

SOUTHEAST ALASKA

15019990 TYEE LAKE OUTLET NEAR WRANGELL

LOCATION.--Lat 56°12'00", long 131°30'24", in SE¹/₄ SW¹/₄ 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 mi².

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 ft³/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 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	165	0.00	0.00	5.7	0.00	0.00	104	315	232	55	1.8
2	102	119	0.00	0.00	3.4	0.00	0.00	155	309	216	65	1.0
3	80	83	0.00	0.00	1.7	0.00	0.00	200	302	201	85	1.7
4	65	56	0.00	0.00	0.60	0.00	0.00	228	298	180	89	18
5	55	36	0.00	0.00	0.00	0.00	0.00	227	343	169	85	36
6	68	21	0.00	0.00	0.00	0.00	0.00	207	377	226	87	39
7	95	12	0.00	0.00	0.00	0.00	0.00	191	389	231	83	38
8	107	6.9	0.00	0.00	0.00	0.00	0.00	180	428	213	71	34
9	97	4.0	0.00	0.00	0.00	0.00	0.00	171	437	189	57	26
10	98	2.1	0.00	0.00	0.00	0.00	0.00	165	405	173	47	19
11	94	0.79	0.00	0.00	0.00	0.00	0.00	167	364	158	39	15
12	79	13	0.00	0.00	0.00	0.00	0.00	168	349	138	29	16
13	67	310	0.00	0.00	0.00	0.00	0.00	178	361	118	21	91
14	67	370	0.00	0.00	0.00	0.00	0.00	197	358	106	16	149
15	60	290	0.00	8.0	0.00	0.00	0.00	217	329	98	14	147
16	51	223	0.00	15	0.00	0.00	0.00	227	304	106	13	126
17	54	167	0.00	21	0.00	0.00	0.00	229	300	104	11	100
18	104	127	0.00	46	0.00	0.00	0.00	236	315	90	8.9	77
19	160	90	0.00	58	0.00	0.00	0.00	255	351	79	6.9	59
20	150	60	0.00	59	0.00	0.00	0.00	297	379	77	6.1	54
21	159	38	0.00	66	0.00	0.00	0.00	335	393	77	5.2	247
22	193	23	0.00	88	0.00	0.00	0.00	339	403	73	4.0	311
23	218	15	0.00	103	0.00	0.00	0.00	321	407	65	2.5	403
24	211	9.4	0.00	93	0.00	0.00	0.58	315	410	62	1.2	669
25	447	6.1	0.00	75	0.00	0.00	2.1	346	402	68	0.47	583
26	789	3.5	0.00	57	0.00	0.00	10	383	382	68	0.11	435
27	624	2.3	0.00	40	0.00	0.00	23	386	359	58	0.93	360
28	503	0.90	0.00	28	0.00	0.00	31	359	323	60	2.9	305
29	388	0.00	0.00	19	0.00	0.00	39	338	284	84	2.7	237
30	292	0.00	0.00	13	---	0.00	57	328	255	81	2.6	182
31	221	---	0.00	8.9	---	0.00	---	324	---	67	2.7	---
TOTAL	5826	2253.99	0.00	797.90	11.40	0.00	162.68	7773	10631	3867	914.21	4780.5
MEAN	188	75.1	0.00	25.7	0.39	0.00	5.42	251	354	125	29.5	159
MAX	789	370	0.00	103	5.7	0.00	57	386	437	232	89	669
MIN	51	0.00	0.00	0.00	0.00	0.00	0.00	104	255	58	0.11	1.0
AC-FT	11560	4470	0.00	1580	23	0.00	323	15420	21090	7670	1810	9480

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

MEAN	155	51.0	12.8	8.15	0.23	0.00	3.10	85.0	272	178	106	187
MAX	264	108	64.4	61.4	2.08	0.00	24.8	251	367	305	216	298
(WY)	2000	1993	2003	2003	2003	1993	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	1993	2002	1994	1998	2003	1993

Record for 1980 and 1981 water years, prior to diversion of 1984, not included. See Period of Record.

SOUTHEAST ALASKA

15019990 TYEE LAKE OUTLET NEAR WRANGELL—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1992 - 2004#	
ANNUAL TOTAL	31967.40	37017.68		
ANNUAL MEAN	87.6	101	87.9	
HIGHEST ANNUAL MEAN			113	2001
LOWEST ANNUAL MEAN			56.5	1995
HIGHEST DAILY MEAN	789	789	789	Oct 26 2003
LOWEST DAILY MEAN	a0.00	b0.00	c0.00	Dec 30 1992
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00	Dec 30 1992
MAXIMUM PEAK FLOW		d856	d975	Oct 26 1993
MAXIMUM PEAK STAGE		27.43	28.62	Oct 26 1993
INSTANTANEOUS LOW FLOW		f	f	
ANNUAL RUNOFF (AC-FT)	63410	73420	63670	
10 PERCENT EXCEEDS	290	336	280	
50 PERCENT EXCEEDS	21	30	20	
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 MINIMUM	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	

- # Record for 1980 and 1981 water years, prior to diversion of 1984, not included. See Period of Record.
- a Feb 10 to May 13 and Nov 29 to Dec 31.
- b Nov 29 to Jan. 14, Feb. 5 to Apr. 23
- 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 April 2-3 1980.

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15019990 TYEE LAKE OUTLET NEAR WRANGELL—Continued.

LAKE-STAGE RECORDS

PERIOD OF RECORD.-- June of 1992 to Sept.2002 (fragmentary) during many winter months when lake level was below the point of Zero flow at the outlet. 2003 to 2004.

