

HAWAII, ISLAND OF HAWAII

16726000 UPPER HAMAKUA DITCH ABOVE WAIMEA RESERVOIR DIVERSION, NEAR KAMUELA

LOCATION.--Lat 20° 03'31", long 155° 37'40", Old Hawaiian Datum, Hydrologic Unit 20010000, on left bank 500 ft upstream from diversion intake leading to Waimea Reservoir and 3.7 mi northeast of Kamuela Post Office.

PERIOD OF RECORD.--October 1974 to September 1983, September 1992 to September 1994 (discharge measurements only). October 1994 to current year.

REVISED RECORDS.--WDR HI-94-1: 1981, 1984-90.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,020 ft above mean sea level (from topographic map).

REMARKS.--Records computed by Dale Nishimoto. Records good. Ditch diverts from Kawainui, Kawaiki, and Alakahi Streams for use in vicinity of Kamuela.

AVERAGE DISCHARGE.--18 years (water years 1975-83, 1995-2003), 9.64 ft³/s (6,980 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 48 ft³/s, April 6, 1977; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 33 ft³/s, Sep 1; minimum daily, 0.40 ft³/s, Feb 25.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	4.0	3.8	2.4	0.94	15	3.1	3.0	1.5	15	9.8	33
2	2.1	3.7	2.3	1.9	1.3	11	5.4	2.4	1.4	16	11	12
3	1.9	2.8	6.8	1.5	1.7	7.3	2.9	2.2	1.3	16	11	4.8
4	1.7	2.4	20	1.3	1.2	4.9	1.9	2.3	1.3	14	8.1	3.7
5	8.8	3.0	9.1	1.2	0.94	3.2	1.4	1.9	1.2	9.5	12	3.7
6	16	2.4	4.3	1.0	0.81	2.4	0.99	1.6	1.1	9.0	10	8.4
7	11	1.8	24	0.97	0.75	2.0	0.81	1.4	1.1	17	7.9	6.7
8	6.4	1.5	17	0.93	0.70	1.6	1.2	1.5	0.99	21	6.5	3.4
9	4.5	1.3	9.7	0.87	0.64	4.7	1.9	5.8	0.91	26	10	2.9
10	6.6	1.2	19	0.84	0.61	4.6	2.2	20	0.89	17	12	2.6
11	5.3	1.1	15	4.3	0.79	2.6	2.1	15	0.91	14	7.8	2.4
12	11	1.1	9.4	9.3	1.2	1.9	1.6	14	9.1	24	6.3	2.1
13	7.9	1.0	5.7	5.6	1.0	1.5	11	14	16	14	15	4.6
14	4.1	1.0	3.9	2.9	10	1.2	8.7	17	9.2	8.7	13	4.9
15	3.3	5.3	3.0	3.9	18	0.97	6.7	18	7.1	11	12	4.6
16	4.3	11	2.5	10	10	0.87	12	10	12	9.4	10	2.9
17	4.7	6.0	2.3	5.2	9.2	0.79	11	17	13	7.2	6.8	2.3
18	3.5	3.5	2.0	2.9	9.2	0.72	12	14	20	5.2	6.1	2.0
19	2.5	2.8	1.8	2.1	9.8	0.65	9.1	12	17	11	6.6	2.3
20	2.1	2.7	1.5	8.6	11	0.64	15	20	15	13	8.5	2.8
21	2.0	2.3	1.4	9.7	15	0.70	13	12	13	10	7.3	2.5
22	2.7	1.8	2.4	5.5	0.99	1.7	16	12	12	7.4	6.6	2.3
23	5.7	1.5	7.8	3.3	0.64	5.8	16	18	11	1.9	8.1	2.1
24	8.9	1.3	11	2.4	1.4	3.6	13	16	15	2.6	8.5	1.9
25	5.6	1.1	8.6	1.9	0.40	1.9	12	14	19	10	5.4	1.8
26	4.4	0.97	4.9	2.0	1.4	1.3	14	6.6	11	6.7	5.2	1.7
27	3.2	0.93	11	1.6	7.8	0.84	15	3.9	6.9	4.5	7.8	1.6
28	2.4	0.88	9.7	1.3	18	1.3	7.9	2.9	5.0	3.2	7.4	1.4
29	2.1	7.5	6.9	1.2	---	6.2	5.7	2.3	4.3	2.7	6.4	1.3
30	2.8	9.8	4.9	1.1	---	8.3	3.8	1.9	12	6.2	13	1.3
31	2.9	---	3.2	1.0	---	3.5	---	1.7	---	8.5	16	---
TOTAL	152.7	87.68	234.9	98.71	135.41	103.68	227.40	284.4	240.20	341.7	282.1	130.0
MEAN	4.93	.292	7.58	3.18	4.84	3.34	7.58	9.17	8.01	11.0	9.10	4.33
MAX	16	11	24	10	18	15	16	20	20	26	16	33
MIN	1.7	0.88	1.4	0.84	0.40	0.64	0.81	1.4	0.89	1.9	5.2	1.3
AC-FT	303	174	466	196	269	206	451	564	476	678	560	258

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2003, BY WATER YEAR (WY)

MEAN	7.95	10.1	8.09	5.73	6.11	10.6	12.7	10.4	10.1	13.7	11.6	8.41
(WY)	(1999)	(1977)	(1979)	(2000)	(1999)	(1982)	(1998)	(1998)	(1998)	(1978)	(1978)	(1982)
MAX	17.3	17.4	12.6	13.4	15.1	19.7	26.0	23.9	26.3	26.0	19.6	16.9
(WY)	(1975)	(1996)	(1981)	(1981)	(1995)	(2003)	(1981)	(1999)	(1981)	(1981)	(1979)	(1981)
MIN	1.18	2.82	0.79	0.31	0.63	3.34	2.76	2.05	3.03	2.84	2.23	2.95
(WY)	(1975)	(1996)	(1981)	(1981)	(1995)	(2003)	(1981)	(1999)	(1981)	(1981)	(1979)	(1981)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1975 - 2003
ANNUAL TOTAL	3,349.80	2,318.88	
ANNUAL MEAN	9.18	6.35	
HIGHEST ANNUAL MEAN			9.64
LOWEST ANNUAL MEAN			15.0
HIGHEST DAILY MEAN	29	Jul 1	3.80
LOWEST DAILY MEAN	0.00	Feb 28	1981
ANNUAL SEVEN-DAY MINIMUM	0.90	Apr 10	48
ANNUAL RUNOFF (AC-FT)	6,640	4,600	Apr 6, 1977
10 PERCENT EXCEEDS	19	15	Oct 1, 1974
50 PERCENT EXCEEDS	7.7	4.4	0.00
90 PERCENT EXCEEDS	1.4	1.0	0.00
			6,980
			22
			6.9
			0.79

