

## HAWAII, ISLAND OF HAWAII

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## 16758000 WAIKOLOA STREAM AT MARINE DAM, NEAR KAMUELA

LOCATION.--Lat 20°02'48", long 155°39'58", Old Hawaiian Datum, Hydrologic Unit 20010000, on right bank 160 ft upstream from Marine Dam, 0.4 mi east of Puu Oahu, and 1.6 mi north of Kamuela.

DRAINAGE AREA.--1.18 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1947 to current year.

REVISED RECORDS.--WSP 1569: Drainage area. WSP 1937: 1948(M), 1949-51(P), 1952(M), 1954(M), 1955, 1956-57(P), 1958-60.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,460 ft above mean sea level (from topographic map).

REMARKS.--Records computed by Clayton Yoshida. Records good. Parker Ranch diverts less than 1 ft<sup>3</sup>/s through a 6-in. pipe upstream of gage.

AVERAGE DISCHARGE.--58 years (water years 1948-2005), 9.28 ft<sup>3</sup>/s (6,720 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,410 ft<sup>3</sup>/s, November 18, 1979, gage height, 6.84 ft, from rating curve extended above 120 ft<sup>3</sup>/s on the basis of computations of flow over dam at gage heights 5.46 ft and 5.96 ft; minimum, 0.34 ft<sup>3</sup>/s, June 5-6, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft<sup>3</sup>/s and maximum (\*):

	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)		Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
	Nov 16	0200	*283	*3.53		Aug 8	1700	196	3.26
	Mar 28	0515	208	3.30					

Minimum discharge, 0.65 ft<sup>3</sup>/s, Nov. 10, gage height, 1.33 ft.

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005**  
**DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.0	1.8	1.7	1.1	2.7	19	2.3	1.8	12	16	6.3
2	8.1	1.0	4.0	12	1.1	1.5	13	2.1	1.8	16	22	7.9
3	3.0	0.98	2.9	37	1.0	1.2	15	2.0	1.8	8.9	10	4.5
4	1.6	0.93	2.2	7.7	2.2	1.0	9.0	1.9	1.7	8.4	22	3.5
5	1.3	0.94	3.3	3.1	1.5	0.96	5.5	1.9	1.8	11	12	4.3
6	1.2	0.99	5.9	2.0	1.1	0.95	18	1.9	1.9	8.4	15	5.5
7	1.1	0.92	14	1.9	1.0	0.87	16	1.9	1.7	6.8	55	7.8
8	1.1	0.89	6.8	1.9	0.95	0.84	8.7	1.8	1.7	24	51	6.2
9	1.1	0.85	3.3	18	0.95	0.81	18	1.8	3.5	32	21	4.2
10	1.8	0.80	7.9	17	0.93	2.2	12	2.1	2.3	32	11	3.7
11	2.5	0.80	4.1	6.0	0.91	15	7.7	2.0	3.2	25	7.3	5.2
12	1.5	0.80	2.6	3.1	0.89	17	9.0	1.8	14	27	5.6	13
13	2.3	0.77	2.1	2.2	9.7	7.0	5.1	2.5	7.2	24	4.7	12
14	4.5	25	1.7	1.8	4.2	3.0	4.3	4.4	7.1	37	4.2	8.9
15	2.1	160	1.5	1.6	1.9	7.6	5.2	2.3	5.1	17	4.6	9.4
16	2.3	72	1.4	1.4	1.5	5.7	9.6	2.2	3.0	10	14	6.1
17	2.0	6.5	1.6	1.4	1.2	2.3	8.4	2.1	2.4	6.5	8.3	13
18	1.5	16	1.8	1.3	1.1	1.7	4.7	1.9	2.3	13	17	5.8
19	2.0	6.4	2.1	1.2	1.0	1.4	3.6	2.3	2.1	26	9.7	4.2
20	6.9	3.6	1.7	1.2	1.0	1.3	3.3	17	9.5	7.3	8.0	3.5
21	3.1	2.6	1.5	1.2	0.90	1.2	3.7	9.5	23	10	5.1	6.2
22	6.3	2.2	1.3	1.2	0.88	1.2	4.9	3.8	19	12	4.2	10
23	6.9	1.9	1.2	1.2	0.85	1.5	6.8	2.7	10	13	3.9	6.8
24	4.2	1.7	1.2	1.1	0.82	1.3	9.5	2.4	8.0	14	4.0	4.1
25	2.2	1.6	1.2	1.1	0.85	1.2	7.3	2.1	6.3	11	7.5	3.4
26	1.8	1.4	1.2	1.1	3.1	11	6.6	1.9	3.6	9.0	6.1	7.2
27	1.4	1.4	1.1	1.1	1.9	52	3.9	2.0	3.0	6.8	3.9	10
28	1.2	1.4	1.1	1.0	1.9	125	3.1	2.4	3.2	13	3.4	6.9
29	1.2	1.3	1.1	1.0	---	57	2.7	3.0	5.0	42	3.0	5.5
30	1.1	1.4	1.1	1.1	---	40	2.5	2.2	12	22	2.8	45
31	1.1	---	1.1	1.0	---	32	---	1.9	---	9.1	2.8	---
TOTAL	79.4	318.07	85.8	135.6	46.43	398.43	246.1	92.1	169.0	514.2	365.1	240.1
MEAN	2.56	10.6	2.77	4.37	1.66	12.9	8.20	2.97	5.63	16.6	11.8	8.00
MAX	8.1	160	14	37	9.7	125	19	17	23	42	55	45
MIN	1.0	0.77	1.1	1.0	0.82	0.81	2.5	1.8	1.7	6.5	2.8	3.4
AC-FT	157	631	170	269	92	790	488	183	335	1,020	724	476

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2005, BY WATER YEAR (WY)

MEAN	6.00	8.79	9.44	8.35	7.77	10.9	12.8	8.86	8.81	12.0	11.2	6.04
(WY)	18.2	43.7	31.4	38.7	23.0	52.1	43.4	22.1	28.4	26.9	33.6	24.9
(1984)	(1980)	(1958)	(1979)	(1960)	(1980)	(1986)	(1998)	(1998)	(1998)	(2002)	(1958)	(1992)
MIN	0.98	1.42	1.47	1.46	1.31	2.11	1.53	1.95	2.68	2.25	2.27	0.91
(WY)	(1997)	(1963)	(1996)	(1953)	(1954)	(1983)	(1992)	(1999)	(1962)	(2004)	(1973)	(1965)

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16758000 WAIKOLOA STREAM AT MARINE DAM, NEAR KAMUELA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1947 - 2005
ANNUAL TOTAL	3,376.78	2,690.33	
ANNUAL MEAN	9.23	7.37	9.28
HIGHEST ANNUAL MEAN			17.8
LOWEST ANNUAL MEAN			4.49
HIGHEST DAILY MEAN	396	Mar 14	641 Nov 18, 1979
LOWEST DAILY MEAN	0.77	Sep 30	0.37 Jun 3, 1992
ANNUAL SEVEN-DAY MINIMUM	0.83	Nov 7	0.42 May 21, 1992
ANNUAL RUNOFF (AC-FT)	6,700	5,340	6,720
10 PERCENT EXCEEDS	15	16	21
50 PERCENT EXCEEDS	2.7	3.0	4.3
90 PERCENT EXCEEDS	1.1	1.0	1.8