	1373.60
23	1370.65	1372.96	1374.03	1371.22	1366.40	1368.36	1366.98	1374.87	1373.41	1372.11	1374.99	1373.07
24	1370.42	1372.56	1374.21	1372.08	1366.14	1368.09	1367.95	1374.72	1373.33	1371.90	1374.25	1372.85
25	1370.23	1372.22	1374.02	1371.98	1365.89	1367.81	1369.29	1374.53	1373.16	1371.66	1373.57	1373.05
26	1369.97	1371.87	1373.40	1372.16	1365.63	1367.62	1370.56	1374.41	1373.00	1371.44	1373.71	1372.73
27	1369.73	1371.55	1372.78	1372.79	1365.40	1367.50	1371.78	1374.57	1372.89	1371.76	1373.52	1372.31
28	1369.59	1371.25	1372.31	1373.13	1365.22	1367.30	1372.57	1374.60	1372.85	1372.27	1373.18	1374.30
29	1370.26	1371.02	1371.83	1373.08	---	1367.04	1372.78	1374.61	1373.14	1372.17	1372.73	1376.15
30	1370.46	1370.81	1371.37	1373.12	---	1366.78	1372.68	1374.53	1373.37	1371.92	1372.84	1376.36
31	1370.36	---	1370.95	1373.58	---	1366.62	---	1374.50	---	1372.06	1373.99	---
MEAN	1373.10	1371.60	1372.50	1369.40	1368.75	1367.93	1366.79	1374.20	1373.89	1373.68	1372.22	1373.55
MAX	1378.25	1373.48	1377.03	1373.58	1373.29	1370.36	1372.78	1376.48	1374.53	1376.59	1374.99	1376.36
MIN	1369.59	1370.21	1369.85	1366.09	1365.22	1365.12	1364.61	1372.14	1372.85	1371.44	1369.97	1371.47