GAGE.-- Water-stage recorder. Datum of gage is mean low low water (GPS survey of Aug.21,2003 by USGS using NADD 83) 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. Waterfor 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. Oct.26,1993;minimum observed unknown until 2003 wy

EXTREMES FOR CURRENT YEAR.-- Maximum elevation,1381.28 ft.October 25 ,2003; minimum 1363.82 ft.March 28,2004

ELEVATION OF RESERVOIR WATER SURFACE ABOVE DATUM, 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	1373.41	1373.60	1368.60	1366.75	1369.86	1366.99	1364.60	1372.57	1375.77	1374.63	1371.59	1369.34
2	1372.83	1372.84	1368.54	1366.50	1369.59	1366.82	1364.50	1373.45	1375.69	1374.39	1371.82	1369.17
3	1372.34	1372.18	1368.42	1366.23	1369.31	1366.66	1364.55	1374.15	1375.59	1374.17	1372.22	1369.31
4	1371.95	1371.63	1368.18	1365.96	1369.05	1366.50	1364.71	1374.57	1375.55	1373.84	1372.29	1370.57
5	1371.68	1371.15	1367.96	1365.67	1368.85	1366.38	1364.74	1374.55	1376.13	1373.68	1372.21	1371.16
6	1372.02	1370.73	1367.70	1365.36	1368.68	1366.23	1364.70	1374.26	1376.57	1374.54	1372.25	1371.24
7	1372.68	1370.33	1367.43	1365.08	1368.49	1366.19	1364.71	1374.02	1376.71	1374.61	1372.18	1371.20
8	1372.95	1369.97	1367.14	1364.88	1368.35	1366.34	1364.85	1373.84	1377.19	1374.35	1371.93	1371.11
9	1372.74	1369.66	1366.83	1364.79	1368.34	1366.83	1365.00	1373.70	1377.30	1373.98	1371.65	1370.88
10	1372.74	1369.38	1366.51	1365.05	1368.38	1366.87	1365.18	1373.61	1376.91	1373.74	1371.41	1370.66
11	1372.65	1369.11	1366.21	1365.18	1368.33	1366.84	1365.71	1373.64	1376.39	1373.49	1371.23	1370.50
12	1372.31	1369.92	1365.96	1365.23	1368.24	1366.76	1366.51	1373.65	1376.20	1373.16	1370.97	1370.53
13	1372.01	1375.60	1365.67	1365.93	1368.17	1366.64	1367.07	1373.81	1376.36	1372.83	1370.73	1372.28
14	1372.00	1376.48	1365.36	1367.73	1368.16	1366.53	1367.40	1374.11	1376.32	1372.61	1370.53	1373.36
15	1371.81	1375.44	1365.12	1370.02	1368.09	1366.45	1367.67	1374.40	1375.95	1372.46	1370.44	1373.32
16	1371.57	1374.48	1364.98	1370.48	1367.99	1366.35	1367.82	1374.55	1375.62	1372.61	1370.39	1372.97
17	1371.67	1373.64	1364.79	1370.74	1367.87	1366.16	1367.94	1374.59	1375.57	1372.57	1370.28	1372.49
18	1372.88	1372.98	1364.61	1371.38	1367.85	1365.94	1368.04	1374.68	1375.77	1372.30	1370.13	1372.06
19	1374.03	1372.31	1364.89	1371.67	1367.86	1365.73	1368.04	1374.95	1376.24	1372.10	1369.97	1371.68
20	1373.86	1371.70	1365.19	1371.68	1367.88	1365.53	1368.03	1375.53	1376.58	1372.05	1369.90	1371.56
21	1374.00	1371.19	1365.20	1371.83	1367.99	1365.32	1368.13	1376.03	1376.77	1372.06	1369.81	1374.81
22	1374.61	1370.81	1366.04	1372.28	1368.01	1365.10	1368.35	1376.08	1376.89	1371.98	1369.66	1375.72
23	1375.02	1370.48	1367.48	1372.56	1367.95	1364.81	1368.82	1375.85	1376.94	1371.81	1369.45	1376.88
24	1374.91	1370.17	1367.96	1372.37	1367.87	1364.53	1369.04	1375.76	1376.97	1371.75	1369.21	1379.91
25	1378.09	1369.89	1368.13	1372.03	1367.75	1364.30	1369.38	1376.17	1376.87	1371.88	1369.00	1378.97
26	1381.28	1369.60	1368.15	1371.64	1367.61	1364.07	1370.20	1376.64	1376.63	1371.88	1368.83	1377.27
27	1379.42	1369.41	1367.98	1371.26	1367.46	1363.89	1370.80	1376.68	1376.33	1371.67	1369.11	1376.35
28	1378.07	1369.13	1367.75	1370.94	1367.31	1363.82	1371.03	1376.34	1375.87	1371.71	1369.51	1375.63
29	1376.70	1368.88	1367.48	1370.68	1367.16	1364.02	1371.23	1376.07	1375.35	1372.20	1369.49	1374.69
30	1375.46	1368.67	1367.23	1370.40	---	1364.63	1371.64	1375.94	1374.95	1372.14	1369.47	1373.87
31	1374.46	---	1366.99	1370.13	---	1364.71	---	1375.89	---	1371.86	1369.48	---
MEAN	1373.94	1371.38	1366.79	1368.79	1368.22	1365.74	1367.35	1374.84	1376.27	1372.87	1370.55	1372.98
MAX	1381.28	1376.48	1368.60	1372.56	1369.86	1366.99	1371.64	1376.68	1377.30	1374.63	1372.29	1379.91
MIN	1371.57	1368.67	1364.61	1364.79	1367.16	1363.82	1364.50	1372.57	1374.95	1371.67	1368.83	1369.17