

HAWAII, ISLAND OF HAWAII

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16720000 KAWAINUI STREAM NEAR KAMUELA

LOCATION.--Lat 20°05'18", long 155°40'58", Old Hawaiian Datum, Hydrologic Unit 20010000, on left bank 125 ft upstream from Upper Hamakua ditch intake, and 4.5 mi north of Kamuela.

DRAINAGE AREA.--1.58 mi².

PERIOD OF RECORD.--January 1964 to current year.

REVISED RECORDS.--WDR HI-95-1: 1965-90 (m), 1970, 1971, 1979, 1984, 1990.

GAGE.--Water-stage recorder. Elevation of gage is 4,060 ft above mean sea level (from topographic map).

REMARKS.--Record computed by Clayton Yoshida. Records good. No diversion upstream.

AVERAGE DISCHARGE.--40 years (water years 1965-2004), 14.9 ft³/s (10,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft³/s, November 18, 1979, gage height, 10.03 ft, from rating curve extended above 53 ft³/s on basis of computations of peak flow over dam and slope-area measurement at gage height 10.03 ft; minimum, 0.01 ft³/s, January 23-28, February 20-21, 1977, December 16-19, February 23, 24, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 440 ft³/s and maximum (*):

	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
	Feb 7	1915	659	5.74
	Mar 14	1030	*1,530	*7.71
	Mar 23	1300	491	5.19
	Apr 10	2245	567	5.45

Minimum discharge, 0.10 ft³/s, Oct. 31, Nov. 1, 2, 3, gage height, 1.05 ft.

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	0.17	0.10	8.3	1.2	19	27	15	2.6	5.3	2.4	3.3	0.86
2	0.15	0.10	18	0.94	29	35	6.8	1.7	14	23	16	0.66
3	0.15	0.13	12	4.7	12	35	8.5	3.3	5.9	6.6	29	0.53
4	0.13	0.98	28	43	6.6	10	3.6	55	13	3.1	5.4	0.45
5	0.14	1.3	9.1	5.3	20	4.9	5.0	37	21	3.1	2.3	0.52
6	0.13	0.70	5.6	2.2	21	3.3	3.3	13	5.7	1.9	3.7	0.42
7	0.14	0.82	3.0	1.3	55	3.4	2.3	19	9.6	1.3	12	0.36
8	0.16	3.6	65	0.95	16	79	1.7	13	13	0.99	2.9	0.32
9	0.17	4.8	29	0.69	4.6	16	1.7	3.7	15	0.92	1.7	0.30
10	0.18	3.5	25	0.55	2.7	4.3	149	2.2	9.5	0.97	1.2	0.31
11	0.40	11	25	0.47	1.9	2.4	211	1.8	4.8	3.1	0.88	0.63
12	1.2	5.8	5.6	0.41	1.4	1.6	153	2.0	4.6	1.5	0.70	1.1
13	3.0	8.0	22	0.39	1.2	44	46	1.4	2.7	2.8	0.89	0.79
14	5.3	20	9.5	1.7	1.0	314	11	1.3	2.7	18	1.6	1.8
15	15	17	10	1.0	0.91	53	9.9	1.1	5.6	6.4	1.1	1.1
16	30	55	5.6	0.69	1.5	15	11	23	4.0	3.1	14	1.7
17	13	14	7.8	0.54	3.0	9.9	84	6.9	1.9	2.3	8.1	6.8
18	3.0	20	25	0.45	1.9	4.4	45	2.5	1.5	1.8	2.3	9.0
19	1.4	71	9.2	0.37	1.4	2.6	20	1.6	2.9	1.2	1.3	2.4
20	0.85	16	4.1	0.31	1.2	1.8	13	1.2	15	0.95	0.96	1.2
21	0.57	18	2.4	0.27	1.2	1.5	5.5	0.96	14	0.77	8.2	0.80
22	0.42	6.0	1.7	0.22	1.0	58	3.6	0.86	19	0.68	20	0.59
23	0.33	2.7	1.3	10	0.87	102	3.7	0.88	6.3	0.50	27	0.53
24	0.26	1.5	1.1	5.1	1.2	83	5.5	1.0	4.8	0.43	3.7	0.48
25	0.21	1.8	1.1	18	2.8	52	11	13	4.4	0.37	1.7	0.41
26	0.17	34	0.83	56	1.8	32	38	25	2.4	0.34	1.2	0.37
27	0.14	4.4	0.64	18	1.4	7.1	22	19	1.7	0.44	1.0	0.32
28	0.12	1.9	0.97	8.2	132	19	5.8	12	8.0	14	0.88	0.30
29	0.12	2.4	2.3	117	7.4	24	3.1	29	8.8	6.6	2.8	0.28
30	0.12	6.0	2.4	30	---	84	2.2	13	3.5	2.2	3.6	0.27
31	0.11	---	1.4	33	---	54	---	14	---	1.3	1.4	---
TOTAL	77.24	332.53	342.94	362.95	350.98	1,183.2	901.2	322.00	230.6	113.06	180.81	35.60
MEAN	2.49	11.1	11.1	11.7	12.1	38.2	30.0	10.4	7.69	3.65	5.83	1.19
MAX	30	71	65	117	132	314	211	55	21	23	29	9.0
MIN	0.11	0.10	0.64	0.22	0.87	1.5	1.7	0.86	1.5	0.34	0.70	0.27
AC-FT	153	660	680	720	696	2,350	1,790	639	457	224	359	71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2004, BY WATER YEAR (WY)

MEAN	9.55	16.4	15.4	14.5	13.0	20.5	22.4	12.1	13.7	18.5	15.2	8.55
MAX	27.7	55.8	41.4	62.5	40.6	98.0	67.5	36.0	37.7	37.0	31.8	27.5
(WY)	(2002)	(1980)	(1971)	(1979)	(1969)	(1980)	(1986)	(1998)	(1998)	(1982)	(1982)	(1992)
MIN	0.17	0.70	0.51	0.34	0.51	3.07	1.71	1.07	3.18	3.65	2.70	0.27
(WY)	(1985)	(2003)	(1981)	(1981)	(1995)	(2003)	(1992)	(1999)	(1985)	(2004)	(1971)	(1965)

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16720000 KAWAINUI STREAM NEAR KAMUELA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1964 - 2004
ANNUAL TOTAL	4,133.11	4,433.11	
ANNUAL MEAN	11.3	12.1	
HIGHEST ANNUAL MEAN			14.9
LOWEST ANNUAL MEAN			26.3
HIGHEST DAILY MEAN	227	Sep 1	7.33
LOWEST DAILY MEAN	0.10	Nov 1	612 Nov 18, 1979
ANNUAL SEVEN-DAY MINIMUM	0.11	Oct 28	0.01 Jan 23, 1977
ANNUAL RUNOFF (AC-FT)	8,200	8,790	0.01 Jan 22, 1977
10 PERCENT EXCEEDS	29	29	10,830 41
50 PERCENT EXCEEDS	3.1	3.0	
90 PERCENT EXCEEDS	0.26	0.37	4.5
			0.50