

## 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 Roy Taogoshi. Records good. Parker Ranch diverts less than 1 ft<sup>3</sup>/s through a 6-in. pipe upstream of gage.

AVERAGE DISCHARGE.--57 years (water years 1948-2004), 9.31 ft<sup>3</sup>/s (6,750 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)
	Jan 26	1730	354	3.90
	Feb 28	0245	291	3.72
	Mar 14	1230	*2,960	*6.85
	Mar 23	1300	454	4.15
	Apr 10	2300	495	4.24

Minimum discharge, 0.72 ft<sup>3</sup>/s, Sept. 29, 30, gage height, 1.37 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	1.5	1.1	5.0	2.2	9.6	10	14	5.0	5.2	2.5	1.5	1.5
2	1.3	1.1	11	1.9	12	16	8.6	4.1	10	5.4	6.6	1.4
3	1.4	1.2	9.7	2.5	7.6	23	9.0	5.9	5.7	4.5	19	1.3
4	1.3	1.2	20	24	4.2	9.4	5.8	29	8.4	3.0	7.1	1.2
5	1.4	1.0	7.2	5.3	7.3	4.3	6.8	22	10	2.7	3.2	1.4
6	1.4	1.00	5.0	3.0	9.9	3.3	5.3	18	5.0	2.3	3.6	1.2
7	1.3	0.85	3.5	2.3	21	4.0	4.3	31	4.2	2.1	6.9	1.1
8	1.4	0.90	10	2.0	12	48	4.4	14	5.3	2.0	3.2	1.1
9	1.4	0.93	11	1.8	4.4	13	6.9	6.0	8.9	2.0	2.2	1.1
10	1.4	0.88	5.7	1.7	3.1	4.7	119	4.5	7.6	2.0	1.8	1.1
11	1.4	1.0	5.7	1.6	2.6	3.3	207	4.0	4.9	3.3	1.5	1.2
12	1.4	0.99	3.8	1.4	2.2	2.8	121	3.6	4.6	2.1	1.4	1.2
13	1.4	0.93	3.9	1.4	1.9	22	45	3.2	3.5	1.9	1.6	1.1
14	1.5	1.5	3.4	1.5	1.9	396	13	3.2	3.0	3.1	1.5	1.1
15	1.9	2.2	3.3	1.4	1.9	49	8.5	2.8	3.4	3.0	1.4	1.1
16	13	7.2	3.1	1.3	2.5	15	6.9	10	3.7	2.3	6.3	1.1
17	8.8	4.6	5.5	1.2	4.1	12	48	5.8	2.9	1.9	6.3	1.5
18	3.3	6.6	14	1.2	2.6	6.3	38	3.8	2.7	1.8	2.8	1.5
19	2.4	42	5.4	1.2	2.2	4.5	12	3.2	3.1	1.6	1.9	1.2
20	2.0	12	3.6	1.1	2.1	3.6	11	2.9	6.8	1.5	1.5	1.0
21	1.7	6.6	2.9	1.0	2.1	3.3	7.1	2.6	8.0	1.4	2.7	0.97
22	1.4	4.5	2.4	1.1	2.0	56	5.8	2.5	11	1.5	4.7	0.91
23	1.3	3.0	2.2	1.5	1.8	97	5.4	2.5	4.8	1.4	11	0.85
24	1.3	2.4	2.1	1.5	1.9	47	6.1	2.4	4.0	1.3	3.4	0.89
25	1.2	2.1	2.0	1.8	2.1	38	7.7	3.9	3.3	1.3	2.2	0.87
26	1.1	16	1.8	41	2.0	27	21	8.8	2.6	1.2	1.9	0.86
27	1.2	4.6	1.7	12	1.9	8.9	18	8.2	2.4	1.3	1.6	0.84
28	1.1	2.8	2.2	5.6	80	12	7.1	6.2	3.4	2.7	1.4	0.84
29	1.1	2.6	3.2	70	6.7	17	5.2	13	4.1	3.2	2.5	0.81
30	1.1	4.1	3.1	10	---	58	4.5	9.3	3.0	1.8	4.0	0.77
31	1.1	---	2.4	13	---	37	---	7.4	---	1.5	2.0	---
TOTAL	64.5	137.88	165.8	218.5	215.6	1,051.4	782.4	248.8	155.5	69.6	118.7	33.01
MEAN	2.08	4.60	5.35	7.05	7.43	33.9	26.1	8.03	5.18	2.25	3.83	1.10
MAX	13	42	20	70	80	396	207	31	11	5.4	19	1.5
MIN	1.1	0.85	1.7	1.0	1.8	2.8	4.3	2.4	2.4	1.2	1.4	0.77
AC-FT	128	273	329	433	428	2,090	1,550	493	308	138	235	65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2004, BY WATER YEAR (WY)

MEAN	6.06	8.76	9.56	8.42	7.87	10.9	12.9	8.97	8.86	12.0	11.2	6.00
MAX	18.2	43.7	31.4	38.7	23.0	52.1	43.4	22.1	28.4	26.9	33.6	24.9
(WY)	(1984)	(1980)	(1958)	(1979)	(1960)	(1980)	(1986)	(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 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1947 - 2004
ANNUAL TOTAL	2,384.76	3,261.69	
ANNUAL MEAN	6.53	8.91	9.31
HIGHEST ANNUAL MEAN			17.8
LOWEST ANNUAL MEAN			4.49
HIGHEST DAILY MEAN	118	Sep 1	Mar 14
LOWEST DAILY MEAN	0.85	Nov 7	Sep 30
ANNUAL SEVEN-DAY MINIMUM	0.93	Nov 7	Sep 24
ANNUAL RUNOFF (AC-FT)	4,730	6,470	6,750
10 PERCENT EXCEEDS	15	14	21
50 PERCENT EXCEEDS	3.2	3.0	4.3
90 PERCENT EXCEEDS	1.3	1.1	1.8