

Water-Data Report 2013

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 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 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 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	354	138	126	72	e75	e66	58	68	165	199	211	76
2	206	137	123	77	e81	e62	59	88	e165	255	118	75
3	147	138	123	69	e96	e59	55	88	e162	262	75	73
4	133	144	122	68	e77	e58	53	139	e164	259	75	74
5	135	164	124	69	e70	e57	52	93	e166	259	76	79
6	131	154	126	68	e69	e56	54	83	163	330	76	74
7	131	146	125	69	e67	e55	55	78	165	378	75	74
8	131	143	125	70	e105	e55	54	78	167	386	74	96
9	127	109	129	67	e76	e55	66	80	167	348	68	77
10	127	135	148	e67	e98	e55	58	82	165	307	74	76
11	127	136	146	e67	e86	e55	55	112	165	296	74	75
12	129	135	113	e67	e71	e49	54	123	165	294	73	74
13	184	137	99	e67	e68	e48	53	124	165	300	72	73
14	681	149	89	e105	e67	e53	52	127	176	297	71	72
15	811	148	91	e126	e108	e44	54	129	184	291	71	72
16	772	140	80	e98	e82	e44	66	125	184	209	71	73
17	613	136	75	e189	e72	e44	90	125	185	168	71	75
18	356	134	72	e102	e68	e44	88	132	185	172	73	74
19	208	132	71	e82	e65	e47	85	133	186	253	73	75
20	150	131	69	e76	e64	51	83	143	186	287	71	96
21	142	132	69	e74	e64	51	83	158	188	273	71	102
22	102	132	68	e72	e64	50	83	158	189	238	71	89
23	115	134	68	e71	e62	50	82	158	159	268	71	85
24	143	127	67	e69	e62	50	72	158	186	270	71	72
25	142	139	67	e71	e61	53	105	159	244	270	71	77
26	141	135	67	e75	e60	53	111	160	243	266	71	81
27	140	132	66	e70	e61	51	82	161	244	263	71	91
28	140	96	67	e69	e63	51	75	163	245	262	70	84
29	139	105	67	e67	---	51	65	147	246	260	71	80
30	139	126	70	e84	---	54	60	161	246	217	71	77
31	138	---	74	e70	---	55	---	162	---	260	72	---
Total	7,134	4,044	2,926	2,467	2,062	1,626	2,062	3,895	5,620	8,397	2,423	2,371
Mean	230	135	94.4	79.6	73.6	52.5	68.7	126	187	271	78.2	79.0
Max	811	164	148	189	108	66	111	163	246	386	211	102
Min	102	96	66	67	60	44	52	68	159	168	68	72
Ac-ft	14,150	8,020	5,800	4,890	4,090	3,230	4,090	7,730	11,150	16,660	4,810	4,700
Cfsm	5.90	3.46	2.42	2.04	1.89	1.34	1.76	3.22	4.80	6.95	2.00	2.03
In.	6.80	3.86	2.79	2.35	1.97	1.55	1.97	3.72	5.36	8.01	2.31	2.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2013, BY WATER YEAR (WY)#

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	662	432	242	157	145	113	170	422	556	533	535	675
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	81.9	72.2	50.1	29.9	33.1	24.8	60.7	57.9	53.9	67.9	77.2	79.0
(WY)	(2012)	(2007)	(1951)	(1956)	(1951)	(1922)	(2011)	(2011)	(2002)	(2008)	(2011)	(2011)

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SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1920 – 2013#	
Annual total	59,592		45,027			
Annual mean	163		123		389	
Highest annual mean					715	1936
Lowest annual mean					105	2010
Highest daily mean	2,950	Sep 14	811	Oct 15	8,950	Nov 22, 2005
Lowest daily mean	60	Mar 25	44	Mar 15	11	Mar 30, 1922
Annual seven-day minimum	61	Mar 21	46	Mar 13	12	Mar 25, 1922
Maximum peak flow			863	Oct 15	11,500	Nov 22, 2005
Maximum peak stage			13.98	Oct 15	19.97	Nov 22, 2005
Instantaneous low flow			42	Mar 19	9.1	Mar 4, 1951
Annual runoff (ac-ft)	118,200		89,310		281,600	
Annual runoff (cfsm)	4.17		3.16		9.97	
Annual runoff (inches)	56.84		42.95		135.42	
10 percent exceeds	183		243		874	
50 percent exceeds	88		86		202	
90 percent exceeds	67		56		62	

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

