

15088000 SAWMILL CREEK NEAR SITKA, AK

Central Southeast Alaska Basin
Baranof-Chichagof Islands Subbasin

LOCATION.--Lat 57°03'05", long 135°13'40" referenced to North American Datum of 1927, in SW ¼ sec.34, T.55 S., R.64 E., City & Borough of Sitka, AK, Hydrologic Unit 19010203, (Sitka A-4 quad.), on Baranof Island, in Tongass National Forest, on left bank 500 ft upstream from mouth, 1.6 mi downstream from Blue Lake, and 4.0 mi east of Sitka.

DRAINAGE AREA.--39.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1920 to December 1923, February 1928 to September 1942, October 1945 to September 1957, 1994 (peak discharge only, published in WRD AK 95-1), and May 2001 to current year. Records prior to 1945 furnished by U.S. Forest Service.

REVISED RECORDS.--WSP 1372: 1921-22 and 1928-36.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is sea level, from topographic map. Prior to April 1947, staff gages or water-stage recorders at several sites within 1,700 ft of present site at various datums. April 1947 to September 1957 at site about 200 ft upstream at different datum.

REMARKS.--Records good. Minor regulation above station by Sitka Public Utilities hydroelectric plant during periods 1920-23 and 1937-42. In 1959, Blue Lake Dam, 1.6 mi upstream, was completed. The area of the lake is 1225 acres. The dam is concrete with a spillway elevation of 342.0 ft above sea level. In 1960, the Blue Lake Hydro plant, located 400 ft downstream from gage, was put into operation. Water is taken from Blue Lake and piped via a penstock to Blue Lake hydro, through 2-3,000 kw turbines and discharged back into Sawmill Creek just below high tide level. This penstock also provides water for the City of Sitka and for the filter plant for the Sitka Sawmill. In the years following, Campground Hydro, a smaller generation plant was constructed about 1,000 ft below Blue Lake Dam. It also has a penstock from Blue Lake and discharges directly into Sawmill Creek. A fish bypass valve has been installed at Campground Hydro that automatically releases 50 ft³/s to the tailrace anytime the hydro plant is shut down. Another small generator was installed just above the Sawmill Filter Plant diversion from Blue Lake Hydro penstock with the capability of bypassing the filter plant and discharging back into Sawmill Creek above the gage site. Water that went to the filter plant was piped to the sawmill and eventually discharged directly into Silver Bay. The sawmill has since closed and water is now supplied to Sawmill Cove Industrial Park. Flow is constantly regulated except when Blue Lake is spilling.

EXTREMES OUTSIDE PERIOD OF RECORD.--It was reported that in October 1972, a storm produced a peak elevation at Blue Lake of 353.0 ft or 11.0 ft of spill at the spillway. Extending the spillway rating, this flood was estimated to be 17,000 ft³/s. It was reported to have been the largest since 1921.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	264	991	122	116	62	59	59	66	64	69	59	139
2	1,230	1,100	121	123	62	60	59	67	64	69	57	137
3	848	744	120	129	62	67	60	66	65	69	57	137
4	401	412	119	119	62	62	63	63	63	68	57	135
5	528	203	119	116	61	61	63	63	63	69	56	133
6	1,340	99	119	114	61	63	63	64	63	69	56	133
7	787	94	119	113	61	67	61	62	63	69	55	141
8	401	118	119	112	61	66	61	62	62	71	55	156
9	204	127	123	112	61	65	60	62	61	74	55	147
10	195	130	120	111	61	63	61	68	61	72	54	166
11	239	129	128	110	62	61	64	67	61	71	54	160
12	290	126	112	112	64	61	84	65	62	72	55	150
13	810	127	126	113	66	59	87	65	63	71	55	156
14	735	127	126	112	67	60	72	70	62	71	55	289
15	431	126	129	114	71	59	71	73	62	66	54	692
16	280	129	126	171	62	60	86	81	62	62	55	515
17	234	129	123	140	60	71	70	87	62	62	56	854
18	360	126	121	180	62	70	64	73	62	76	84	686
19	322	125	120	138	67	66	61	69	62	94	120	511
20	186	124	118	122	66	62	60	70	62	71	131	731
21	184	124	119	116	66	61	61	69	66	67	130	538
22	474	124	120	113	63	63	65	66	67	66	130	388
23	340	125	127	86	60	67	69	67	67	64	132	405
24	238	133	129	65	59	62	68	73	68	62	134	308
25	181	129	123	66	58	61	66	75	67	62	146	190
26	266	133	123	67	58	58	67	71	60	63	154	142
27	697	129	120	65	59	60	72	69	60	63	137	137
28	645	126	118	64	60	60	69	69	76	63	140	191
29	448	124	117	63	60	59	66	69	70	61	140	815
30	713	123	116	63	---	59	64	67	69	60	152	883
31	1,490	---	115	62	---	59	---	66	---	59	143	---
Total	15,761	6,556	3,757	3,307	1,804	1,931	1,996	2,124	1,919	2,105	2,818	10,165
Mean	508	219	121	107	62.2	62.3	66.5	68.5	64.0	67.9	90.9	339
Max	1,490	1,100	129	180	71	71	87	87	76	94	154	883
Min	181	94	112	62	58	58	59	62	60	59	54	133
Ac-ft	31,260	13,000	7,450	6,560	3,580	3,830	3,960	4,210	3,810	4,180	5,590	20,160
Cfs/m	13.0	5.60	3.11	2.74	1.60	1.60	1.71	1.76	1.64	1.74	2.33	8.69
In.	15.03	6.25	3.58	3.15	1.72	1.84	1.90	2.03	1.83	2.01	2.69	9.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2008, BY WATER YEAR (WY) #

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	701	466	258	163	153	119	184	471	620	590	594	730
Max	1,204	1,145	818	500	644	365	663	861	1,179	976	1,235	1,287
(WY)	(1938)	(2006)	(1931)	(1942)	(1935)	(1947)	(1936)	(1936)	(1936)	(1935)	(1939)	(1947)
Min	354	72.2	50.1	29.9	33.1	24.8	61.5	59.1	53.9	67.9	90.9	339
(WY)	(1923)	(2007)	(1951)	(1956)	(1951)	(1922)	(1948)	(2005)	(2002)	(2008)	(2008)	(2008)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1920 - 2008 [#]	
Annual total	68,470		54,243			
Annual mean	188		148		425	
Highest annual mean					715 1936	
Lowest annual mean					148 2008	
Highest daily mean	2,590	Sep 25	1,490	Oct 31	8,950	Nov 22, 2005
Lowest daily mean	59	Apr 3	^a 54	Aug 10	11	Mar 30, 1922
Annual seven-day minimum	63	Mar 30	55	Aug 9	12	Mar 25, 1922
Maximum peak flow			1,740	Oct 31	^b 11,500	Nov 22, 2005
Maximum peak stage			14.92	Oct 31	19.97	Nov 22, 2005
Instantaneous low flow			51	Mar 26	9.1	Mar 4, 1951
Annual runoff (ac-ft)	135,800		107,600		307,700	
Annual runoff (cfsm)	4.81		3.80		10.9	
Annual runoff (inches)	65.31		51.74		147.98	
10 percent exceeds	405		289		905	
50 percent exceeds	78		71		264	
90 percent exceeds	66		60		62	

[#] See Period of Record; partial year used in monthly statistics and breaks in record

^a Aug. 10, 11 and 15

^b From rating curve extended above 2100 ft³/s

