

**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 mi<sup>2</sup>.

**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 except for estimated daily discharges, which are poor. 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 ft<sup>3</sup>/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 ft<sup>3</sup>/s. It was reported to have been the largest since 1921.

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**  
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	75	135	243	140	133	64	65	69	70	86	77	129
2	71	98	212	148	147	65	71	69	71	81	83	138
3	69	82	182	143	153	64	75	68	71	76	96	170
4	68	111	175	164	138	64	69	66	71	76	87	193
5	67	143	295	161	141	63	67	64	71	73	82	183
6	67	174	184	147	142	68	66	64	72	75	83	356
7	75	175	159	152	139	91	66	67	72	76	81	437
8	74	160	167	172	146	89	67	75	91	76	85	1,680
9	74	149	217	156	151	89	68	70	77	80	95	1,830
10	71	165	173	145	145	75	72	70	77	92	125	1,160
11	69	168	158	153	138	72	73	90	75	81	159	605
12	70	197	167	188	144	69	75	81	75	78	157	1,870
13	73	171	158	154	137	66	76	75	81	81	145	2,380
14	76	156	152	144	132	65	74	70	77	80	136	2,950
15	70	150	148	139	90	64	74	71	75	78	136	1,590
16	72	155	148	137	69	64	75	79	86	77	134	754
17	69	149	146	135	72	63	75	77	80	76	133	941
18	102	144	146	133	70	63	73	71	77	76	132	783
19	92	141	151	132	68	62	72	69	75	76	132	369
20	79	140	154	132	70	62	74	69	74	76	130	241
21	76	140	149	131	73	61	71	77	76	76	129	222
22	85	e142	187	130	70	61	68	77	76	76	129	203
23	95	e140	186	129	68	61	68	72	78	76	131	221
24	86	e139	161	130	66	61	66	71	77	76	131	256
25	93	138	158	130	65	60	65	72	76	76	130	229
26	114	137	153	130	64	60	74	71	76	76	129	204
27	106	137	148	129	65	61	70	71	75	79	128	543
28	95	149	146	129	64	70	67	70	76	78	154	855
29	97	143	144	130	64	75	71	70	85	77	157	928
30	107	144	141	130	---	74	69	71	98	77	135	702
31	102	---	140	134	---	68	---	71	---	79	130	---
<b>Total</b>	2,539	4,372	5,248	4,407	3,024	2,094	2,116	2,227	2,311	2,416	3,771	23,122
<b>Mean</b>	81.9	146	169	142	104	67.5	70.5	71.8	77.0	77.9	122	771
<b>Max</b>	114	197	295	188	153	91	76	90	98	92	159	2,950
<b>Min</b>	67	82	140	129	64	60	65	64	70	73	77	129
<b>Ac-ft</b>	5,040	8,670	10,410	8,740	6,000	4,150	4,200	4,420	4,580	4,790	7,480	45,860
<b>Cfsm</b>	2.10	3.74	4.34	3.65	2.67	1.73	1.81	1.84	1.98	2.00	3.12	19.8
<b>In.</b>	2.42	4.17	5.01	4.20	2.88	2.00	2.02	2.12	2.20	2.30	3.60	22.05

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2012, BY WATER YEAR (WY)#

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	673	439	246	159	146	115	172	430	565	539	546	689
<b>Max</b>	1,204	1,145	818	500	644	365	663	861	1,179	976	1,235	1,287
<b>(WY)</b>	(1938)	(2006)	(1931)	(1942)	(1935)	(1947)	(1936)	(1936)	(1936)	(1935)	(1939)	(1947)
<b>Min</b>	81.9	72.2	50.1	29.9	33.1	24.8	60.7	57.9	53.9	67.9	77.2	79.0
<b>(WY)</b>	(2012)	(2007)	(1951)	(1956)	(1951)	(1922)	(2011)	(2011)	(2002)	(2008)	(2011)	(2011)

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SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1920 – 2012 <sup>#</sup>	
<b>Annual total</b>	33,363		57,647			
<b>Annual mean</b>	91.4		158		396	
<b>Highest annual mean</b>					715	1936
<b>Lowest annual mean</b>					105	2010
<b>Highest daily mean</b>	295	Dec 5	2,950	Sep 14	8,950	Nov 22, 2005
<b>Lowest daily mean</b>	55	Feb 28	60	Mar 25	11	Mar 30, 1922
<b>Annual seven-day minimum</b>	57	Mar 8	61	Mar 21	12	Mar 25, 1922
<b>Maximum peak flow</b>			3,380	Sep 14	11,500	Nov 22, 2005
<b>Maximum peak stage</b>			16.16	Sep 14	19.97	Nov 22, 2005
<b>Instantaneous low flow</b>			<sup>a</sup> 59	Mar 23	9.1	Mar 4, 1951
<b>Annual runoff (ac-ft)</b>	66,180		114,300		286,700	
<b>Annual runoff (cfsm)</b>	2.34		4.04		10.1	
<b>Annual runoff (inches)</b>	31.82		54.99		137.85	
<b>10 percent exceeds</b>	151		182		880	
<b>50 percent exceeds</b>	69		85		214	
<b>90 percent exceeds</b>	58		67		62	

<sup>#</sup> See Period of Record; partial year used in monthly statistics and breaks in record

<sup>a</sup> March 23, 25-27.

